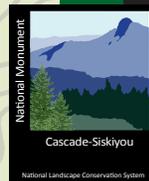


# Cascade-Siskiyou National Monument

## Draft Transportation Management Plan and Environmental Assessment



March 2016





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

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**RESOURCE AREA: ASHLAND RESOURCE AREA**

**TITLE: CASCADE-SISKIYOU NATIONAL MONUMENT DRAFT TRANSPORTATION  
MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT**

**ENVIROMENTAL ASSESSMENT NUMBER: DOI-BLM-M040-2016-0003-EA**

**PUBLICATION DATE: MARCH 25, 2016**







# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Medford District Office  
3040 Biddle Road  
Medford, Oregon 97504  
<http://www.blm.gov/or/districts/medford>

**MAR 25 2016**

6200, 6220 and 1626 (ORM040)

Dear Interested Party:

I am pleased to announce that the Cascade-Siskiyou National Monument (CSNM) Draft Transportation Management Plan (TMP) and Environmental Assessment (EA) is now available for a 45-day public review. The draft TMP/EA describes and analyzes four alternatives for future management of the monument transportation system.

The four alternatives address management of roads, routes, and trails on public lands within the CSNM, but outside the designated Soda Mountain Wilderness. The planning area encompasses 60,434 acres of lands within the monument, located approximately 15 miles southeast of Ashland, OR. The planning process addresses motorized/mechanized uses of the transportation system including off-highway vehicles, snowmobiles, bicycles, and non-motorized/non-mechanized uses including hiking and Nordic skiing.

You can access the CSNM Draft TMP/EA and Reader's Guide on the Bureau of Land Management's (BLM's) ePlanning website at: <http://tinyurl.com/BLM-ORWA-M040-2016-0003-EA>. If you do not have internet access, or would prefer a paper copy, please contact Kathy Minor, Assistant Field Manager, at 541-618-2245 or [kminor@blm.gov](mailto:kminor@blm.gov). Paper copies of the project documents are also available for review at the Medford Interagency Office at 3040 Biddle Road, Medford; the Grants Pass Interagency Office at 2164 NE Spalding Ave, Grants Pass; or the Ashland and Medford Public Libraries.

The BLM will hold an informational open house for the CSNM Draft TMP/EA at the **Bellview Grange, 1050 Tolman Creek Road, Ashland, OR on April 6, 2016, from 6 to 8 p.m.** At the open house, the public will be able to discuss the proposed alternatives, talk to BLM resource specialists, and provide written input.

The 45-day comment period for the TMP/EA will begin when the legal notice is published in Medford's *Mail Tribune* newspaper on March 25, 2016. We welcome your comments on the content of the draft TMP/EA. We are particularly interested in comments that address one or more of the following: (1) new information that would affect the analysis, or (2) information or evidence of flawed or incomplete analysis. Specific comments are the most useful. **Although comments are welcome at any time, comments are most useful if received by 4:30 p.m. on May 9, 2016.**

All comments should be made in writing and mailed or delivered to Kathy Minor, Assistant Field Manager, Ashland Resource Area, 3040 Biddle Road, Medford, OR 97504 or emailed to [BLM\\_OR\\_MD\\_mail@blm.gov](mailto:BLM_OR_MD_mail@blm.gov), Attention: Kathy Minor. Please note that all written submissions from private individuals in response to this notice, including your name, address, telephone number, email address, or other personal identifying information may be made available for public inspection and disclosure, unless you specifically request confidentiality. If you wish to withhold your personal identifying information from public review or disclosure, you must state this at the beginning of your written comment and provide justification for doing so. We will honor such requests to the extent

allowed by law, but you should be aware that release of that information may be required under certain circumstances. All submissions from organizations or businesses and from individuals identifying themselves as representatives or officials of organization or business will be made available for public inspection and disclosure in their entirety.

Further information on this proposed project is available at the Medford District Office, 3040 Biddle Road, Medford, Oregon 97504 or by calling Joel Brumm, Assistant Monument Manager at 541-618-2256 or Kathy Minor at 541-618-2245.

The final decision will be made only after consideration of the comments received. The decision maker may choose one of the alternatives or can select an alternative that blends components of one or more of the alternatives. Thank you for your interest in the Cascade-Siskiyou National Monument Draft Transportation Management Plan and Environmental Assessment.

Sincerely,



Diane E. Parry  
Acting Field Manager/Monument Manager  
Ashland Resource Area

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# CHAPTER 1 – PURPOSE AND NEED

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## INTRODUCTION

The Bureau of Land Management (BLM), Ashland Resource Area, is currently preparing a Travel Management Plan (TMP) for the Cascade-Siskiyou National Monument (CSNM). The transportation system within the CSNM includes all roads, routes, and various types of recreational trails that provide access for both motorized and non-motorized forms of travel. Roads in the CSNM vary from high-clearance primitive roads to paved highways. There are approximately 412 miles of road and 11.5 miles of designated trails within the 60,434-acre planning area.

This Environmental Assessment (EA) documents the environmental analysis conducted to estimate the site-specific effects on the human environment that may result from the implementation of the CSNM Transportation Management Plan on BLM-administered lands within the monument. The analysis documented in this EA will provide the BLM's responsible official, the Ashland Resource Area Field Manager, with current information to aid in the decision-making process. This EA complies with the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (40 CFR Parts 1500-1508) and the Department of the Interior's regulations on Implementation of the National Environmental Policy Act of 1969 (43 Code of Federal Regulation (CFR) part 46).

## BACKGROUND

The Cascade-Siskiyou National Monument was reserved in June 2000 by Presidential Proclamation 7318 (Appendix A) in recognition of its remarkable ecology and to protect a diverse range of biological, geological, aquatic, archeological and historic objects. The BLM manages the CSNM in accordance with the direction in the 2008 *Cascade-Siskiyou National Monument Record of Decision (ROD) and Resource Management Plan (RMP)*.

The transportation system within the monument includes roads and other travel ways used to access the CSNM. The CSNM ROD/RMP recognized that management of the BLM transportation network within the CSNM “must consider the protection of natural resources, including the ‘objects of biological interest’; access for recreation and resource management; access requirements of adjacent landowners; and wildfire suppression access needs on BLM lands, as well as on adjacent public and private lands.” The CSNM ROD/RMP also recognized that “extensive road networks can result in negative impacts on

wildlife and aquatic species and habitats; impaired hydrologic function; introduction and spread of exotic species; reductions in site productivity; and increased sediment production.” (ROD/RMP, p. 81).

The CSNM ROD/RMP evaluated the transportation system and approved decommissioning 53 miles of road; closing 21 miles of road; identified approximately 24 miles of road that were not believed to be necessary for management and needed further evaluation; and identified routes authorized for snowmobile and bicycle use.

A Notice of Appeal of the CSNM ROD/RMP was filed in September 2008 with the Interior Board of Land Appeal (IBLA). Appellants complained that the ROD/RMP was inadequate due to 1) failure to close and decommission the roads identified on Map 23 (ROD/RMP, p. 89) for possible decommissioning under a future planning action and 2) the snowmobile routes identified on Map 25 (ROD/RMP, p. 100) included routes that are on roads designated as closed on Map 19 (ROD/RMP, p. 78 and Plate 1, Transportation Map) in violation of REC-34 (ROD/RMP, p. 99) which states, “Snowmobiles are allowed on designated open roads north of Highway 66” and “[s]nowmobiles are not allowed...on roads that are closed or decommissioned.” In response to the appeal, the parties (BLM and the appellants) entered into a settlement agreement (IBLA No. 2009-4).

On March 30, 2009, Congress designated the Soda Mountain Wilderness (SMW) (Public Law No. 111-011, Section 1405). The entirety of the SMW lies within the CSNM and encompasses approximately 24,707 acres of the southern portion of the monument (Map 1-1). The *Soda Mountain Wilderness Final Stewardship Plan* (Final SMW Stewardship Plan) was approved in April 2012. This plan provides the primary guidance for managing the wilderness portion of the CSNM. The Final SMW Stewardship Plan approved decisions regarding restoration activities associated with the former vehicle routes within the wilderness.

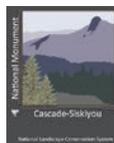
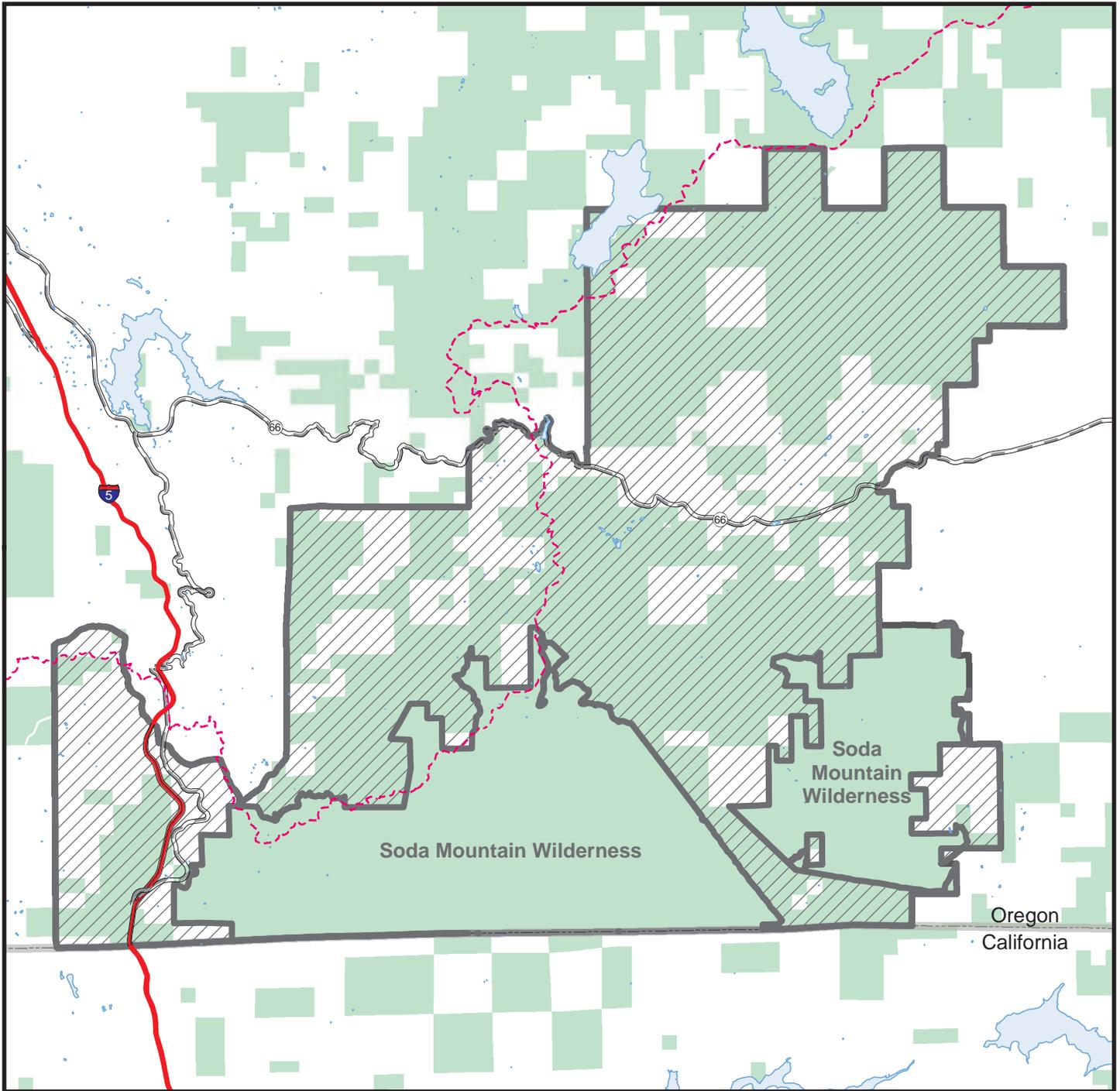
Since monument designation, the BLM has acquired approximately 12,288 additional acres within the greater monument boundary. Additional acquisitions are funded and pending.

## **SCOPE OF THE TRANSPORTATION MANAGEMENT PLAN**

This transportation management plan will address only the roads, routes, and trails on public lands within the CSNM, but outside the designated Soda Mountain Wilderness. Former vehicle routes within the SMW were addressed in the 2012 Final SMW Stewardship Plan. The planning area for this plan encompasses 60,434 acres of public and private lands within the 85,141-acre greater CSNM boundary (Map 1-2). The planning area is located within Jackson County, approximately 15 miles southeast of

# Cascade-Siskiyou National Monument Transportation Management Plan Vicinity Map

Map 1-1: Vicinity Map.



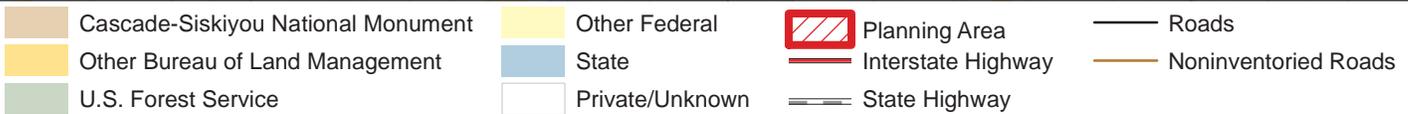
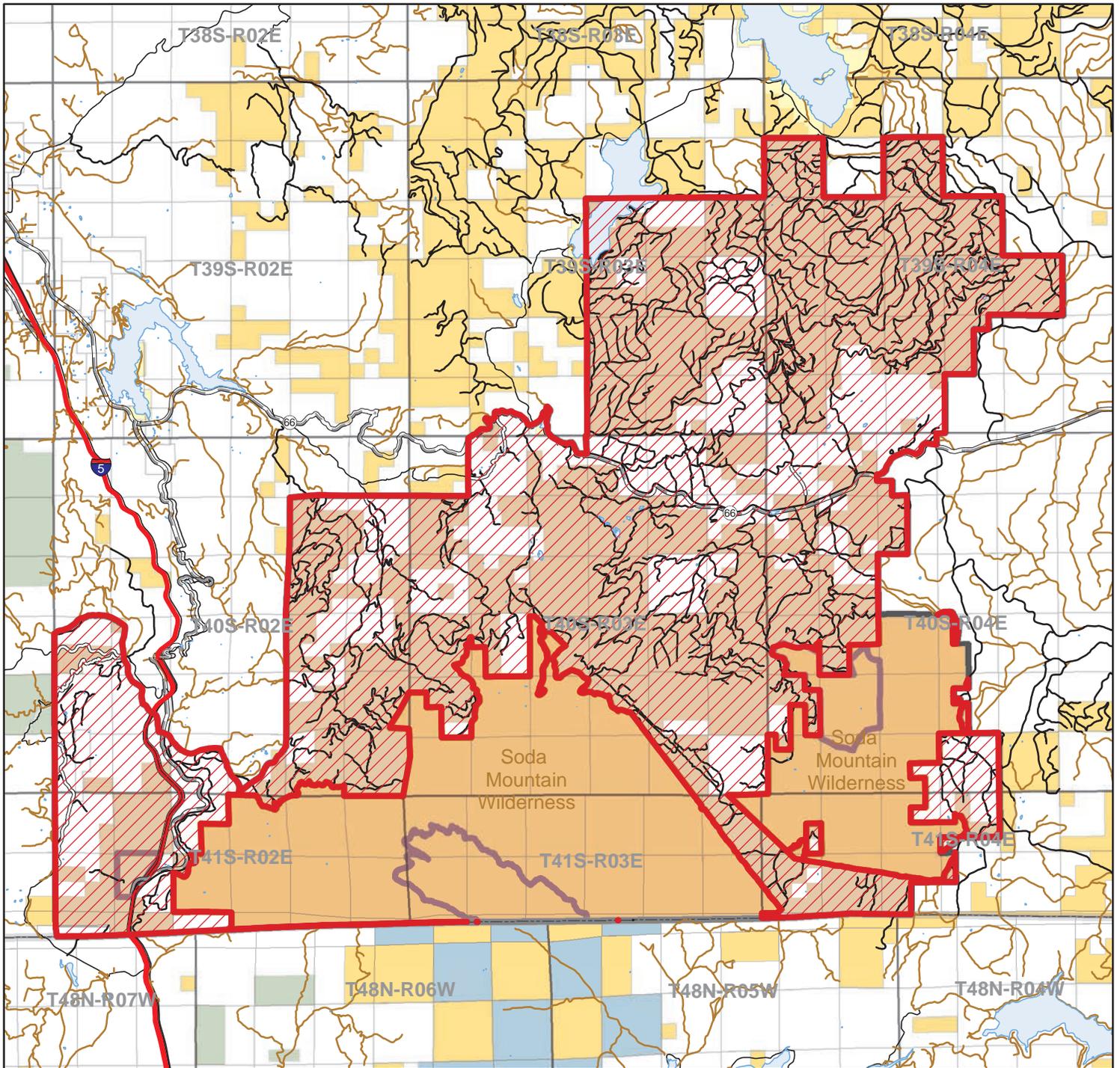
**U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management  
Medford District  
3040 Biddle Road  
Medford, OR 97504**



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Prepared By: Kathy Minor  
Current Date: 03.22.2016

# Cascade-Siskiyou National Monument Transportation Management Plan Planning Area



**U.S. DEPARTMENT OF THE INTERIOR**  
**Bureau of Land Management**  
**Medford District**  
**3040 Biddle Road**  
**Medford, OR 97504**



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Ashland, Oregon. Within the 60,434-acre planning area, approximately 40,634 acres are managed by the BLM, 48 acres are managed by the Bureau of Reclamation, and 19,752 acres are privately owned.

## **WHY IS THE BLM CONDUCTING TRANSPORTATION MANAGEMENT PLANNING IN THE CSNM?**

The presidential proclamation establishing the CSNM (Appendix A) directed the Secretary of the Interior through the BLM to prepare a management plan that included the “appropriate transportation planning that addresses the actions, including road closures or travel restrictions, necessary to protect the objects identified in this proclamation.” The road network within the CSNM was primarily designed for the removal of commercial timber products. The proclamation prohibited the commercial harvest of timber, “except when part of an authorized science-based ecological restoration project...”

Although the CSNM ROD/RMP made some decisions regarding the transportation network within the monument, it recognized that additional transportation planning would be necessary. For the 53 miles of approved decommissioning, TRAN-17 (ROD/RMP, p. 88) states that additional analysis would be needed to determine the specific on-the-ground decommissioning techniques. The ROD/RMP identified that “[r]oad densities throughout the monument are higher than desired to protect the ‘objects of biological interest’ and support naturally functioning ecosystem processes” (TRAN-14, p. 88) and that “[e]xtensive road networks can result in negative impacts on wildlife and aquatic species and habitats; impaired hydrologic function; introduction and spread of exotic species; reductions in site productivity; and increased sediment production.” (ROD/RMP, p. 80).

The ROD/RMP also identified “approximately 24 miles of road that are not needed for monument management” (CSNM ROD/RMP, Map 23, p. 89 and also in Appendix B of this EA) and would be “considered for closure or decommissioning in a future site-specific action.” (TRAN-15, p. 88).

Since designation, the BLM has acquired approximately 12,288 additional acres within the greater monument boundary. The ROD/RMP states that “[t]ransportation needs on any newly acquired lands will be evaluated and roads may be blocked or decommissioned to further reduce road density and protect resource values.” (TRAN-16, p. 88).

In response to the appeal of the CSNM ROD/RMP, the parties (BLM and the appellants) entered into a settlement agreement. The settlement agreement (IBLA No. 2009-4) requires the BLM to complete transportation management planning to consider closure and decommissioning of the routes on Map 23 in the CSNM ROD/RMP and the means for doing so (TRAN-15) and decide how the decommissioning approved in TRAN-14 (ROD/RMP, Map 22, p. 86 and also in Appendix B of this

EA) would be accomplished. For all other roads identified on Map 19 (ROD/RMP, p. 78 and also in Appendix B of this EA), the transportation management planning process will identify whether the roads will be left open, closed, or decommissioned and the means for doing so.

This TMP/EA will evaluate a range of alternatives for managing the transportation network within the monument. The final decision will determine which roads, routes, and trails on public lands will be left open, closed, or decommissioned and the means for doing so in accordance with the objective to “maintain a road network within the monument that allows for ecosystem restoration and provide for human access needs.” (ROD/RMP, p. 82).

### **Need for the Transportation Management Plan**

The following provides more detail concerning the need for completing transportation management planning based on the 2008 ROD/RMP direction that applies to the transportation system within the CSNM and current road conditions.

#### ***There is a need to protect monument objects consistent with the Cascade-Siskiyou National Monument Proclamation.***

“The purpose of this management plan is to identify [transportation and route] management concerns associated with the monument, and to determine the best course of action for the protection, maintenance, restoration, or enhancement of monument resources as required by the proclamation.” (ROD/RMP, p. 17).

The ROD/RMP (p.19) further identifies that “[t]he proclamation provides the principal management direction for the CSNM and clearly dictates that the BLM manage the monument ‘for the purpose of protecting the objects identified.’”

The presidential proclamation directed the Secretary of the Interior to prepare a management plan for the CSNM “...and shall promulgate such regulations for its management as he deems appropriate. The management plan shall include appropriate transportation planning that addresses the actions, including road closures or travel restrictions, necessary to protect the objects identified in this proclamation.” (Presidential Proclamation 7318, Appendix A).

#### ***There is a need to maintain the minimal transportation system necessary to facilitate protection of monument resources (ROD/RMP, p. 82).***

One of the primary management objectives for the transportation system in the monument is to maintain a transportation system that is the minimum necessary to manage and protect monument objects and

resources. “Where possible, reduce the amount of existing roads in the monument...” and “decommission, rather than close roads to minimize resource impacts.” (ROD/RMP, p. 82).

***There is a need to reduce road densities in the monument to protect the “objects of biological interest” and support naturally functioning ecosystem processes.***

The ROD/RMP recognized that, “[r]oad densities throughout the monument are higher than desired to protect the “objects of biological interest” and support naturally functioning ecosystem processes” and “[e]xtensive road networks can result in negative impacts on wildlife and aquatic species and habitats; impaired hydrologic function; introduction and spread of exotic species; reductions in site productivity; and increased sediment production.” (ROD/RMP, p. 80).

***There is a need to balance access with protection of monument resources and ecological processes.***

Management of the BLM road network within the monument must consider the protection of natural resources, including the ‘objects of biological interest;’ access for recreation and resource management; access for federally recognized Native American tribes; access requirements of adjacent landowners; and fire suppression access needs on BLM lands, as well as on adjacent public and private lands (ROD/RMP, p. 80).

“The main objective of transportation management is to maintain a road network within the monument that allows for ecosystem restoration and provides for human access needs.” (ROD/RMP, p. 82). This can be accomplished through the targeted reduction of road densities, while maintaining an appropriate level of access for various recreational activities, Native American tribes, private property owners, resource management, wildfire suppression, law enforcement, and other administrative uses.

***There is a need to ensure legal road access to holders of rights-of-way grants and reciprocal agreements in accordance with the terms of the right-of-way grants or reciprocal agreements.***

The presidential proclamation expressly recognized and protected valid existing rights (VERs). Valid existing rights (VERs) may include a variety of BLM authorizations such as rights-of-way grants, leases, reciprocal agreements, and withdrawals. However, “[i]n cases where existing rights-of-way are found to negatively impact monument resources, the BLM will work with authorized holders to reduce those impacts where feasible.” (ROD/RMP, p.115).

The road network within the monument was primarily designed to access and remove timber products. In many areas within the monument, the BLM and other large property owners have reciprocal

agreements that allow access for forest management activities. Many of the roads under reciprocal agreements are no longer necessary for forest management activities on public or private lands.

The BLM will coordinate with rights-of-way/reciprocal agreement holders when proposing to close or decommission any roads under existing rights-of-way/reciprocal agreements.

***There is a need to provide reasonable and legal access for ingress and egress to private property.***

Although new right-of-way/reciprocal agreement applications are expected to be limited, as a matter of policy, BLM will not preclude reasonable access to non-federally owned land that is surrounded by public land (ROD/RMP, VER-1, p. 114 and TRAN-2, p. 84). The BLM will work closely with new right-of-way/reciprocal agreement applicants to determine routes that best provide access while protecting monument resources (ROD/RMP, p. 83).

**DECISION TO BE MADE**

This Environmental Assessment will provide the information needed for the responsible official, the Ashland Resource Area Field Manager, to select a course of action to be implemented for the CSNM TMP. The Ashland Resource Area Field Manager must decide whether to implement one of the alternatives or choose a combination of components found within those alternatives analyzed.

In choosing the alternative, or blend of alternatives that best meets the project needs/objectives, the Field Manager will consider the extent to which each alternative responds to the purpose and need identified above. The forthcoming Decision Record will document the authorized officer's rationale for selecting a course of action based on the effects documented in the EA.

The decision will also include a determination of whether or not the impacts of the alternatives are significant to the human environment. If the impacts are determined to be within the range analyzed in the *Cascade-Siskiyou National Monument Proposed Resource Management Plan/Final Environmental Impact Statement* (FEIS) (USDI 2005), or otherwise determined to be insignificant, a Finding of No Significant Impact (FONSI) can be issued and a decision implemented. If this EA determines that the significance of impacts are unknown or greater than those previously analyzed and disclosed in the RMP/FEIS then a project-specific environmental impact statement (EIS) must be prepared.

## LAND USE CONFORMANCE AND LEGAL REQUIREMENTS

### Conformance with Land Use Plans

This transportation management plan is designed to be in conformance with the *Cascade-Siskiyou National Monument (CSNM) Record of Decision (ROD)* and *Resource Management Plan (RMP)* (USDI 2008), as amended (USDI 2013). The CSNM ROD/RMP incorporates by reference portions of the Northwest Forest Plan (NFP) (USDA/USDI 1994), as amended, and the Medford District RMP (USDI 1995) as they are consistent with the presidential proclamation. The analysis supporting this decision tiers to the *Cascade-Siskiyou National Monument Proposed Resource Management Plan/Final Environmental Impact Statement* (USDI 2005).

The CSNM TMP is consistent with the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001 ROD); the *BLM Vegetation Treatments Using Herbicides Final Programmatic EIS Record of Decision* (USDI 2007); *Record of Decision (BLM): Vegetation Treatments Using Herbicides on BLM Lands in Oregon* (USDI 2010); *Medford District Integrated Weed Management Plan Environmental Assessment* (USDI 1998) and tiered to the *Northwest Area Noxious Weed Control Program* (EIS, USDI 1985).

This project utilizes the December 2003 Survey and Manage species list. This list incorporates species changes and removals made as a result of the 2001, 2002, and 2003 Annual Species Reviews (ASRs) with the exception of the red tree vole. For the red tree vole, the Ninth Circuit Court of Appeals vacated the category changes and removal of the red tree vole in the mesic zone, and returned the red tree vole to its status as existed in the 2001 ROD Standards and Guidelines, which make the species Category C throughout its range.

### Consultation

Formal consultation for the CSNM Resource Management Plan with the U.S. Fish and Wildlife Service (USFWS) was signed on June 26, 2006 and revised on October 16, 2006 with the *Revised Biological Assessment for the Record of Decision on the EIS and Activities in the Cascade-Siskiyou National Monument* (USDI BLM 2006). The USFWS released a Biological Opinion (BO) (LOC #13420-2007-I-0034) on November 21, 2006 (USDI FWS 2006).

Official consultation between the Medford District BLM and the Oregon State Historic Preservation Office (SHPO) for the CSNM TMP was initiated in January 2016. Due to the size of the project area

and the phased approach, BLM and SHPO have agreed to a deferred survey strategy in meeting section 106 responsibilities under the National Historic Preservation Act (NHPA) of 1966, as amended.

It is BLM's intent to implement decisions in this TMP in a phased manner, over time as funding becomes available. Prior to implementation, specific project areas will be reviewed and surveyed by wildlife, botany, fisheries specialists. If consultation with any of the appropriate regulatory agencies is deemed necessary, it will be completed and documented in the project file prior to implementation of any activities approved under this transportation management plan.

Scoping letters describing the CSNM TMP, initiating consultation with the local federally recognized Native American tribes, were sent in December 2011. No comments were received from the tribes in response to the scoping letters. Letters were mailed to the tribes on March 15, 2016 notifying them of the upcoming availability of the Draft CSNM TMP/EA.

### **Special Status Species**

The CSNM TMP is consistent with BLM Manual 6840 (USDI 2008), the purpose of which is to provide policy and guidance for the conservation of BLM Special Status Species and the ecosystems upon which they depend on BLM-administered lands. BLM Special Status Species include those species listed or proposed for listing under the Endangered Species Act (ESA), as well as those designated as Bureau Sensitive by the State Director. The objectives of the BLM Special Status policy are:

- To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; and
- To initiate proactive conservation<sup>1</sup> measures that reduce, or eliminate, threats to Bureau Sensitive species to minimize the likelihood of and need for listing of these species under the ESA (USDI 2008, Section .02).

### **Statutes and Regulations**

The CSNM TMP is designed to be in conformance with the direction given for the management of public lands in the Medford District and the following:

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<sup>1</sup> Conservation: as applied to Bureau Sensitive species, is the use of programs, plans, and management practices to reduce or eliminate threats affecting the status of the species, or improve the condition of the species' habitat on BLM-administered lands (USDI 2008, Glossary p. 2).

- **Oregon and California Lands Act of 1937 (O&C Act).** Requires the BLM to manage O&C lands for permanent forest production. Timber shall be sold, cut, and removed in accordance with sustained-yield principles for the purpose of providing for a permanent source of timber supply, protecting watersheds, regulating stream flow, contributing to the economic stability of local communities and industries, and providing recreational facilities.
- **Federal Land Policy and Management Act of 1976 (FLPMA).** Defines BLM’s organization and provides the basic policy guidance for BLM’s management of public lands.
- **National Environmental Policy Act of 1969 (NEPA).** Requires the preparation of environmental impact statements for major federal actions which may have a significant effect on the environment.
- **Endangered Species Act of 1973 (ESA).** Directs Federal agencies to ensure their actions do not jeopardize species listed as “threatened and endangered” or adversely modify designated critical habitat for these listed species.
- **Clean Air Act of 1990 (CAA).** Provides the principal framework for national, state, and local efforts to protect air quality.
- **National Historic Preservation Act of 1966 as amended (NHPA).** Requires federal agencies to take into account the effect of their federal or federally-licensed undertakings on historic properties, whether those properties are federally owned or not.
- **Safe Drinking Water Act (SDWA) of 1974 (as amended in 1986 and 1996).** Protects public health by regulating the nation’s public drinking water supply.
- **Clean Water Act of 1987 (CWA).** Establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation’s water.
- **Omnibus Public Land Management Act of 2009.** Established the National Landscape Conservation System (NLCS) (also known as National Conservation Lands) under the jurisdiction of the Bureau of Land Management (BLM) in order to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.

## **Relevant Assessments, Plans and Policy**

The following documents contain information related to existing conditions and management practices in the CSNM TMP planning area. These documents are incorporated by reference into the project documentation.

### ***U.S. Department of Interior, Bureau of Land Management, Western Oregon Districts, Transportation Management Plan (1996, updated 2002 and 2010)***

The Western Oregon Transportation Management Plan provides goals, objectives, and guidelines for managing BLMs road and trail transportation system throughout Western Oregon. This transportation management plan, is not a decision document, rather it provides guidance for implementing applicable decisions of the CSNM ROD/RMP and the CSNM TMP/EA.

### ***Southwest Oregon Fire Management Plan (ODF 2014)***

The Southwest Oregon Fire Management Plan (FMP) provides Southwest Oregon with an integrated concept for coordinated wildland fire planning and protection among federal, state, local government entities and citizen initiatives. The Fire Management Plan is not a decision document.

The FMP introduces fire management concepts addressing fire management activities in relation to resource objectives stated in the current land and resource management plans or land use plans (parent documents) of the federal agencies, the laws and statutes that guide the state agencies and private protective associations, and serves as a vehicle for local agencies and cooperators to more fully coordinate their participation in relation to those activities.

### ***BLM Manual 6100 – National Landscape Conservation System Management Manual (USDI 2012) and BLM Manual 6220 – National Monuments, National Conservation Areas, and Similar Designations (USDI 2012)***

The CSNM is part of the National Landscape Conservation System (NLCS). NLCS units include National Monuments, National Conservation Areas and Similar Designations, Wilderness, Wilderness Study Areas, Wild and Scenic Rivers, and National Scenic and Historic Trails. As specified in the Omnibus Public Land Management Act of 2009 (16 U.S.C. 7202), the NLCS was established in order to “conserve, protect and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values...” NLCS units are to be managed “in a manner that protects the values for which the components of the system were designated.” BLM Manual 6100 (USDI 2012) provides general policy on managing public lands (also referred to as National Conservation Lands) in the NLCS. The BLM has additional manuals addressing policy specific to individual NLCS units.

Manual 6220 (USDI 2012) provides guidance for managing public lands that are components of the BLM's National Landscape Conservation System and that have been designated by Congress or the President as National Monuments, National Conservation Areas, and similar designations (collectively "Monuments and NCAs" or "components").

### ***BLM Manual 1626 – Travel and Transportation Management (USDI 2011)***

This Manual provides detailed policy, direction, and guidance to establish a comprehensive program for travel and transportation planning within the Bureau of Land Management's land use planning process.

## **SCOPING AND ISSUES**

Scoping is the process the BLM uses to identify issues related to the proposal (40 CFR 1501.7) and determine the extent of environmental analysis necessary for an informed decision. It is used early in the NEPA process to identify (1) the issues to be addressed, (2) the depth of the analysis, (3) alternatives or refinements to the proposal, and (4) potential environmental impacts of the proposal. Scoping is performed not to build consensus or get agreement on a project proposal, but rather to solicit relevant site-specific comments that could aid in the analysis and final design of the proposal.

Scoping has occurred for the CSNM TMP. The TMP project appeared in the Ashland Resource Area's Schedule of Proposed Actions published in Medford's Messenger (BLM's quarterly newsletter) beginning in the Fall 2009 edition. A letter briefly describing the transportation management plan and inviting comments was mailed to adjacent landowners, interested individuals, organizations, federally recognized Native American tribes and other agencies on December 2, 2011. The public scoping period was open through April 2, 2012. The BLM received nine written comment letters in response to its scoping notice.

### **Relevant Issues**

An interdisciplinary (ID) team of resource specialists reviewed the proposal and all pertinent information, including public input received, and identified relevant issues to be addressed during the environmental analysis.

#### ***Hydrologic function, water quality and aquatic habitat.***

Road decommissioning, recontouring (full and spot) and drainage improvements contribute to long-term improvement in watershed conditions. While there is potential for short-term effects to water quality from increased sediment produced from the disturbance associated with these treatments, the decreased channelization of water runoff and sediment routing has immediate positive effects. It takes time for

vegetation to reclaim decommissioned roads and decades for full recovery (depending on the method of decommissioning and the condition of the road at the time it is decommissioned).

Jenny Creek is a Tier 1 Key Watershed under the Northwest Forest Plan (USDA/USDI 1994). Tier 1 Key Watersheds contribute directly to the conservation of at-risk fish species and have a high potential of being restored as part of a watershed restoration program. The Northwest Forest Plan calls for reduced road densities in key watersheds in order to facilitate recovery of watershed function and aquatic biodiversity.

Jenny Creek, Johnson Creek, Keene Creek, Mill Creek, South Fork Keene Creek, Carter Creek, Emigrant Creek, Hobart Creek, and Tyler Creek are within the planning area and are listed as water quality limited (303(d) list) for varying reasons. Non-point source pollution (sedimentation) from management activities associated with implementing this TMP has the potential to affect the aquatic ecosystem.

***Access for fire suppression, recreation, management, research, education and appreciation of the Cascade-Siskiyou National Monument.***

Implementation of the TMP may alter how some of the area has been traditionally used. Several letters identified retaining motorized access for fire suppression, various recreational activities, monument management including noxious weed control, research, education and appreciation of the CSNM. Letters identified specific roads and locations where retention of road access was desired.

Some commenters suggested that trails be constructed on old roadbeds following closure and/or decommissioning. Another commenter would like to see some of the roads around Hyatt Lake Campground designated as Nordic skiing trails and allow grooming machines access in the winter to maintain the ski trails.

Road access is a critical part to effective and efficient initial attack of wildfires. Roads within the monument provide easier and quicker access for firefighters, playing a role in keeping fires relatively small in size and assisting with firefighter safety. Limiting vehicular access to the monument increases the chances of wildfires becoming large, potentially increasing fire suppression costs.

***Access to “sacred area” recognized by the Klamath Tribes for Native American religious ceremonial purposes.***

For at least the past 40 years, an area north of Pilot Rock has been used as a place of ceremony by members of the Klamath Tribes. Maintaining vehicle access by road to the “sacred area” is important to the Native American religious, cultural and ceremonial use of the land by elders (and others) who cannot

access the “sacred area” and its various sites by foot. Many elders (and others) have disabilities that preclude them from accessing the ceremonial religious sites within the sacred ground other than by vehicle. Vehicle access is important in their ability to participate in ceremonial religious practices.

Additionally, ensuring vehicle access to the ceremonial religious sites provides for a more efficient response to medical, fire or other emergencies should the need arise.

***Access for citizens with limited mobility or disabilities.***

Implementation of the TMP may reduce access to the CSNM for citizens with limited mobility or disabilities. Although the general public may find non-motorized alternatives for accessing the CSNM, people with disabilities may not have similar options and may experience reduced access to public lands within the monument.



# CHAPTER 2 – ALTERNATIVES

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## INTRODUCTION

This chapter describes the alternatives considered by the BLM to achieve the objectives identified in the Purpose and Need discussion in Chapter 1, as well as other alternatives considered but not analyzed in detail. A “No Action” Alternative is presented to form a baseline for analysis. Project Design Features (PDFs), which apply the Best Management Practices as described in Appendix D of the 1995 Medford District RMP (and modified by Resource Management Plan Maintenance dated July 12, 2012) (incorporated by reference in the CSNM ROD/RMP), are integral to the design of the alternatives. The PDFs are incorporated into the analysis of anticipated environmental impacts described in Chapter 3. Table 2-2 near the end of this chapter provides a table that presents a cross-walk for comparing the alternatives.

## BACKGROUND

The BLM completed an intensive field inventory of all road-related facilities within the planning area (Map 1-2) beginning in 2010 and finishing in 2012. There are approximately 412 miles within the 60,434-acre planning area. Roads within the planning area vary from primitive, four-wheel drive (jeep) roads (non-system roads) to engineer-designed roads with culverts, drainage features, and crushed rock surfacing that receive regular maintenance by BLM (system roads). The surveys assessed road condition, use, fire suppression access needs, and potential risks that these roads pose to hydrologic function and aquatic resources. As inventories were completed for the TMP, the interdisciplinary team (road engineer, hydrologist, fisheries biologist, wildlife biologist, fire management specialists, outdoor recreation planner, silviculturist and forester) made recommendations for the transportation system within the monument.

## COMPONENTS COMMON TO ALL ALTERNATIVES

### Road Access Designations Common to All Alternatives

Road access is classified within the CSNM in six different categories: open, BLM and authorize use, closed, inholder, private, and noninventoried. These basic classifications are used throughout this EA and on all maps in Appendix C. These categories are defined as follows:

**Open:** These roads are open for public access. There are typically no restrictions on who can use these roads.

**BLM and Authorized Use:** These roads are not authorized for public use. They are specifically authorized for use by permitted users, landowners, fire personnel, and the BLM. Some of these

roads may be available for public use unless posted closed with signs or blocked by gates or other barriers. However, the informal public use of these roads takes places at the discretion of the authorized users and the BLM and could cease at any time, thereby limiting access into these areas.

**Closed:** These roads are unavailable for public use. They may only be used for administrative purposes by the BLM, fire fighters, or other emergency personnel.

**Inholder:** These roads (40-4E-19.2 and 40-4E-31 in T. 40 S., R. 4 E., Sections 30 and 31) are unavailable for public use. These roads provide access to private “edgeholders” adjacent on two or three sides to the Soda Mountain Wilderness as approved in the *Soda Mountain Wilderness Final Stewardship Plan* (USDI 2012). Specific criteria in the wilderness plan limit maintenance and improvements to these roads.

**Private:** These roads are privately owned and maintained. These roads are not authorized for public or BLM use. In some cases, the private owner has not prevented the public and the BLM from general use of these roads. However, this informal use takes place at the discretion of the road owner(s) and could cease at any time, thereby limiting access to these areas.

**Noninventoried:** These roads are typically native surface, primitive roads that are not part of the BLM transportation network (system roads). The origin of these roads is typically unknown and many are user-created routes. They are typically referred to as noninventoried roads or non-system roads. No determinations have been made on who is authorized to use these routes.

## Road Treatments Common to All Alternatives

All alternatives include a variety of treatments of the road system at various different levels by alternative. Proposed road treatments fall into eight main types of treatments, although the combination of treatments for each road segment may vary based on specific needs. The types of treatments are briefly characterized below and described in more detail in Chapter 3 (pp. 3-1 to 3-46). Road treatments for each of the alternatives are illustrated on a small scale map following each alternative description within this TMP/EA. Large scale maps of the road treatments associated with each alternative are provided in Appendix C.

### **Full Recontour**

This treatment would generally be used in areas of high aquatic value (riparian). Full recontouring includes using an appropriately-sized excavator to remove culverts, lay back stream banks to a 2:1 slope, restore channel gradient, recontour the road prism using material on site (pull back road fill slope and

spread material from culvert removals), break up compaction as needed on the road prism with an excavator or bulldozer, scatter available vegetation over recontoured slope, and spread native seed or mulch as needed to prevent erosion. Infrastructure (i.e., cattle guards, fencing, stock tanks, etc.) would be removed at the time the recontouring is taking place.

### ***Decommission/Spot Recontour***

This treatment involves a combination of excavator work (at stream crossings and in riparian areas) and ripping the road surface (subsoiling) with a bulldozer. Decommissioning/spot recontouring includes using an appropriately-sized excavator to remove culverts, lay back stream banks to a 2:1 slope, restore channel gradient, install waterbars and rolling dips, spot recontour areas with elevated grade or to remove unstable road shoulders using material on site (waste material from culvert removals or elevated grade), subsoil with bulldozer to break up compaction as needed, scatter available vegetation over road, and spread native seed or mulch as needed to prevent erosion. Infrastructure (cattle guards, fencing, stock tanks, etc.) would be removed at the time the decommissioning/spot recontouring is taking place.

### ***Decommission***

This treatment would be used for road sections that are outside riparian areas and typically contain no culverts. The road surface would be subsoiled (ripped) with a bulldozer to break up compaction. The entry to the road would be blocked either by installing an earth berm, blocking with boulders, or a combination of the two.

### ***Road to Trail Conversion***

Trail construction or improvements on restored road beds will be completed either during the road restoration by mechanical means or with the use of hand tools following road restoration. During mechanical restoration of the roads (using one or more of the three methods identified above), a trail width tread (24 to 36 inches wide) will be left within the road prism as directed by the BLM. In certain circumstances, it may be necessary to construct the trail following road recontouring to prevent resource damage or address maintenance problems. Examples of when this may be necessary include when there is a need for drainage improvement, outsloping of the trail, a more stable trail location, or other resource concerns. Drainage control features (i.e., waterbars, rolling dips, outsloping) will be installed at appropriate locations on the designated trails to prevent erosion. Roads would be converted to trails in accordance with policies and standards found in BLM Handbook 9114-1.

### ***Passive Decommission***

Passive decommissioning is used on stable, native-surface roads that have not been used very often and are either already re-vegetating naturally or can re-vegetate naturally effectively returning to a relatively

natural state over time. These roads are typically ridge-top roads with no drainage structures (stream-crossing culverts or cross-drains). The entry to the road would be blocked by installing an earth berm, blocking with boulders, vegetation growth or a combination of methods. Some of the roads proposed for passive decommissioning may be available for emergency access (e.g., fire suppression, search and rescue, law enforcement, medical evacuation) on a transitional basis until such time as the road becomes overgrown and is no longer drivable.

### ***Brush for Fire Suppression Access***

This treatment would gate roads in strategic locations for fire suppression and maintain these roads over time by clearing brush and removing fallen trees in order to allow limited access for firefighting personnel and equipment. Roads maintained in this status could also be used for other emergency purposes (i.e., search and rescue, medical emergency, or law enforcement).

### ***Drainage Improvement***

This treatment would be applied to roads that are to be retained as part of the transportation network but exhibit drainage issues and/or chronic erosional features. Inadequate road drainage may be improved by reshaping the road surface, maintaining or installing new drainage structures, and replacing undersized culverts to meet current BLM standards. Chronic erosion features would be stabilized by mulching, planting, or rocking. A variety of road maintenance equipment could be used to accomplish drainage improvements including excavators, road graders, backhoes, and bulldozers.

### ***New Construction***

New road construction is limited to instances where it is necessary to meet the primary objectives for management of the CSNM. Requirements under valid existing rights or relocation of an existing road in order to reduce impacts on the “objects of biological interest” are examples of when new road construction might occur (CSNM ROD/RMP 2008, TRAN-5, p. 87).

### ***Fire Suppression Water Sources Common to All Alternatives***

There are 20-21 (depending on alternative) water source installations within the planning area on BLM-administered lands that have been identified by the Oregon Department of Forestry (ODF) and BLM as necessary for fire suppression and the health and safety of monument visitors. Some of these facilities are in need of improvement to make them fully functional and others are just in need of routine maintenance. Methods used to improve access to, or water holding capacity of, designated water sources will include the use of hand tools, chainsaws and replacement parts and materials. There is a potential need to use a small

excavator/backhoe in some instances to remove sediment buildup and restore water holding capacity. Routine maintenance and repair of fire suppression water sources would occur as needed.

### **Recreational Activities Common to All Alternatives**

This transportation management plan is tiered to the CSNM ROD/RMP. In general, management of recreational activities within the planning area falls under the guidance provided in the ROD/RMP (pp. 94-102). This TMP does, however, address access for specific recreational activities. Some of the management direction approved in the CSNM ROD/RMP is repeated in this TMP/EA in order aid the reader in understanding previously approved management direction related to transportation planning for recreational activities.

### **Trails**

#### **Pacific Crest National Scenic Trail**

The National Trails System Act of 1968 was created to ensure that visitors enjoy a meaningful recreation experience as well as to preserve the trail resources. The National Trails Systems Act designated both National Historic and National Scenic Trails. A scenic trail is an extended trail offering maximum outdoor recreation potential allowing visitors to experience scenic, historical, natural and cultural resources.

The Pacific Crest National Scenic Trail (PCNST) is a nationally significant resource providing long-distance trail opportunities for hikers and equestrians, extending from Mexico to Canada along the rugged and remote crest of the Cascade, Sierra Nevada, and Southern California mountain ranges. Approximately 18.6 miles of the PCNST are located within the monument. Of that, 7.1 miles run through the northwest edge of the western portion of the Soda Mountain Wilderness, and approximately 11.5 miles are located on public lands in the remainder of the CSNM. Agreements with private landowners allow for access through private lands. The PCNST is managed in accordance with the *Comprehensive Management Plan for the Pacific Crest National Scenic Trail* (USDA 1982) and the national interagency Memorandum of Understanding between USDA Forest Service, USDI National Park Service, Bureau of Land Management, California State Parks, and the Pacific Crest Trail Association (2003).

#### **Trail Maintenance**

Trails within the CSNM and outside the wilderness, including the PCNST will be maintained to ensure that the values of the monument can be experienced by visitors while adverse impacts to the biophysical components of the monument resources are minimized. Trail segments may also be rerouted where they are causing or are anticipated to cause damage to monument character. Typically, the PCNST is

surveyed annually for trail maintenance and rerouting needs or immediately following an intense wind event. Trail maintenance and rerouting will be accomplished using the following guidelines.

- Trails within the CSNM will be maintained in accordance with policies and standards found in BLM Manual 9114-1.
- Any proposed trail maintenance or rerouting will be reviewed and approved by a BLM archaeologist and botanist.
- Examples of when trail maintenance or rerouting will occur include:
  1. Slopes greater than 15 percent beyond which potential for excessive soil erosion and trail deterioration is high. Very short steep sections may be retained where reinforcement with native rock will prevent soil erosion. Rolling dips or rock-enforced water bars would be utilized to reduce water-caused soil erosion.
  2. Where trail braiding occurs, the most appropriate trail path will be maintained and the alternate trail(s) will be obstructed and rehabilitated with native vegetation.
  3. Maintenance will strive to limit trail width to 24 inches, except where a wider trail may be necessary to protect resources. Trail width will not exceed 36 inches.
  4. Trails may be rerouted to avoid damage to natural or cultural resources.
  5. Where trails cross water, wooden bridges may be constructed when no other route or crossing is reasonably available; where the crossing during the primary season of use cannot be safely negotiated by foot or horses; and where less formal devices (e.g., rock stepping stones or downed logs) are frequently destroyed or damaged by flood waters.

Trails within the SMW including the PCNST (inside the SMW), Pilot Rock Trail, Pilot Rock Access Trail, Lone Pilot Trail and PCNST-Soda Mountain Road Connector Trail will be maintained according to guidance provided in the *Soda Mountain Wilderness Final Stewardship Plan* (USDI 2012).

### **Trailheads**

There are two designated trailheads within the planning area that would be maintained under all alternatives at the following locations and shown on the alternative maps in Appendix C.

- Pilot Rock Trailhead is located at a former rock quarry along Pilot Rock Road (40-2E-33) in T. 41 S., R. 2 E., Section 3.
- Hobart Bluff Trailhead is located under the power lines along Soda Mountain Road (39-3E-32.3) in T. 40 S., R. 3 E., Section 16.

Camping would not be allowed at these two trailheads. Both trailheads provide access to the Pacific Crest National Scenic Trail and have recently been improved to reduce resource damage and protect monument values. In the future, additional maintenance and improvements could be considered to the minimum extent necessary to reduce resource damage with the purpose of protecting monument values. The trailheads could be maintained or improved using the following guidelines:

- Additional vehicle barriers could be constructed to define trailhead parking areas where existing or natural barriers are inadequate to keep vehicles within the desired trailhead parking area. The following types of barriers, from least intrusive to most intrusive, may be used: 1) signs, small rocks, and/or native vegetation plantings or restoration; 2) large boulders placed with heavy equipment; or 3) wooden fences.
- Parking surfaces may be improved if determined to be significant contributors to resource damage or the area becomes unsuitable for parking. Examples include gulying or erosion resulting from use that displaces water or sediment and excessive pot holes/large puddles that cause parking to become difficult. Surface improvement may include improving drainage and hardening the surface with rock or paving. Additional surface improvements and barriers would be used only after less intensive methods to reduce resource damage, while still providing trailhead and parking access, have been implemented and have been determined to be unsuccessful. Less intrusive methods will include such things as signage and visitor education through outreach.
- Additional toilet facilities may be provided, as necessary, at designated trailheads and parking sites. Toilet facilities would be built in response to resource damage and public health and safety issues.
- All trailhead facilities will comply with current accessibility legislation and corresponding standards/guidelines (Architectural Barriers Act (ABA) of 1968, Section 504 of the Rehabilitation Act (amended 1978), and the Americans with Disabilities Act (ADA) of 1990). In addition, any new construction or alteration of existing trailhead facilities will comply with state and local codes, as well as impending guidelines regarding the accessibility of the outdoor recreation environment in outdoor developed areas. All existing and new visitor facilities will be maintained, designed, and constructed according to Bureau standards.
- Any proposed trailhead improvements will be reviewed and approved by a BLM archaeologist and botanist.

### **Off-Highway Vehicles (OHVs)**

The monument proclamation (Appendix A) prohibited all motorized and mechanized vehicle use off road, except for emergency (e.g., search and rescue, medical evacuation) or authorized administrative purposes. Off-highway vehicles (OHVs) also referred to as off-road vehicles (ORVs) are defined as any motorized vehicle capable of, or designed for travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies (43 CFR 8340.0-5). Although snowmobiles fall under the broad category of OHVs, this TMP provides separate management direct for them that varies by alternative (see alternative descriptions below for management of snowmobile access).

The CSNM ROD/RMP prohibits OHV access on BLM-managed lands within the monument except on designated open roads (TRAN-12, p. 87). This TMP further analyzes and refines which open roads are available for OHV use under the guidance of the CSNM ROD/RMP (pp. 87-88). This TMP designates the BLM-managed portion of the planning area as limited for OHV use to designated open roads in accordance with 43 CFR 8342.

Designated open roads vary by alternative and correspond directly to the roads identified as “open” under each alternative. See alternative maps for specific open road designations where OHV use is allowed (Appendix C).

### **Bicycles**

Bicycles (non-motorized) are allowed on roads identified as “open” and most roads identified as “BLM and authorized use.” Bicycles are not allowed on roads that are identified as “closed” or roads within the areas identified as closed to bicycle access on Map 24 in the CSNM ROD/RMP (p. 95 and also in Appendix B of this EA). Bicycles are not permitted on roads approved for decommissioning (including those roads identified for passive decommissioning). Bicycles are not allowed on trails or cross-country within the CSNM.

Bicycle access varies by alternative and corresponds directly to the roads identified as “open” or “BLM and authorized use.” See alternative maps for specific road designations where bicycle use is allowed (Appendix C).

## **Project Design Features**

Project Design Features (PDFs) are an integral part of the alternatives. They are developed to avoid or reduce the potential for adverse impacts to resources. PDFs include seasonal restrictions on many activities in order to minimize erosion and reduce disturbance to wildlife. PDFs also outline protective buffers for sensitive species, mandate the retention of snags, and delineate many measures for protecting Riparian Reserves throughout the project. Where applicable, PDFs reflect Best Management Practices and standard operating procedures.

PDFs included in this TMP would be carried forward into contracts as required contract specifications. BLM contract administrators and inspectors monitor the operations of contractors to ensure that contract specifications are implemented as designed.

Best Management Practices (BMPs) are designed to reduce non-point source pollution to the maximum extent practicable and are considered the primary mechanisms to achieve Oregon Water Quality standards. Implementation of PDFs, in addition to protection associated with Riparian Reserves, would equal or exceed Oregon State Forest Practice Rules. A review of forest management impacts on water quality concluded that the use of BMPs in forest operations was generally effective in avoiding significant water quality problems; the report noted that proper implementation of BMPs was essential to minimizing non-point source pollution (Kattelman 1996). BMPs would be monitored and, where necessary, modified to ensure compliance with Oregon Water Quality Standards. The PDFs listed below apply to the all of the alternatives.

### ***Protection of Aquatic Species and Habitat***

- Instream work period on fish-bearing streams would be from June 15<sup>th</sup> to September 15<sup>th</sup> for work that would occur in the Bear Creek Watershed and July 1<sup>st</sup> to September 15<sup>th</sup> for work that would occur in the Jenny Creek Watershed. Work would be temporarily suspended if rain saturates soils to the extent that there is potential for environmental damage, including movement of sediment from the road to the stream channel.
- For nonfish-bearing streams, instream work (including fill removal for culvert removals) would be limited to the instream work period unless the stream is dry, and then work could occur during the general dry season (May 15<sup>th</sup> to October 15<sup>th</sup>). Work would be temporarily suspended if rain saturates soils to the extent that there is potential for environmental damage, including movement of sediment from the road to the stream channel.
- Sediment and erosion controls would be used during construction and decommissioning to minimize stream sedimentation as much as possible. Sediment control techniques may include,

but are not limited to, settling ponds, silt fences, straw bales or wattles, or coconut fiber bales. Sediment and erosion controls would be placed immediately (within 10 feet) downstream of the instream work to reduce sediment movement downstream from the project site.

- Stream flow must be bypassed around the work site during the removal or installation of any drainage structures.
- Waste stockpile and borrow sites would not be located within Riparian Reserves.
- All disturbed ground within Riparian Reserves would be seeded with native seed, and mulched with certified weed-free organic material.
- Fill or other unconsolidated fine sediment material over or adjacent to stream crossings would be stabilized as soon as possible after construction or decommissioning has been completed, or before October 15<sup>th</sup>. Exposed soils would be seeded and mulched prior to fall rains.
- During construction, installation, or removal of instream structures, including culverts, fords, and temporary bridges, the contractor would be responsible for meeting all state and federal requirements for maintaining water quality. Standard contract stipulations would include the following:
  - Heavy equipment would be inspected and cleaned before moving onto the project site in order to remove excess oil and grease, noxious weeds and excessive soil.
  - Hydraulic fluid and fuel lines on heavy mechanized equipment must be in proper working condition in order to avoid leakage into streams.
  - Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil would be removed from the site and disposed of in accordance with Department of Environmental Quality (DEQ) regulations. Areas that have been saturated with toxic materials would be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ.
  - Equipment refueling would be conducted within a confined area outside Riparian Reserves.
  - Use spill containment booms or other equipment as required by DEQ.
  - Equipment containing toxic fluids would not be stored in or near (within 300 feet) a stream channel anytime.

- No ditch maintenance shall occur during the wet season (October 15<sup>th</sup> through May 15<sup>th</sup>) unless for safety or resource protection. Other road maintenance activities may be considered (e.g., rocking, blading of aggregate roads, cutting brush) and would be done in accordance with the Medford District road maintenance standards (USDI 2011). Work would be suspended during precipitation events or when observations indicate that saturated soils exist to the extent that there is visible runoff or a potential for causing elevated stream turbidity and sedimentation. Emergency road work could occur during the wet season.

### ***Oil and Hazardous Materials Emergency Response***

- During operations described in the proposed action, the operator would be required to have a BLM-approved spill plan or other applicable contingency plan. In the event of any release of oil or hazardous substance, as defined in Oregon Administrative Rules (OAR) 340-142-0005 (9)(d) and (15), into the soil, water, or air, the operator would immediately implement the site's plan. As part of the plan, the operator would be required to have spill containment kits present on the site during operations. The operator would be required to be in compliance with OAR 629-605-0130 of the Forest Practices Act, Compliance with the Rules and Regulations of the Department of Environmental Quality. Notification, removal, transport, and disposal of oil, hazardous substances, and hazardous wastes would be accomplished in accordance with OAR 340-142, Oil and Hazardous Materials Emergency Response Requirements, contained in Oregon Department of Environmental Quality regulations.
- Absorbent materials would be required to be onsite to allow for immediate containment of any accidental spills.
- Spilled fuel and oil would be cleaned up and would be disposed of at an approved disposal site.

### ***Protection of Botanical Species and Habitats***

- To prevent the spread of noxious weeds, all heavy equipment used for proposed road treatments would be cleaned prior to entering BLM lands. Cleaning is defined as removal of excess dirt, grease, plant parts, and material that may carry noxious weed seeds onto BLM-administered lands. Cleaning prior to entry onto BLM-administered lands may be accomplished by using a pressure hose.
- Highly disturbed areas will be seeded, re-vegetated, and/or mulched as requested by the BLM project botanist. Only certified weed-free mulch and/or native seed will be used.

- If new Special Status or survey and manage plant sites are found prior or during implementation, the BLM project botanist would prescribe appropriate protection measures based on species, proposed treatment, site-specific environmental conditions, and available management recommendations. Protection measures may include no-disturbance plant buffers or seasonal restrictions in the occupied area. Plant sites would be protected in a manner that would allow road restoration to occur that would provide for long-term habitat benefit.

**Protection of Wildlife Species and Habitats**

- If a northern spotted owl is located prior to or during road treatments, operations would be suspended to allow biologists to determine occupancy (single, pair) and reproductive (nesting, not nesting, fledglings present) status. If nesting is confirmed the following restrictions would be implemented:
  - Seasonally restrict habitat modifying activities from March 1<sup>st</sup> to September 30<sup>th</sup> within 0.25 miles of known northern spotted owl nest sites.
- Work activities that produce loud noises above ambient levels would not occur within specified distances (Table 2-1) of any documented owl nest site during the critical early nesting period, March 1<sup>st</sup> and June 30<sup>th</sup>, or until two weeks after the fledging period. This seasonal restriction may be waived if protocol surveys determine the activity center is not occupied, owls are non-nesting, or owls failed in their nesting attempt. The distances listed in Table 2-1 may be shortened with U.S. Fish and Wildlife Service Level 1 Team concurrence if substantial topographical breaks would muffle sound between the work location and nest sites.

**Table 2-1. Mandatory Spotted Owl Restriction Distances.**

Activity	Zone of Restricted Operation
Heavy Equipment (including nonblasting quarry operations)	105 feet
Chain saws	195 feet
Impact pile driver, jackhammer, rock drill	195 feet
Small helicopter or plane	360 feet*
Type 1 or Type 2 helicopter	0.25 miles*
Blasting; 2 pounds of explosive or less	360 feet
Blasting; more than 2 pounds of explosives	1 mile

\* If less than 1,500 feet above ground level

- The BLM Resource Area biologist may extend the restricted season for northern spotted owls until September 30<sup>th</sup> during the year of project activities, based on site-specific knowledge (such as a late or second nesting attempt).
- Work activities proposed around Parsnip Lakes under Alternatives 2 and 3 will be restricted to the dry season (May 15<sup>th</sup> to October 15<sup>th</sup>) to protect Oregon spotted frogs. Work would be temporarily suspended during the dry season if rain saturates soils to the extent that there is potential for impacts to Oregon spotted frogs or their habitat, including movement of sediment from the road to the lakes.
- A seasonal restriction would be necessary if a new great gray owl nest is located adjacent to a project work area.
- A seasonal restriction would be necessary if a fisher den is located adjacent to a project work area.
- A variety of raptors occur across the landscape within the planning area. Eagles and other large raptors require protection from disturbance during the nesting season. Any large raptor nests will require a seasonal restriction with a ¼ mile buffer between March 1<sup>st</sup> and July 15<sup>th</sup> (USDI 1995, p. 57). This restriction may be waived at the discretion of the Resource Area Wildlife Biologist.
- Forest management activities would be prohibited within a 1.0 mile radius of active gray wolf dens and rendezvous sites from April 15<sup>th</sup> through August 31<sup>st</sup>. Prior to the spring, communication between U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, and the BLM will occur to determine if any wolf activity has expanded or moved into the Project Area.

### ***Protection of Cultural Resources***

- This project will be implemented in a phased manner as funding becomes available. When funding is secured and priority treatment areas identified, the BLM archaeologist will be afforded the time required to complete surveys for cultural resources, as agreed upon between the SHPO and BLM and in compliance with the state Protocol and the National Historic Preservation Act (NHPA) of 1966, as amended.
- Any proposed trail maintenance, rerouting or trailhead improvements will be reviewed and approved by a BLM archaeologist prior to implementation.
- Archaeological sites eligible to the National Register of Historic Places (NRHP) and paleontological sites occurring within activity areas would be flagged for avoidance or would otherwise be mitigated in consultation with the SHPO and identified to the operator/BLM

Ashland Resource Area contracting officer and mapped as reserve areas where no activities are allowed. Site flagging would be placed 25 feet from the site perimeter. No disturbance would occur in the buffered areas.

- If avoidance is not possible, BLM in consultation with the State Historic Preservation Office (SHPO) and federally recognized tribes would design appropriate mitigation measures to avoid adverse impacts to the identified site.
- If during project implementation the contractor encounters or becomes aware of any objects or sites of paleontological or cultural value on federal lands, such as fossils, historical or pre-historical ruins, graves, grave markers, or artifacts, the contractor shall immediately suspend all operations in the vicinity of the cultural value and notify the authorized officer of the findings. The project may be redesigned to protect the cultural resource values present, or evaluation and mitigation procedures would be implemented based on recommendations from the Resource Area Archaeologist with concurrence by the Ashland Field Manager and State Historic Preservation Office.

## **ALTERNATIVES ANALYZED IN DETAIL**

This section describes the four alternatives considered in detail. A narrative summary is provided for each of the alternatives.

### **Alternative 1 (No Action)**

#### ***Roads and Road-Related Facilities***

This alternative would implement the approved road treatments outside the Soda Mountain Wilderness identified in the CSNM ROD/RMP (2008) on Map 22 (p. 86) and shown on Map 2-1 and in Appendix C. Roads located within the SMW were addressed in the Final SMW Stewardship Plan (USDI 2012). Additional descriptions of the approved road treatments are located on pages 88-90 of the CSNM ROD/RMP. The following road treatments are proposed under this alternative:

**Decommission/Spot Recontour:** 4.26 miles

**Decommission:** 0.63 miles

**Passive Decommission:** 1.25 miles

**Drainage Improvement:** 13.41 miles

Of the roads that would receive some form of decommissioning (decommission/spot recontour, decommission, or passive decommission), approximately 57 percent are currently inaccessible to the public as they are overgrown or eroded, already blocked, or not drivable.

It should be noted that under this alternative, some of the roads identified for drainage improvement would be blocked following treatment per direction in the CSNM ROD/RMP (pp. 83-34 and Map 22, p. 86). This is different than for Alternatives 2 and 3, where drainage improvements occur on roads that would typically be retained for recurring access.

This alternative would designate approximately 113 miles of road as open, 56 miles for BLM and authorized use, 63 miles as closed, 2 miles for inholder access, and identifies 157 miles of road as noninventoried and 14 miles as private within the planning area. It would install 10 new earthberms to block vehicle access to specific roads; improve 10 existing water sources (pump chances) for fire suppression; and maintain 11 additional existing water sources.

### ***Snowmobile Routes***

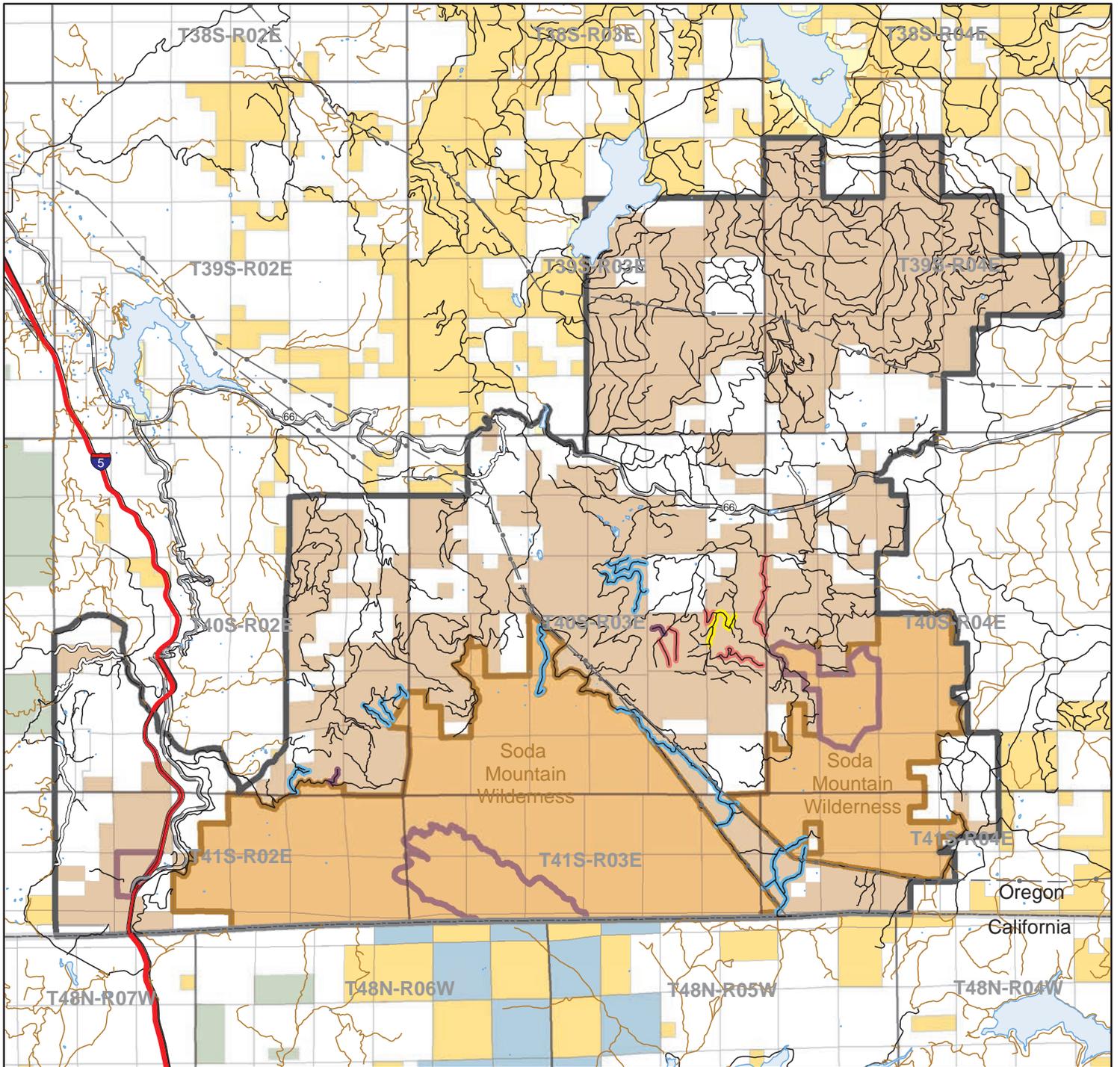
There is a mistake in the text of REC-34 (p. 99) in the CSNM ROD/RMP, regarding snowmobile routes and use in the CSNM. It was always intended that snowmobiles could use designated open roads north of Highway 66 and the snowmobile routes identified on Map 25 (also located in Appendix B of this EA), even where the routes are located on “closed” or “BLM and authorized use” roads. Under this alternative, REC-34 would be corrected to say the following:

REC-34 Snowmobiles are allowed on designated open roads north of Highway 66. Snowmobiles are not allowed in the south management zone; on the PCNST; or on roads that are closed or decommissioned, except those snowmobile routes identified on Map 25. Cross-country travel by snowmobiles is prohibited throughout the monument. The existing snowmobile routes (Map 25) in the north management zone enter and leave private land several times. The BLM does not have legal rights to allow the public to use roads on private lands for winter recreation. At this time, private landowners have not prevented the public from general use of these roads. However, the informal public use across private lands takes place at the discretion of the road owner(s) and could cease at any time, thereby limiting access to these areas. The BLM will seek partnerships with user groups to obtain legal easements from private land owners for access rights to historic snowmobile routes.

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 1 Proposed Road Treatments



Map 2-1.



- |                                    |                 |                      |                             |
|------------------------------------|-----------------|----------------------|-----------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Decommission/Spot Recontour |
| Other Bureau of Land Management    | State           | State Highway        | Decommission                |
| U.S. Forest Service                | Private/Unknown | Roads                | Passive Decommission        |
| Soda Mountain Wilderness           |                 | Noninventoried Roads | Drainage Improvement        |



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 Current Date: 03.22.2016

## **Alternative 2**

### **Roads and Road-Related Facilities**

The objective of this alternative is to balance human access needs with maintaining a transportation system within the monument that allows for ecosystem restoration. This alternative would implement a targeted reduction of road densities, while maintaining access for federally recognized Native American tribes, private property owners, resource management, wildfire suppression, law enforcement, various recreational activities and other administrative uses.

This alternative includes the following road treatments and as shown on Map 2-2 and in Appendix C.

**Full Recontour:** 8.24 miles

**Decommission/Spot Recontour:** 57.99 miles

**Decommission:** 41.61 miles

**Passive Decommission:** 56.36 miles

**Drainage Improvement:** 8.54 miles

**New Construction:** 0.27 miles

Of the roads that would receive some form of decommissioning (full recontour, decommission/spot recontour, decommission, or passive decommission), approximately 39 percent are currently inaccessible to the public as they are overgrown or eroded, already blocked, or not drivable.

This alternative would designate approximately 82 miles of road as open, 39 miles for BLM and authorized use, 19 miles as closed, 2 miles for inholder access, and identifies 92 miles of road as noninventoried and 14 miles as private within the planning area. It would install 11 new gates (some are relocations or closures of existing gates) and 42 new earthberms (some are repairs of existing, non-functional earthberms) to block vehicle access to specific roads; improve nine existing water sources (pump chances) for fire suppression; and maintains 11 additional existing water sources.

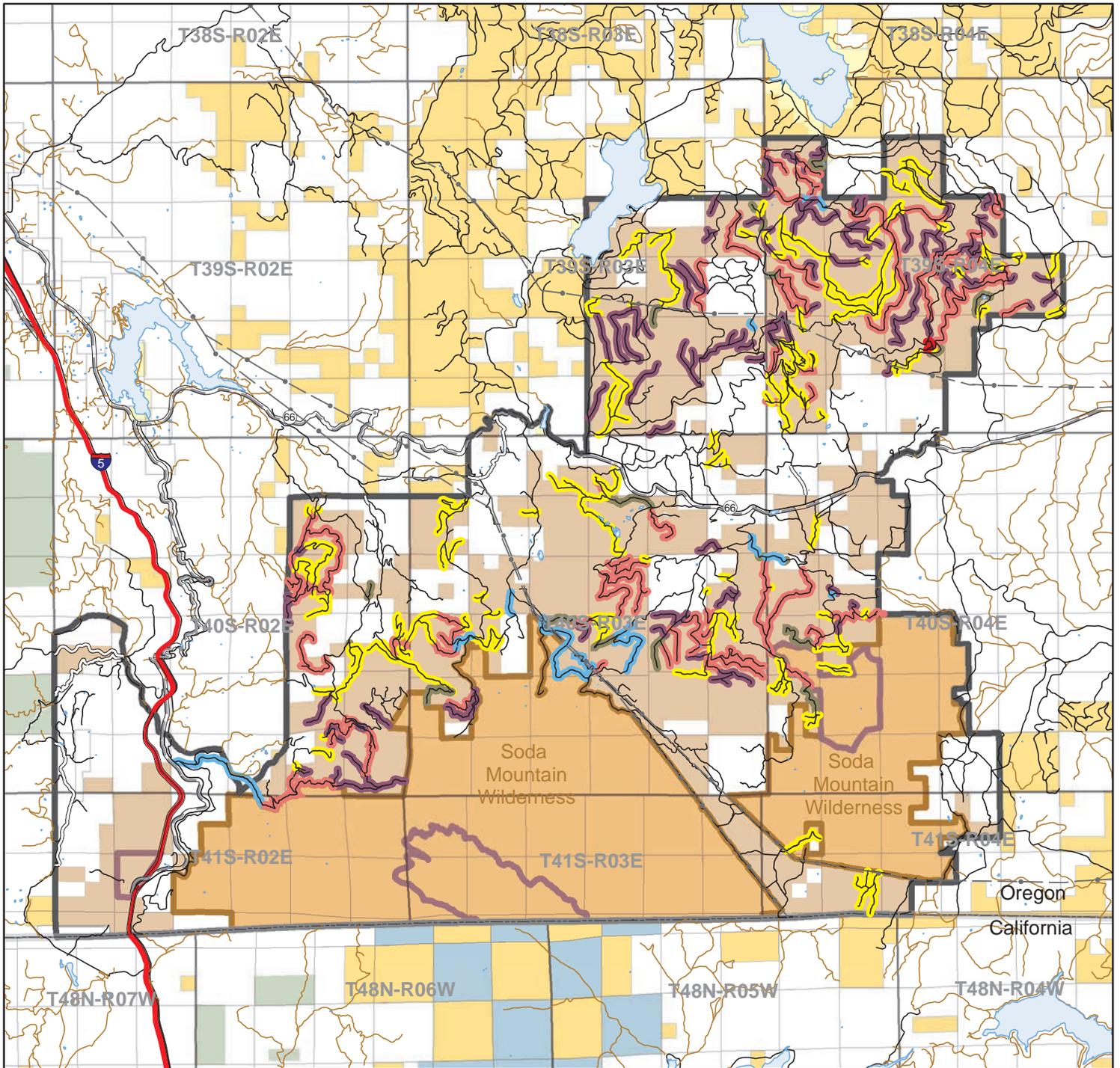
In areas where hike-in fire suppression and emergency response would require an hour or more following decommissioning, the establishment of key designated helispots may occur during the implementation of road decommissioning. Helispots may be created at select locations by utilizing existing wide spots along roads to be decommissioned and/or utilizing natural openings when present. Periodic maintenance would be allowed on these helispots and may include the use of hand tools and chainsaws.

Prior to decommissioning Road 39-4E-7.2 in T. 39 S., R. 4 E., Section 7, the stockpile of crushed rock at the rock quarry at the end of the road would be moved or used and the quarry would be rehabilitated.

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 2 Proposed Road Treatments



Map 2-2.



- |                                    |                 |                      |                             |
|------------------------------------|-----------------|----------------------|-----------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Full Recontour              |
| Other Bureau of Land Management    | State           | State Highway        | Decommission/Spot Recontour |
| U.S. Forest Service                | Private/Unknown | Roads                | Decommission                |
| Soda Mountain Wilderness           |                 | Noninventoried Roads | Passive Decommission        |
|                                    |                 |                      | Drainage Improvement        |
|                                    |                 |                      | New Construction            |



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Site-specific rehabilitation treatments would be developed at the time of rehabilitation, typical treatments may include importing soil from off-site, spreading the soil out, and planting vegetation to stabilize the site.

### **Winter Recreation**

Snowmobiles for recreational use would not be allowed in the CSNM under this alternative. Snowmobile use would be limited to adjacent private landowners for ingress and egress to their properties. The East Hyatt Lake Road (40-3E-3) would be maintained to allow passage of snow grooming equipment (14 feet wide with 14 foot height clearance) for the Buck Prairie winter trail system northwest of Hyatt Lake (Map 2-3).

Nordic ski/snowshoe trails (non-motorized only) are identified on Map 2-3. North Chinguapin Road (39-3E-27) would connect to East Hyatt Lake Road (40-3E-3) via a non-inventoried road in Section 23 and closed Road 39-3E-15 in Section 14. These routes would be signed but not groomed.

### **Recreational Access Points**

In addition to the two trailheads identified above, there are other access points to popular destinations that are regularly used by monument visitors as parking areas. Access points are not identified on maps. Three popular recreational access points (aside from the two designated trailheads) are:

- PCNST parking at Porcupine Gap along Road 40-2E-33 in T. 40 S., R. 2 E., Section 35. No camping would be allowed in this location.
- Bocard Point/PCNST access along Road 40-3E-5 just prior to where the road intersects the wilderness boundary at its junction with Road 40-3E-30 in T. 40 S., R. 3 E., Section 30. No camping would be allowed in this location.
- Emigrant Creek Road 39-2E-34 in T. 40 S., R. 2 E., Section 11. There is an existing parking area and information kiosk. No camping or overnight parking would be allowed in this location.

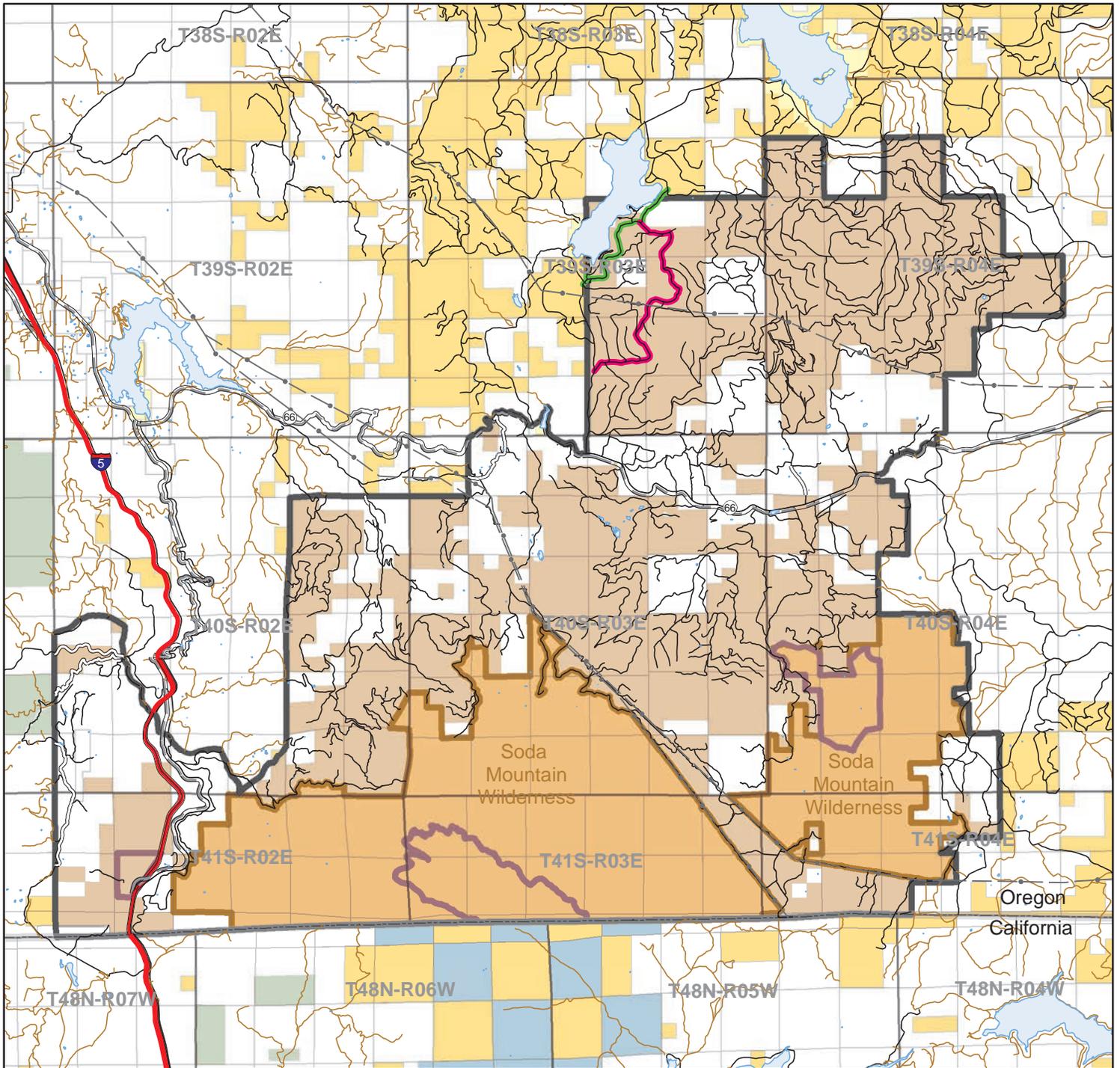
Recreational access points may receive periodic maintenance as needed to minimize impacts to monument resources. Maintenance and resource protection activities that may occur at access points include the following:

- Parking surfaces may be improved if determined to be significant contributors to resource damage or the area becomes unsuitable for parking. Examples include gullying or erosion resulting from use that displaces water or sediment and excessive pot holes/large puddles that cause parking to become difficult. Surface improvement may include improving drainage and hardening the surface with rock.

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 2 Winter Recreation



Map 2-3.



- |                                    |                 |                      |                                    |
|------------------------------------|-----------------|----------------------|------------------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Nordic Ski/Snowshoe (No Groomer)   |
| Other Bureau of Land Management    | State           | State Highway        | Nordic Ski/Snowshow (Groomer Okay) |
| U.S. Forest Service                | Private/Unknown | Roads                |                                    |
| Soda Mountain Wilderness           |                 | Noninventoried Roads |                                    |



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 Current Date: 03.22.2016

- Signs may be installed at recreational access points in order to provide for resource protection and visitor safety.

### **Alternative 3**

This alternative would implement a targeted reduction of road densities, while providing a higher level of access than Alternative 2 for wildfire suppression, recreational activities and other administrative uses.

#### ***Roads and Road-Related Facilities***

This alternative includes the following road treatments and as shown on Map 2-4 and in Appendix C.

**Full Recontour:** 7.32 miles

**Decommission/Spot Recontour:** 46.20 miles

**Decommission:** 39.39 miles

**Passive Decommission:** 52.14 miles

**Brush for Fire Suppression Access:** 6.22 miles

**Road to Trail Conversion:** 4.95 miles

**Drainage Improvement:** 11.99 miles

**New Construction:** 0.27 miles

Of the roads that would receive some form of decommissioning (full recontour, decommission/spot recontour, decommission, passive decommission, or road to trail conversion), approximately 40 percent are currently inaccessible to the public as they are overgrown or eroded, already blocked, or not drivable.

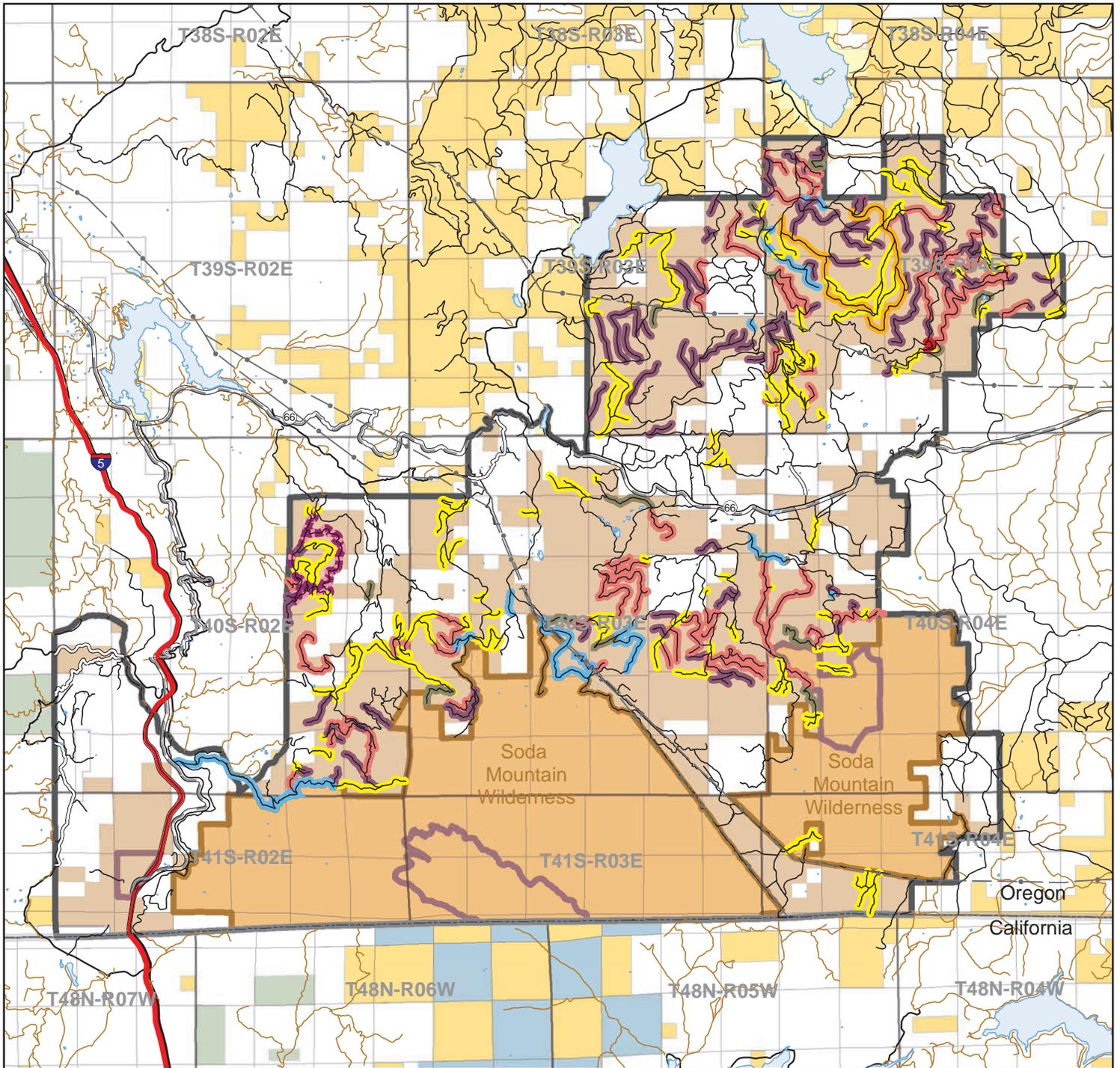
This alternative would designate approximately 90 miles of road as open, 41 miles for BLM and authorized use, 19 miles as closed, 2 miles for inholder access, and identifies 95 miles of road as noninventoried and 14 miles as private within the planning area. It would install 12 new gates (some are relocations or closures of existing gates) and 45 new earthberms (some are repair of existing, non-functional earthberms) to block vehicle access to specific roads; improve 10 existing water sources (pump chances) for fire suppression; and maintain 11 additional existing water sources.

In areas where hike-in fire suppression and emergency response would require an hour or more following decommissioning, the establishment of key designated helispots may occur during the implementation of road decommissioning. Helispots may be created at select locations by utilizing existing wide spots along roads to be decommissioned and/or utilizing natural openings when present. Periodic maintenance would be allowed on these helispots and may include the use of hand tools and chainsaws.

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 3 Proposed Road Treatments



Map 2-4.



- |                                    |                 |                      |                             |
|------------------------------------|-----------------|----------------------|-----------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Full Recontour              |
| Other Bureau of Land Management    | State           | State Highway        | Decommission/Spot Recontour |
| U.S. Forest Service                | Private/Unknown | Roads                | Decommission                |
| Soda Mountain Wilderness           |                 | Noninventoried Roads | Passive Decommission        |



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- |                          |
|--------------------------|
| Road to Trail Conversion |
| Brush for Fire Access    |
| Drainage Improvement     |
| New Construction         |



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 Current Date: 03/22/2016

Prior to decommissioning Road 39-4E-7.2 in T. 39 S., R. 4 E., Section 7, the stockpile of crushed rock at the rock quarry at the end of the road would be moved or used and the quarry would be rehabilitated. Site-specific rehabilitation treatments would be developed at the time of rehabilitation, typical treatments may include importing soil from off-site, spreading the soil out, and planting vegetation to stabilize the site.

### **Winter Recreation**

Snowmobiles would be allowed in the CSNM on designated open roads north of Highway 66 and on the winter multi-use routes identified on Map 2-5. Winter multi-use routes allow for motorized and non-motorized winter recreation (i.e., snowmobiles, skiing, and snowshoeing). They would be maintained to allow passage of snow grooming equipment (14 feet wide with 14 foot height clearance).

Nordic ski/snowshoe trails (non-motorized only) are identified on Map 2-5. North Chinquapin Road (39-3E-27) would connect to East Hyatt Lake Road (40-3E-3) via a non-inventoried road in Section 23 and closed Road 39-3E-15 in Section 14. These routes would be signed but not groomed. East Hyatt Lake Road (40-3E-3) would also be signed as a non-motorized Nordic skiing/snowshoeing trail; however, it could be groomed (Map 2-5). It would provide a connection to the Buck Prairie winter trail system to the northwest.

### **Trails**

In addition to the PCNST described in the Recreational Activities Common to All Alternatives section above, this alternative would convert an existing closed road system to a designated 4.95-mile loop trail off of Emigrant Creek Road (39-2E-34) to Buck Rock Tunnel, a popular hiking destination.

### **Buck Rock Tunnel Loop Trail**

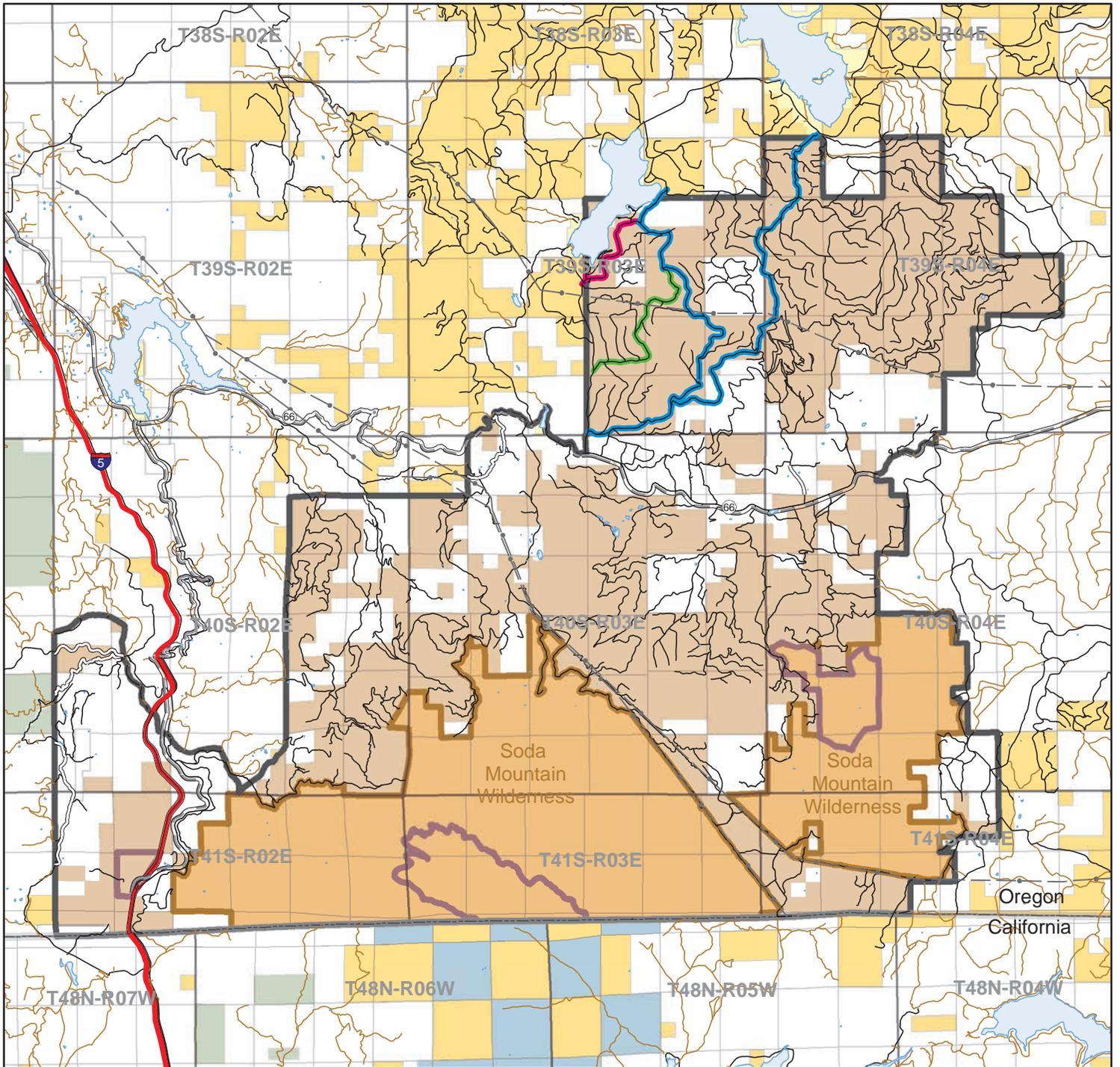
The Buck Rock Tunnel has become an almost legendary abandoned Oregon and California (O&C) railroad tunnel immediately to the south of Buck Rock in Section 14, T. 40 S., R. 2 E., W.M. The Buck Rock Tunnel was to have been Tunnel 13 on the railroad line the O&C Railroad Company was building between Hornbrook and Ashland in the 1880s. Work began on the tunnel in 1883, but it was abandoned in 1884 for a new Tunnel 13 that pierced the Siskiyou Summit near Colestin.

Through word of mouth and various outdoor publications, the Buck Rock Tunnel has become a popular hiking destination. The BLM acquired the property in Section 14 with the abandoned tunnel in 2014. This alternative proposes to convert Roads 40-2E-11 and 40-2E-11.1 in Section 11, and a non-inventoried road in Section 14 into a 4.95 mile designated hiking and equestrian loop trail (Map 2-4 and Appendix C).

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 3 Winter Recreation



Map 2-5.



- |                                    |                 |                      |                                    |
|------------------------------------|-----------------|----------------------|------------------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Multi-Use (Groomer Okay)           |
| Other Bureau of Land Management    | State           | State Highway        | Nordic Ski/Snowshoe (No Groomer)   |
| U.S. Forest Service                | Private/Unknown | Roads                | Nordic Ski/Snowshoe (Groomer Okay) |
| Soda Mountain Wilderness           |                 | Noninventoried Roads |                                    |



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Conversion of these roads to a designated trail will follow these general guidelines:

- Trail construction or improvements on restored former road beds will be completed either during the road restoration by mechanical means or upon completion of the road restoration with the use of hand tools.
- Road 40-2E-11 and the non-inventoried road that continues south from the junction of Road 40-2E-11.2 for approximately 0.5 miles would be decommissioned/spot recontoured maintaining a width of approximately 10 feet for emergency fire suppression access.
- During mechanical restoration of the remainder of roads, a trail width tread (24 to 36 inches wide) will be left within the road prism as directed by the BLM. In certain circumstances, it may be necessary to construct the trail following road recontouring to prevent resource damage or address maintenance problems. Examples of when this may be necessary include when there is a need for drainage improvement, outslipping of the trail, a more stable trail location, or other resource concerns.
- Drainage control features (i.e., waterbars, rolling dips, outslipping) will be installed at appropriate locations on the designated trail to prevent erosion.
- Any trail work done after the mechanical road restoration is complete will be done in accordance with the policies and standards found in BLM Manual 9114-1, using methods described in the Trail Construction and Maintenance Notebook (USDA MTDC 2007).

### ***Trail Maintenance***

The Buck Rock Tunnel roads to trail conversion would be maintained to ensure that the values of monument can be experienced by visitors while adverse impacts to the biophysical components of the monument resources are minimized. Sections of the trail may be rerouted where they are causing or are anticipated to cause damage to monument character. Trail maintenance and rerouting will be accomplished using with the following guidelines.

- The Buck Rock Tunnel Loop Trail would be maintained in accordance with policies and standards found in BLM Manual 9114-1.
- Any proposed trail maintenance or rerouting will be reviewed and approved by a BLM archaeologist and botanist.

- Examples of when trail maintenance or rerouting will occur include:
  1. Slopes greater than 15 percent beyond which potential for excessive soil erosion and trail deterioration is high. Very short steep sections may be retained where reinforcement with native rock would prevent soil erosion. Rolling dips or rock enforced water bars would be utilized to reduce water-caused soil erosion.
  2. Where trail braiding occurs, the most appropriate trail path would be maintained and the alternate trail(s) would be obstructed and rehabilitated with native vegetation.
  3. Maintenance would strive to limit trail width to 24 inches, except where a wider trail may be necessary to protect resources. Trail width would not exceed 36 inches.
  4. The trail may be rerouted to avoid damage to natural or cultural resources.
  5. Where the trail crosses water, wooden bridges may be constructed when no other route or crossing is reasonably available; where the crossing during the primary season of use cannot be safely negotiated by foot or horses; and where less formal devices (e.g., rock stepping stones or downed logs) are frequently destroyed or damaged by flood waters.

### **Trailheads**

A new trailhead for the Buck Rock Tunnel Loop Trail would be designated along Emigrant Creek Road 39-2E-34 in T. 40 S., R. 2 E., Section 11 where an existing parking area and information kiosk currently exist (see Alternative 3 map in Appendix C). No camping or overnight parking would be allowed at this trailhead.

In addition to providing parking, this new trailhead location may include interpretive and regulatory information about the monument. The proposed trailhead would be developed to the minimum extent necessary to reduce resource damage with the purpose of protecting monument values. Features such as hardening of surfaces or toilets would only be added if monitoring indicates a need exists. The trailhead would be developed and maintained using the following guidelines:

- Vehicle barriers would be constructed to define trailhead parking areas where natural barriers are inadequate to keep vehicles within the desired trailhead parking area. The following types of barriers, from least intrusive to most intrusive, may be used: 1) signs, small rocks, and/or native vegetation plantings or restoration; 2) large boulders placed with heavy equipment; or 3) wooden fences.

- Parking surfaces may be improved if determined to be significant contributors to resource damage or the area becomes unsuitable for parking. Examples include gullying or erosion resulting from use that displaces water or sediment and excessive pot holes/large puddles that cause parking to become difficult. Surface improvement may include improving drainage and hardening the surface with rock or paving. Surface improvements and barriers would be used only after less intensive methods to reduce resource damage, while still providing trailhead and parking access, have been implemented and have been determined to be unsuccessful. Less intrusive methods will include such things as signage and visitor education through outreach.
- Toilet facilities may be provided, as necessary, at designated trailheads and parking sites. Toilet facilities would be built in response to resource damage and public health and safety issues.
- All trailhead facilities will comply with current accessibility legislation and corresponding standards/guidelines (Architectural Barriers Act (ABA) of 1968, Section 504 of the Rehabilitation Act (amended 1978), and the Americans with Disabilities Act (ADA) of 1990). In addition, any new construction or alteration of existing trailhead facilities will comply with state and local codes, as well as impending guidelines regarding the accessibility of the outdoor recreation environment in outdoor developed areas. All existing and new visitor facilities will be maintained, designed, and constructed according to Bureau standards.

### ***Recreational Access Points***

In addition to the two existing designated trailheads identified in the Recreational Activities Common to All Alternatives section above and the Buck Rock Tunnel Trailhead proposed in this alternative, there are other access points to popular destinations that are regularly used by monument visitors as parking areas. Access points are not identified on maps. Three popular recreational access points available under this alternative (aside from the three designated trailheads) are:

- PCNST parking at Porcupine Gap along Road 40-2E-33 in T. 40 S., R. 2 E., Section 35. No camping would be allowed in this location.
- Bocard Point/PCNST access along Road 40-3E-5 just prior to where the road intersects the wilderness boundary at its junction with Road 40-3E-30 in T. 40 S., R. 3 E., Section 30. No camping would be allowed in this location.
- Old corral site off Soda Mountain Road (39-3E-32.3) in T. 40 S., R. 3 E., Section 27. Dispersed camping and parking would be permitted at this access point. This recreational access

point would not be available under Alternative 2 as an existing gate on the Soda Mountain Road in T. 40 S., R. 3 E., near the section line between Sections 21 and 28 would be closed.

#### **Alternative 4**

This alternative would implement the approved road treatments identified in the CSNM ROD/RMP (2008) on Map 22 (p. 86) and would decommission the roads identified “as not needed for monument management” on Map 23 (p. 89) outside the Soda Mountain Wilderness.

#### **Roads and Road-Related Facilities**

This alternative includes the following road treatments and as shown on Map 2-6 and in Appendix C.

**Full Recontour:** 0.83 miles

**Decommission/Spot Recontour:** 9.09 miles

**Decommission:** 8.78 miles

**Passive Decommission:** 3.61 miles

**Drainage Improvement:** 13.41 miles

Of the roads that would receive some form of decommissioning (full recontour, decommission/spot recontour, decommission, or passive decommission), approximately 43 percent are currently inaccessible to the public as they are overgrown or eroded, already blocked, or not drivable.

It should be noted that under this alternative, some of the roads identified for drainage improvement would be blocked following treatment per direction in the CSNM ROD/RMP (pp. 83-34 and Map 22, p. 86). This is different than for Alternatives 2 and 3, where drainage improvements occur on roads that would typically be retained for recurring access.

This alternative would designate approximately 114 miles of road as open, 48 miles for BLM and authorized use, 58 miles as closed, 2 miles for inholder access, and identifies 154 miles of road as noninventoried and 14 miles as private within the planning area. It would install 17 new earthberms to block vehicle access to specific roads; improve 10 existing water sources (pump chances) for fire suppression; and maintain 11 additional existing water sources.

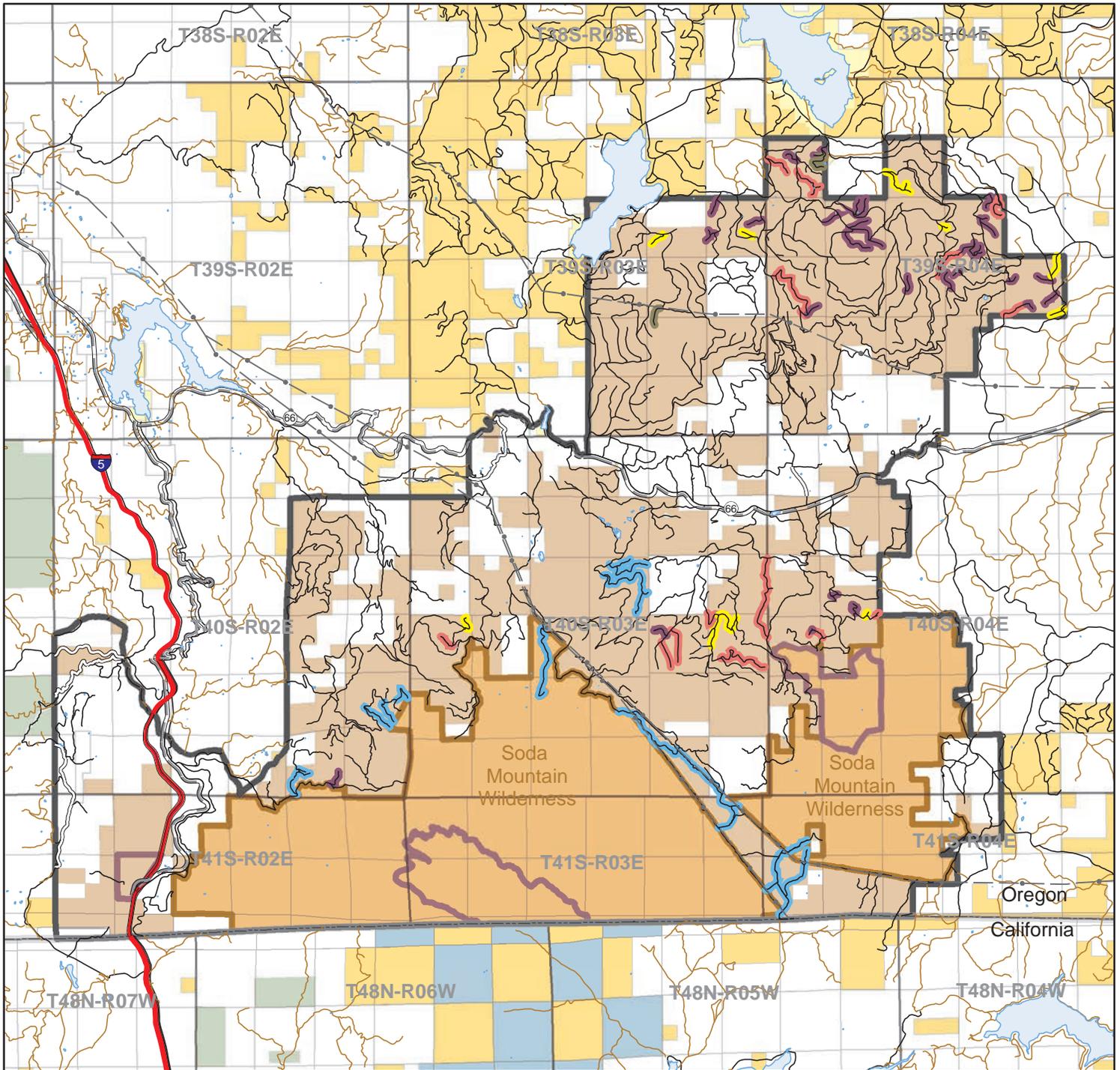
#### **Snowmobile Routes**

There is a mistake in the text of REC-34 (p. 99) in the CSNM ROD/RMP, regarding snowmobile routes and use in the CSNM. It was always intended that snowmobiles could use designated open roads

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 4 Proposed Road Treatments



Map 2-6.



- |                                    |                 |                      |                             |
|------------------------------------|-----------------|----------------------|-----------------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Full Recontour              |
| Other Bureau of Land Management    | State           | State Highway        | Decommission/Spot Recontour |
| U.S. Forest Service                | Private/Unknown | Roads                | Decommission                |
| Soda Mountain Wilderness           |                 | Noninventoried Roads | Passive Decommission        |
|                                    |                 |                      | Drainage Improvement        |



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Prepared By: Kathy Minor  
Current Date: 03.22.2016

north of Highway 66 and the snowmobile routes identified on Map 25 (ROD/RMP, p. 100), even where the routes are located on “closed” or “BLM and authorized use” roads.

Since the preparation of Map 25 for the CSNM ROD/RMP, the recreation specialist has refined the field inventory of the existing snowmobile routes. Map 25 of the ROD/RMP would be corrected as shown on Map 2-7.

Under this alternative, REC-34 would be corrected (errata sheet to CSNM ROD/RMP) to say the following:

REC-34 Snowmobiles are allowed on designated open roads north of Highway 66. Snowmobiles are not allowed in the south management zone; on the PCNST; or on roads that are closed or decommissioned, except those snowmobile routes identified on Map 25 (corrected). Cross-country travel by snowmobiles is prohibited throughout the monument. The existing snowmobile routes (Map 25 (corrected)) in the north management zone enter and leave private land several times. The BLM does not have legal rights to allow the public to use roads on private lands for winter recreation. At this time, private landowners have not prevented the public from general use of these roads. However, the informal public use across private lands takes place at the discretion of the road owner(s) and could cease at any time, thereby limiting access to these areas. The BLM will seek partnerships with user groups to obtain legal easements from private land owners for access rights to historic snowmobile routes.

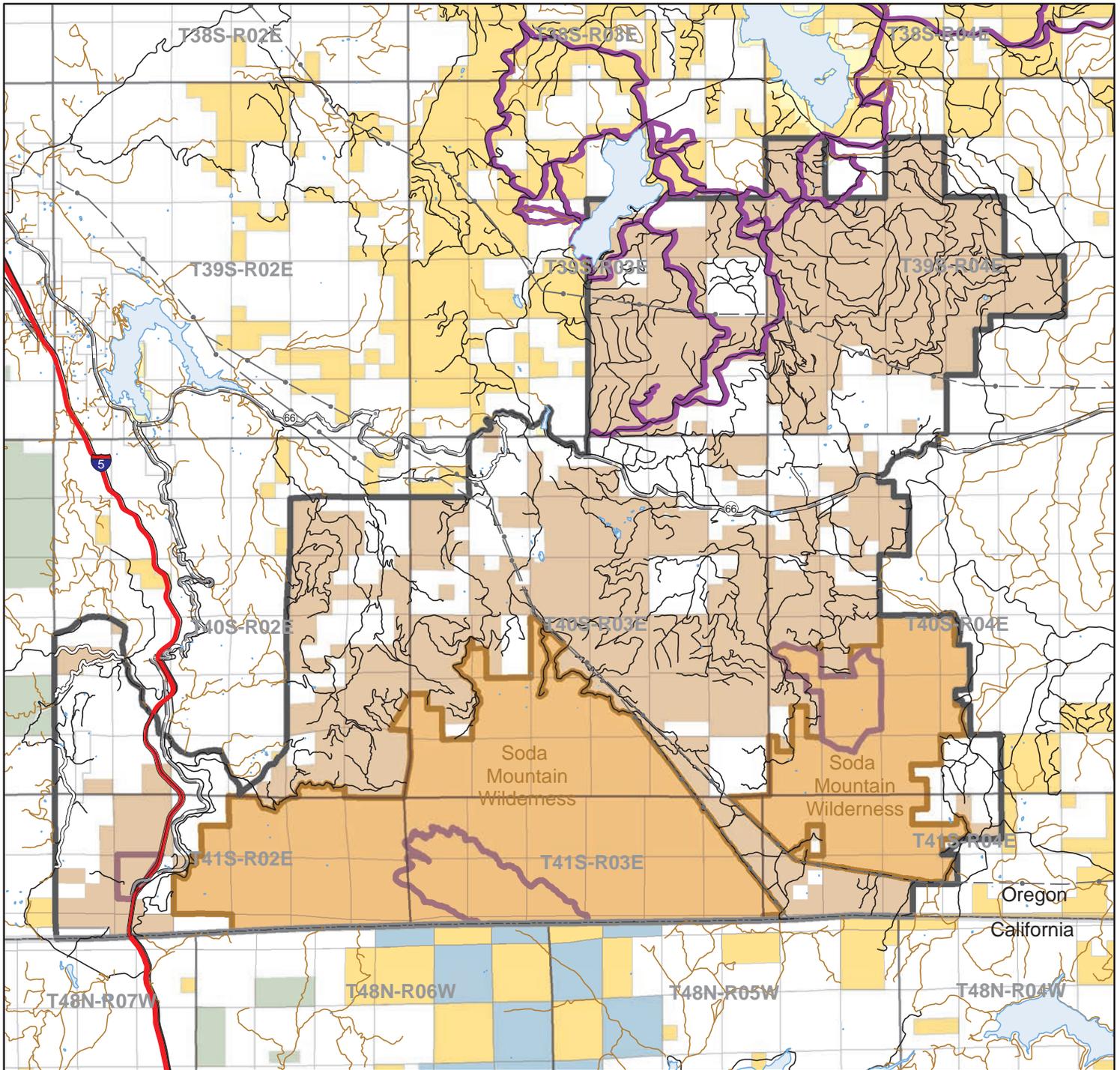
## **COMPARISON OF THE ALTERNATIVES**

Table 2-2 compares the alternatives considered in detail for the Cascade-Siskiyou National Monument Transportation Management Plan.

# Cascade-Siskiyou National Monument Transportation Management Plan Alternative 4 Snowmobile Routes (Corrects Map 25 from the CSNM ROD/RMP)



Map 2-7.



- |                                    |                 |                      |                  |
|------------------------------------|-----------------|----------------------|------------------|
| Cascade-Siskiyou National Monument | Other Federal   | Interstate Highway   | Snowmobile Route |
| Other Bureau of Land Management    | State           | State Highway        |                  |
| U.S. Forest Service                | Private/Unknown | Roads                |                  |
| Soda Mountain Wilderness           |                 | Noninventoried Roads |                  |



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Table 2-2. Comparison of the Alternatives.

TABLE 2-2: COMPARISON OF ALTERNATIVES				
	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4
Road Treatments	Approximate Length (miles)	Approximate Length (miles)	Approximate Length (miles)	Approximate Length (miles)
Full Recontour		8.24	7.32	0.83
Decommission/ Spot Recontour	4.26	57.99	46.20	9.09
Decommission	0.63	41.61	39.39	8.78
Passive Decommission	1.25	56.36	52.14	3.61
Roads to Trails			4.95	
<b>Total Road Reduction through Decommissioning<sup>1</sup></b>	<b>6.14</b>	<b>164.19</b>	<b>150.00</b>	<b>22.31</b>
Brush			6.22	
Drainage Improvement	13.41	8.54	11.99	13.41
New Construction		0.27	0.27	
Total Roads Decommissioned or Closed <sup>2</sup>	11.47	164.19	150.00	27.64
Decommissioned or Closed Roads not Currently Accessible by the Public <sup>3</sup> (mi./%)	6.52 mi. (57%)	63.82 mi. (39%)	59.39 mi. (40%)	11.78 mi. (43%)

<b>TABLE 2-2 COMPARISON OF ALTERNATIVES (continued)</b>				
	<b>Alternative 1 (No Action)</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
<b>New Road Closure Devices</b>	<b>Quantity</b>	<b>Quantity</b>	<b>Quantity</b>	<b>Quantity</b>
Gates	0	11	12	0
Earthberms	10	42	45	17
<b>Post-Implementation Road System</b>	<b>Approximate Length (miles)</b>	<b>Approximate Length (miles)</b>	<b>Approximate Length (miles)</b>	<b>Approximate Length (miles)</b>
Open	112.93	82.01	89.82	114.04
BLM and Authorized Use	56.37	38.70	40.92	48.34
Closed	63.32	19.34	19.35	58.17
Inholder	2.29	2.45	2.45	2.29
Non-Inventoried	156.91	91.69	94.74	153.59
Private	13.93	13.93	13.93	13.93
<b>Total Post-Implementation Road System</b>	<b>405.75</b>	<b>248.11</b>	<b>261.21</b>	<b>390.36</b>

TABLE 2-2 COMPARISON OF ALTERNATIVES (continued)				
	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4
<b>Recreation</b>				
Snowmobiles	<ul style="list-style-type: none"> <li>• Cross-country travel by snowmobiles is prohibited.</li> <li>• Recreational use allowed on open roads north of Highway 66 and snowmobile routes on Map 25 (Appendix B).</li> <li>• Snowmobiles can be used throughout the CSNM by adjacent landowners for ingress/egress to their properties.</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-country travel by snowmobiles is prohibited.</li> <li>• Recreational use not allowed in the CSNM.</li> <li>• Snowmobiles can be used throughout the CSNM by adjacent landowners for ingress/egress to their properties.</li> <li>• East Hyatt Lake Road (40-3E-3) would be maintained to allow passage of snow grooming equipment (Map 2-3).</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-country travel by snowmobiles is prohibited.</li> <li>• Recreational use allowed on open roads north of Highway 66 and multi-user routes on Map 2-5.</li> <li>• Snowmobiles can be used throughout the CSNM by adjacent landowners for ingress/egress to their properties.</li> </ul>	<ul style="list-style-type: none"> <li>• Cross-country travel by snowmobiles is prohibited.</li> <li>• Recreational use allowed on open roads north of Highway 66 and snowmobile routes on Map 2-7.</li> <li>• Snowmobiles can be used throughout the CSNM by adjacent landowners for ingress/egress to their properties.</li> </ul>
Nordic Ski Trails	No designated trails.	<ul style="list-style-type: none"> <li>• Nordic ski/snowshoe trails (non-motorized only) are identified on Map 2-3.</li> <li>• Routes would be signed, but not groomed.</li> </ul>	<ul style="list-style-type: none"> <li>• Nordic ski/snowshoe trails include multi-use and non-motorized and are identified on Map 2-5.</li> <li>• Routes would be signed, some groomed, some not.</li> </ul>	No designated trails.
Trails	Existing trails (PCNST, PCNST-Soda Mountain Road Connector, Pilot Rock, Pilot Rock Access, and Lone Pilot retained).			
Road to Trail	No road to trail conversions.	No road to trail conversions.	4.95-mile road to trail conversion: Buck Rock Tunnel Loop Trail.	No road to trail conversions.

TABLE 2-2 COMPARISON OF ALTERNATIVES (continued)				
	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4
<b>Recreation (continued)</b>				
Trailheads	<ul style="list-style-type: none"> <li>• Two existing trailheads: Pilot Rock and Hobart Bluff.</li> <li>• No camping would be allowed at these trailheads.</li> </ul>	<ul style="list-style-type: none"> <li>• Two existing trailheads: Pilot Rock and Hobart Bluff.</li> <li>• No camping would be allowed at these trailheads.</li> </ul>	<ul style="list-style-type: none"> <li>• Two existing trailheads: Pilot Rock and Hobart Bluff.</li> <li>• No camping would be allowed at these trailheads.</li> <li>• New trailhead developed along Emigrant Creek Road for the Buck Rock Tunnel Loop Trail.</li> <li>• No camping or overnight parking would be allowed at the Buck Rock Tunnel Trailhead.</li> </ul>	<ul style="list-style-type: none"> <li>• Two existing trailheads: Pilot Rock and Hobart Bluff.</li> <li>• No camping would be allowed at these trailheads.</li> </ul>
Recreational Access Points		<ul style="list-style-type: none"> <li>• No camping would be allowed at Porcupine Gap and Bocard Point/PCNST recreational access points.</li> <li>• No camping or overnight parking would be allowed on Emigrant Creek Road recreational access point.</li> </ul>	<ul style="list-style-type: none"> <li>• No camping would be allowed at Porcupine Gap and Bocard Point/PCNST recreational access points.</li> <li>• Dispersed camping and parking would be allowed at the recreational access point at the old corral site off Soda Mountain Road.</li> </ul>	

TABLE 2-2 COMPARISON OF ALTERNATIVES (continued)				
	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4
<b>Fire Management</b>				
Water Sources on BLM - Improved	10	9	10	10
Water Sources on BLM - Maintained <sup>4</sup>	11	11	11	11
Helispots		Strategic locations along roads to be decommissioned may be retained and maintained as helispots for fire suppression.	Strategic locations along roads to be decommissioned may be retained and maintained as helispots for fire suppression.	
Post-Implementation Roads Available for Fire Suppression/ Emergency Access (miles) <sup>5</sup>	407.01	285.33	298.16	393.97

<sup>1</sup>Decommissioning is the broad category of treatments that includes the following specific treatment: full recontour, decommission/spot recontour, decommission, passive decommission, or road to trail conversion.

<sup>2</sup>For Alternatives 1 and 4 this total include roads identified for drainage improvement that would be blocked per direction in the CSNM ROD/RMP.

<sup>3</sup> Of the roads that would receive some form of decommissioning (full recontour, decommission/spot recontour, decommission, passive decommission, or road to trail conversion) or would receive drainage improvement treatments and be blocked (Alternative 1 and 4), this is the number of miles and percent that are currently inaccessible to the public as they are overgrown or eroded, already blocked, or not drivable.

<sup>4</sup> Additional water sources that will be maintained adjacent to BLM-administered lands in the planning area include 6 in the SMW, 23 on private lands, and 1 on BOR-administered lands.

<sup>5</sup> Includes roads that will be passively decommissioned but could be available for emergency (e.g., fire suppression, search and rescue, law enforcement, medical evacuation) on a transitional basis until such time as the road becomes overgrown and is no longer drivable. Also includes 1.74 miles of the road to trail conversion in Alternative 3 that would be decommissioned/spot recontoured while maintaining a width of approximately 10 feet for emergency fire suppression access.

## **ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS**

In the development of the alternatives considered in this EA, the BLM planning team considered numerous ways to meet the purpose and need and balance proclamation requirements to protect monument resources with expressed interests of the various communities that have a stake in this transportation management plan. Other alternatives or actions were discussed and eliminated from detailed study for the reasons given below.

### ***Hyatt-Wildcat Connector Trail***

A new trail located along the shoreline of Hyatt Lake within the Hyatt Lake Recreational Complex that would connect the Hyatt Lake Campground to Wildcat Campground was considered. It was designed to provide a recreational path with a hardened surface for use by families for an easy walk or bicycle ride between the two campgrounds. It was determined that this proposal was inconsistent with the CSNM ROD/RMP which only allows new trail construction “to mitigate resource damage or improve access where visitation is resulting in degradation of monument resources.” (REC-38, p. 101). It is also inconsistent with REC-3 (p. 94) which does not allow bicycles on trails.

### ***Howard-Chinquapin Trail***

The PCNST is the only designated trail in the northern portion of the monument and it only crosses the northwest corner near Hyatt Lake. A new trail designed to provide hiking and equestrian access was considered that would have started from the East Chinquapin Road (39-3E-34) in T. 39 S., R. 3 E., Section 34 and head along the ridge to Chestnut Mountain and then meandering northeast through the Old Growth Emphasis Area (OGEA) connecting with the PCNST near Soda Creek in T. 39 S., R. 4 E., Section 7. Although this trail would have provided an opportunity for recreationist to explore the OGEA in the monument, it was determined that this proposal was inconsistent with the CSNM ROD/RMP which only allows new trail construction “to mitigate resource damage or improve access where visitation is resulting in degradation of monument resources.” (REC-38, p. 101).

### ***Porcupine Loop Trail***

Pilot Rock Road (40-2E-33) past the Pilot Rock Trailhead would have been decommissioned under this alternative and portions of the Pilot Rock Road were considered for conversion to a loop trail. The trail was proposed to initiate from the Pilot Rock Trailhead at the former rock quarry (40-2E-33). The route would follow the existing Pilot Rock Access Trail and head northeast along the PCNST to Porcupine Gap. It would then head west, returning to the Pilot Rock Trailhead along the decommissioned portion of Pilot Rock Road east of the trailhead. It was determined by the interdisciplinary team to not be optimum for scenic quality and was, therefore, eliminated from further consideration.



## **CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

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### **INTRODUCTION**

This Affected Environment sections in this chapter describe the existing conditions of within the CSNM and associated analysis areas and it sets the environmental baseline for comparing the effects of the alternatives. The affected environment is described to the level of detail needed to determine the significance of impacts to the environment of implementing each of the alternatives.

The Environmental Consequences portions of this chapter provide the analytical basis for the comparisons of the alternatives (40 CFR § 1502.16) and the reasonably foreseeable environmental consequences to the human environment of each alternative on the relevant resources. The existing environmental conditions serve as the baseline for determining potential impacts from implementing proposed activities in the draft CSNM TMP. Impacts can be beneficial, neutral, or detrimental. The impact analysis addresses direct, indirect, and cumulative effects on all identified affected resources of the physical, biological, and human environment.

### **Spatial Scales for Analysis**

The analysis of the direct, indirect, and cumulative effects is organized by resource and the analysis areas for actions proposed under this TMP vary by resource. Analyses for all resources include the planning area (Map 1-2), which encompasses the entire area where actions are proposed for the CSNM TMP.

### ***Planning Area vs. Analysis Area***

The term **planning area** is used to describe the overall area of consideration that was reviewed for the development of the draft CSNM TMP (Map 1-2). It includes all the area within the greater monument boundary that is outside the SMW. The planning area is 60,434 acres.

**Analysis areas** vary by resource and include those areas that could potentially be affected by the alternatives. In some cases the analysis area is confined to the planning area and in others the analysis area extends beyond the planning area.

### **GENERAL SETTING**

The Cascade-Siskiyou National Monument was reserved in June 2000 by Presidential Proclamation 7318 (Appendix A) in recognition of its remarkable ecology and to protect a diverse range of biological, geological, aquatic, archeological and historic objects. The BLM manages the CSNM in accordance with

the direction in the 2008 *Cascade-Siskiyou National Monument Record of Decision (ROD) and Resource Management Plan (RMP)*.

The CSNM is located approximately 15 miles southeast of Ashland, Oregon. The presidential proclamation identifies ecologically significant plant communities of the area including Gary and California black oaks woodlands, juniper scablands, wildflower meadows, mixed conifer and white fir forests, Greene's Mariposa lily, Gentner's fritillary, Bellinger's meadowfoam, and a mosaic of grass and shrubs. The northern and southern portions of the monument are very different ecologically. The area that lies north of Highway 66 is primarily made up of either old-growth forests, or lands that are capable of becoming old-growth. The area south of Highway 66 is primarily comprised of hardwood, shrub and grass plant communities.

Much of the plant community richness is due to the monument's geological location where the Great Basin meets three mountain ranges. The older Klamath Range comes up from the south while the much younger Siskiyou Range extends from the west. Jutting up from the north is the very young Cascade Range. Evolution, long-term climatic change, and natural geologic processes (volcanism, mass wasting, etc.) operating across geological time continue to contribute to the high ecological richness of the area.

Animal species of interest within the monument include one of the highest diversities of butterfly species in the United States. The Jenny Creek portion of the CSNM is a significant center of fresh water snail diversity, and is home to three endemic fish species, including a long-isolated stock of redband trout. The monument contains important populations of small mammals, reptile and amphibian species, and ungulates. Bird species include the threatened northern spotted owl, western bluebird, western meadowlark, pileated woodpecker, flammulated owl, and pygmy nuthatch.

The transportation system within the monument includes roads, routes, trails and other travel ways used to access the CSNM. The monument is typically accessed from BLM roads off Highway 66 and Highway 99. The transportation system in the monument provides access for recreational activities, resource management, wildfire suppression, Native American tribes, administrative uses, and access to other public and private lands.

The *Cascade-Siskiyou National Monument Draft Resource Management Plan/Environmental Impact Statement (DEIS)* (USDI 2002, pages 13-130), the *Cascade-Siskiyou National Monument Proposed Management Plan/Final Environmental Impact Statement (FEIS)* (USDI 2005), and the *Cascade-Siskiyou National Monument Record of Decision (ROD) and Resource Management Plan (RMP)* (USDI 2008)

provide detailed descriptions of the affected environment within the CSNM, and are incorporated here by reference.

## **HYDROLOGIC FUNCTION, WATER QUALITY, AND AQUATIC HABITAT**

### **Aquatic and Riparian Analysis Area**

The CSNM includes lands and drainages in portions of four fifth (5<sup>th</sup>) field watersheds<sup>1</sup>: Bear Creek, in the Rogue River Basin in the northwest; Cottonwood Creek, in the Klamath Basin in the southwest; and Klamath-Iron Gate and Jenny Creek in the Klamath River Basin in the south and east. No ground-disturbing activities are proposed in Cottonwood Creek, and less than 0.03 miles of ridge top decommissioning are proposed in the Klamath-Iron Gate Watershed, which would not have hydrological connectivity with stream channels; for these reasons, these watersheds will not be considered further in this analysis. Ground-disturbing activities with hydrological connectivity are proposed in all five subwatersheds in the Jenny Creek Watershed and in a small portion of the Bear Creek Watershed above Emigrant Lake. Therefore, the fish and aquatic analysis area will include the Jenny Creek Watershed in its entirety, and the Upper Emigrant Creek Subwatershed in the Bear Creek Watershed (Map 3-1). It should be noted that the analysis area extends beyond the boundaries of the CSNM to capture effects at the watershed scale.

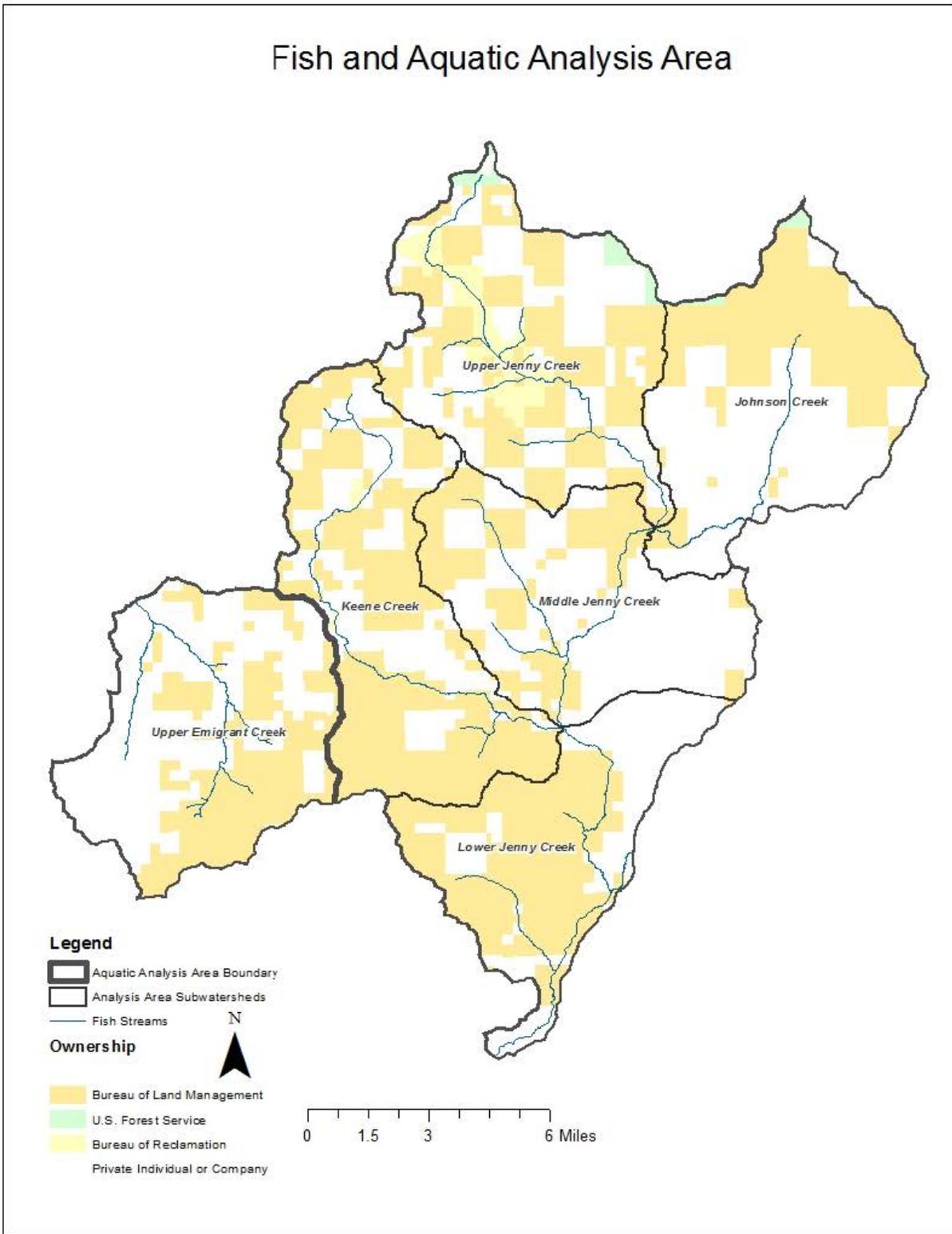
There are no federally listed threatened or endangered species or their habitats in the Emigrant Subwatershed or in the Jenny Creek Watershed, as both of these catchments are located above large migration barriers (Emigrant Dam on Emigrant Creek, and Iron Gate Dam and a natural barrier falls on Jenny Creek). For this reason, consultation with the National Marine Fisheries Service is not warranted for this project.

Fish and aquatic resources in the analysis area include native rainbow and cutthroat trout, sculpin, and aquatic mollusks including those of the species *fluminicola* (a special status species) in the Emigrant Creek subwatershed, and native redband trout, the endemic Jenny Creek sucker, speckled dace, and *fluminicola* in the Jenny Creek Subwatershed. Numerous non-native species occur in Jenny Creek, including golden shiner, bullhead catfish, large and small mouth bass, sunfish, and yellow perch. These non-native fish are primarily found in the large impoundments in the upper watershed, including Hyatt and Howard Prairie Reservoirs. Other aquatic resources of note include the federally listed Oregon spotted frog and its listed critical habitat in the Parsnips Lakes, a series of sag ponds located in the Keene Creek (Jenny Creek

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<sup>1</sup> A geographic area of land, water and biota within the confines of a drainage divide. Watershed boundaries define the aerial extent of surface water drainage to a point.

Map 3-1. Aquatic Analysis Area for the CSNM Transportation Management Plan.



tributary) Subwatershed, and the western pond turtle which are relatively commonly found in low gradient reaches of Jenny Creek.

### Aquatic and Riparian Conditions

Existing instream and riparian habitat conditions have been described in detail in the CSNM ROD/RMP (USDI 2008, pp. 28, 55-62), in the CSNM RMP/Final EIS (USDI 2005, pp. 64-77), and in the Draft CSNM RMP/Draft EIS under the affected environment section (USDI 2002, pp. 13-50) and are incorporated by reference in this transportation management plan. Of note and pertinent to this transportation planning effort, past management activities including road building had impacted riparian areas and reduced aquatic connectivity, that road densities in Riparian Reserves were high (3.75 mi./mi.<sup>2</sup>), and that roads were a contributing factor to sediment delivery to aquatic habitats. Reducing road density was identified as a primary management tool to be implemented for protecting riparian areas.

The *Upper Bear Creek Watershed Analysis* (USDI 2000) and the *Jenny Creek Watershed Analysis* (USDI 1995) provide general water resources background information for this transportation management plan as well. The *Water Quality Restoration Plan for the Upper Bear Creek Analysis Area* (USDI 2008) and The *Water Quality Restoration Plan for the Jenny Creek Watershed* (USDI 2011) provide additional water quality information about the area. Of particular interest, within the analysis area, there are a total of 70.5 stream miles on the 2004/2006 303(d) list (Table 3-1), of which 33.3 miles cross BLM-managed lands.

**Table 3-1. 2004/2006 303(d) Stream Temperature Listings in the Analysis Area (ODEQ 2008 and ODEQ 2007).**

Stream Segment	Watershed	Miles Affected	BLM Stream Miles
Emigrant Creek	Bear Creek	13.4	3.2
Hobart Creek	Bear Creek	1.0	0.1
Tyler Creek	Bear Creek	4.0	1.6
Beaver Creek	Jenny Creek	5.5	3.9
Grizzly Creek	Jenny Creek	3.0	1.1
Jenny Creek	Jenny Creek	17.8	9.5
Johnson Creek	Jenny Creek	9.4	3.2
Keene Creek	Jenny Creek	9.4	5.2
Mill Creek	Jenny Creek	3.9	2.4
South Fork Keene Creek	Jenny Creek	3.1	3.1
<b>Total</b>		<b>70.5</b>	<b>33.3</b>

## **Aquatic and Riparian Potential Effects Resulting From Proposed Activities**

This plan proposes eight different potential road treatments which may occur under any of the given alternatives, which are described in detail in Chapter 2 of this EA. The treatments which involve ground disturbance, and therefore potential to contribute direct and indirect negative short-term effects to aquatic habitats, include the full recontour, decommission/spot recontour, decommission, road to trail, drainage improvement, and new construction treatments. Brushing would remove established small diameter vegetation encroaching on roads slated for keeping as part of the transportation system, but would not involve additional ground disturbance, and would have no mechanism to impart any deleterious impacts to aquatic habitat, and the natural decommissioning treatment would not involve any ground disturbance, as these roads would simply be abandoned and allowed to continue to recover naturally. For these reasons, brushing and natural decommissioning will not be discussed in detail the following effects analysis for sediment.

The other treatments would have potential to impart effects, both positive and negative, to aquatic habitat, and would be similar in nature regardless of which alternative they occurred under. By treatment type, the potential effects to aquatic habitat are as follows:

**Full Recontour:** Because this treatment involves the greatest level of ground disturbance (the entire road prism including fill and cut slopes, running surface of the road, and often downslope of the prism as well), it has the greatest potential to contribute both positive and negative effects to aquatic habitat. Negative effects include potential for short-term increased erosion rates of disturbed soils (in particular during the first wet season) following restoration activities. In areas where full recontouring is proposed adjacent to or crossing stream channels, there would be potential for direct inputs of sediment into aquatic habitat, which would lead to increased turbidity and sedimentation rates. This effect is most likely to be manifested at stream crossings where culverts are pulled and slopes are pulled back from channels.

Project Design Features (PDFs) incorporated into this project would reduce the likelihood of sediment input to streams to the maximum possible extent. These PDFs include stabilizing all disturbed ground within Riparian Reserves (seeding and mulching, and incorporating on-site slash and coarse woody debris into the recontoured slope), dry season period of work, de-watering and bypassing all flowing streams around the project site, reshaping of the banks to a stable angle of repose, and use of turbidity control measures. In spite of these PDFs, pulling culverts inevitably yields some exposed road fill in/near channel that is likely to be contributed into aquatic habitat. Previous road obliterations which involved removal of culverts on perennial stream channels suggest that less than one cubic yard of sediment is likely to result from these activities at each crossing.

Positive effects include re-establishment of natural hydrological processes, removal of aquatic organism passage barriers, elimination of future road/crossing failures, recovery of Riparian Reserves, and ultimately elimination of chronic road surface erosion and related sediment inputs into aquatic habitat.

Recontouring to match natural topography coupled with eventual re-vegetation of the road bed eliminates the potential for precipitation and ground water capture by the road, which in turn reduces erosive potential, and allows water to percolate through the de-compacted surface and migrate naturally to channels. Culvert removals re-establish natural channels at the crossing locations, and eliminate both potential aquatic organism passage problems and the potential for future clogging and failure of the crossings, events which often result in the release of many tons of fine sediment into downstream aquatic habitat. De-compacting the road surface would allow for the recolonization by native flora, eventually enabling full recovery of riparian areas. All of these positive benefits would combine to effectively eliminate the ability of the former road to contribute sediment to aquatic habitat.

**Decommission:** This treatment would result in de-compacted road surfaces, but would not recontour the road. It has similar negative effects and benefits as described above for the full recontour treatment, but the disturbance area would be limited to the running surface of the road only, greatly reducing the size of the disturbed area. Sediment inputs to ephemeral streams (dry draws) would still be likely to result where culverts are proposed to be pulled, though this treatment is not proposed in Riparian Reserve. Benefits to aquatic habitat would be the same as described above, but somewhat reduced as compared to full recontour with respect to recovery of hydrological processes. Because the natural contour is not re-established, any portion of the road that includes a cut slope would still have potential for intercepting ground water. However, as the running surface of the road would be de-compacted, any intercepted water would percolate through the surface and eventually work its way downslope in a more natural process.

**Decommission/Spot Recontour:** This treatment would blend two treatments by recontouring certain strategic spots (i.e., near crossings, or where deep cut and fill slopes and steep side slopes exist), while applying the less disturbing and more economical decommission treatment to areas where recontouring is not warranted. Effects would be the same as described above, with disturbance rates falling between full recontour and decommission.

**Road to Trail:** This treatment could incorporate portions of the three above treatments, but would retain (or create after decommissioning) access a trail-width portion of the road prism which would remain as a travel way for foot traffic, except for the first 1.74 miles which would be decommissioned/spot recontoured maintaining a width of approximately 10 feet for emergency fire suppression access. The

portion remaining as trail would conform to standards for trail construction and maintenance and would include drainage structures as needed to allow the trail to shed water and reduce the potential for erosion.

**Drainage Improvement:** This treatment would seek to improve the ability of roads generally slated to remain open (some would be blocked in Alternative 1 and 4) to shed water, reducing surface erosion and sediment transport to aquatic habitat. This would lead to positive effects to aquatic habitat, as sediment and turbidity inputs would be reduced from existing conditions. This would hold particularly true for those segments of road treated near streams, such as within Riparian Reserves, as these portions of the roads are closer to stream channels and more likely to be hydrologically connected to the stream network. Negative effects from this treatment would only occur where culverts are proposed for replacement, as this activity would involve work in-channel, and would be likely to yield small contributions (less than one cubic yard) of sediment at each crossing location. No other negative impacts to aquatic habitats are likely to result from this treatment, as work would be conducted during the dry season, disturbances would be limited to short areas (i.e., where rolling dips or waterbars are installed) of the road prism not its entire running surface, and the work would reduce hydrological connectivity between roads and streams, not increase it.

**New Construction:** A short segment of new road construction is proposed under Alternatives 2 and 3 to allow for decommissioning a much greater length of road (which includes numerous stream crossings). The new construction would not involve any stream crossings, and therefore, would have no connectivity with the aquatic system, and would not contribute any effects to aquatic habitat. Furthermore, the new construction would only occur if an existing road with numerous crossings was decommissioned, which would ultimately yield a substantial reduction in hydrological connectivity, and as the construction would coincide with a much higher level of road decommissioning, road densities would still be reduced significantly under any of the action alternatives regardless of the new construction.

### **Aquatic and Riparian Analysis Assumptions**

Affects to aquatic habitat resulting from implementation of this transportation plan vary by alternative, primarily in location and magnitude of impacts, both positive and negative. For the aquatic habitat effects analysis, the following assumptions are made regarding implementation of any of the action alternatives:

- Depending on which alternative (or combination of alternatives) is selected for implementation, this plan could take many years to implement fully. Given budget constraints, contracting realities, seasonal restrictions, limited resources including personnel, and based on observations of

past and ongoing similar work being performed in the nearby Soda Mountain Wilderness, it is assumed to be very unlikely that more than five miles of roads would be treated in any given year. This would allow for both spatial and temporal constraints on effects, spreading the impacts over time and space for the duration of project implementation.

- However, it is also assumed that impacts would likely be concentrated in relatively small areas for any given year. Due to costs associated with mobilizing heavy equipment, it is more efficient to work in one particular area in any given season. For this reason, short-term effects (i.e., sediment input from culvert removals) to any given drainage are likely to occur during the same season.
- Based on past observations from numerous similar projects which have occurred throughout the Resource Area (including in the adjacent SMW), it is assumed that sediment inputs to aquatic habitat stemming from road decommissioning will occur primarily as direct inputs resulting from culvert removals/replacements, and that PDFs and BMPs would effectively preclude the potential for offsite movement of displaced fine sediment from other portions of the work. The analysis will further assume one cubic yard of sediment may be input at each culvert proposed for removal/replacement.
- Decommissioning of roads that have hydrological connectivity will lead to reductions of both chronic sediment sources (from surface erosion) and potential episodic mass wasting events (i.e., culvert failures, slumps, road stream captures, etc.), and help restore natural hydrological processes. This assumption is based on numerous studies of forest roads which have documented that roads are significant sources of sediment to aquatic systems (e.g., Luce and Black 1999, USDA 2001, Furniss et al. 2000). Road densities are commonly used indicators of watershed health, and studies have shown that densities of greater than 4 mi./mi.<sup>2</sup> have resulted in increased sediment input to streams, and that densities greater than approximately 6.2 mi./mi.<sup>2</sup> may alter stream hydrographs (Meehan et al. 1991). Attempting to quantify how much sediment input to aquatic habitat is likely currently occurring, or may occur in the future, and therefore how much production is likely to be reduced by decommissioning, is not possible; there are too many variables (such as road surfacing, condition of the surface, location on the landscape, amount and time of use, slope, weather, degree of hydrological connectivity, sediment grain size, etc.) to allow for any meaningful estimation across so large a landscape as incorporated by this project. For the purposes of this analysis it will simply be assumed that sediment production potential from any given road would be greatly reduced after the road has been decommissioned, and that future

sediment inputs to aquatic habitat will be significantly reduced as compared with keeping the road on the landscape.

- Decommissioning of roads located within Riparian Reserves would allow for the eventual full vegetative and hydrological recovery of those areas. The time scale for full recovery likely would vary considerably for any given Riparian Reserve, dependent on numerous factors not limited to but including current riparian conditions and site potential and productivity. This analysis will assume that full hydrological recovery would be achieved within a relatively short time span (1-3 years), as de-compaction coupled with seeding/planting, and natural vegetative recruitment would begin immediately following work, allowing for soil stabilization, natural percolation, and ground water transport rates, but that full vegetative recovery (obtaining site shade targets) would take many decades or even centuries, as would be the case for establishing large mature conifers.

### **Aquatic and Riparian Analysis Indicators**

The indicators of water quality and aquatic habitat with potential to be affected by implementation of this plan include sediment, hydrology, riparian areas, and stream temperature.

#### ***Sediment***

The primary negative impact to aquatic habitat from implementation of any of the alternatives outlined in this plan is sediment input into stream channels resulting from culvert removals/upgrades. As described, up to a cubic yard of sediment may potentially be contributed directly to stream channels at each culvert worked on. The nature of the effects would differ from perennial and intermittent streams. Effects would occur immediately to perennial channels, because once water was returned back to the stream channel through the decommissioned crossing, any exposed sediment remaining at the site would be flushed downstream, resulting in a short-term turbidity pulse. Effects to intermittent streams would not occur until the following wet season, when surface flow returned to the intermittent stream, again resulting in a short-term turbidity pulse. In both cases, sediment could fall out of solution in natural depositional areas, or could remain entrained as turbidity. Sediment grain size, stream gradient, channel roughness, and stream flow discharge at the time of the initial mobilization of displaced sediment would all work to influence how sediment is routed through the aquatic system. Given the relatively small amount of sediment likely to be contributed at each crossing, that it would either exit the stream system during high flow events as a brief turbidity plume, or be deposited in natural deposition areas and assimilated into the existing natural substrate, and based on observations made of similar restoration projects, it is anticipated that sediment resulting from pulling crossings would not be discernable above

background levels following a flushing event in any given channel. This short-term effect would be more than offset by the long-term reduction of sediment inputs resulting from road decommissioning, as chronic sources of sediment would be eliminated, and the potential for future mass wasting events would be reduced from the current potential.

### ***Hydrology***

Conversion of road beds to ground capable of allowing intercepted water to percolate naturally through the ground and downslope to channels would decrease the transportation networks ability to influence peak and base flows, and would allow for the eventual recovery of vegetation, including riparian areas. Restoring these indicators would benefit aquatic habitat. Decommissioning of roads would reduce the amount of compacted area available for capture and routing of precipitation, and surface and ground flow, leading to reductions in road related peak flow events. Reduced peak flows would result in more channel stability, and less potential for active erosion in channel. Restoring natural flow paths through de-compaction may also allow for greater water storage and subsequent slow release to channels, which could help augment low flows during the summer as well.

### ***Riparian Areas***

Roads decommissioned adjacent to and crossing streams would eventually become functioning riparian areas, capable of providing stream shade, inputs of large wood, and nutrients into aquatic habitat. Increasing stream shade is the primary mechanism available to improve instream summer water temperatures. Both the Upper Bear Creek and Jenny Creek Water Quality Restoration Plans target system potential effective shade as the surrogate measure to meet the Bear Creek and Jenny Creek TMDL load allocation (ODEQ 2010).

### ***Stream Temperature***

Stream temperatures are important indicators of water quality. Aquatic organisms in the analysis area evolved to tolerate a specific range of temperatures. Generally speaking, summer stream temperatures are the most likely to be the limiting water quality factor for aquatic organisms, which generally favor cooler water temperatures. Decommissioning riparian road segments would allow for vegetative recovery to occur. Recovery of riparian vegetation (both passive and active restoration) adjacent to channels would result in reduced summer stream temperatures.

For the reasons described for each indicator above, implementation of any of the alternatives, although at varying scales, would net a positive long-term benefit to aquatic habitat and organisms.

## **Aquatic and Riparian Alternative Comparison**

The alternatives are described in detail in Chapter 2 of this document. In general terms, Alternatives 1 and 4 treat relatively few roads, and involve much less initial ground disturbance than Alternatives 2 and 3. Therefore, it is anticipated that implementation of Alternatives 1 or 4 would have both the least short-term negative impacts (sediment input) and the least long-term benefits (reduction in future sediment inputs and riparian and hydrological recovery), while implementation of Alternatives 2 or 3 would yield both larger short-term impacts and long-term benefits.

Site specific activities proposed that cross or are directly adjacent to fish-bearing streams common to all alternatives include, in the Keene Creek Subwatershed, the spot recontour of 1.5 miles of road which parallels and crosses (via a ford) Lincoln Creek and its primary tributary. Under Alternatives 2, 3, and 4, in the Upper Jenny Creek Subwatershed, 0.5 miles of riparian road, including a crossing over Soda Creek (fish-bearing tributary to Jenny Creek) is proposed for full recontour. Under Alternatives 2 and 3, the proposed full recontour of 0.88 miles of road adjacent to and crossing Keene Creek, and recontour of less than 0.10 miles of a road adjacent to Lincoln Creek which captures the stream and routes it down the road. There are no culverts at any of the crossings over fish habitat in the Keene Creek Subwatershed proposed to be removed under any alternative. No other ground disturbing work proposed in the analysis area would occur directly in, or adjacent to, fish habitat under any alternative. For these reasons, implementation of Alternative 1 would not result in any direct inputs of sediment to fish habitat, while implementation of Alternatives 2, 3, or 4 would potentially result in direct input of sediment into fish habitat in only one spot: Soda Creek. Other inputs would occur to upstream habitats, spread spatially and temporally across the analysis area, as described above under the sediment header.

Under all the alternatives, 11 water sources will be maintained, primarily for fire suppression. Planned maintenance will include periodic sediment removal, vegetation removal from the perimeter of the water sources, and access points. Maintenance will be performed in the dry season and would likely mobilize very limited, if any, amounts of sediment into the watercourses. Under Alternative 1, 3 and 4, 10 water sources will be improved. Improvement will include maintenance activities described above on water sources that have been lacking maintenance for an extended period of time. Under Alternative 2, one water source, Upper Lincoln Creek pond will be eliminated when road 40-03-24.2 is decommissioned. Road 40-03-24.2 currently acts as an earthen dam with a culvert that releases water when this small pond is filled. Ponds increase the surface area of water exposed to solar radiation and release heated water to downstream reaches. Removal of this pond will provide slight improvement to water quality via a reduction in heated water to the downstream reaches during the summer months.

Alternative 3 would result in the highest amount of short-term sediment input, as this alternative would implement the highest amount of treatments involving culvert removals/improvements (Tables 3-2 and 3-3). This could result in up to an estimated 135 cubic yards of sediment that could potentially be directly contributed to aquatic habitat spread throughout the analysis area. This would be offset in the long-term by elimination of chronic sediment sources, as road densities would be reduced by 0.4 mi./mi.<sup>2</sup> throughout the analysis area, and numerous hydrological connection points between roads and streams would be eliminated or improved.

**Table 3-2. Miles of Proposed Road Treatments by Subwatershed.**

Subwatershed	Proposed Treatment Mileage by Alternative <sup>1</sup>							
	Alt 1		Alt 2		Alt 3		Alt 4	
	deco	other	deco	other	deco	other	deco	other
Upper Emigrant	0.3	3.4	37.9	1.8	31.2	8.6	0.9	3.4
Johnson	0	0	1.8	0	1.8	0	1.8	0
Keene	5.8	3.3	48.1	5.1	43.6	5.1	7.7	3.3
Lower Jenny	0	6.5	6.8	0	6.8	0	0	6.5
Middle Jenny	0	0	52.0	0.4	45.2	6.9	5.4	0
Upper Jenny	0	0	17.0	0.5	15.6	1.6	6.5	0
<b>Total</b>	<b>6.1</b>	<b>13.2</b>	<b>163.6</b>	<b>7.8</b>	<b>144.2</b>	<b>22.2</b>	<b>22.3</b>	<b>13.2</b>

<sup>1</sup> All decommission activities have been lumped into one group in this table for display purposes and are listed under the column header “deco”. “other” includes brushing and drainage improvement, and 0.27 miles of new road construction in the Middle Jenny Creek subwatershed proposed under Alternatives 2 and 3, and 5 miles of road to trails proposed under Alternative 3 in the Upper Emigrant Subwatershed.

**Table 3-3. Existing and Road Density Reductions Resulting from Proposed Decommissioning and Number of Culverts Removed by Subwatershed and Alternative.**

Subwatershed	Road Density Existing	Reduction in Road Density/# Culverts Removed <sup>1</sup>							
		Alt 1		Alt 2		Alt 3		Alt 4	
		Mi/sq mi	# culverts	Mi/sq mi	# culverts	Mi/sq mi	# culverts	Mi/sq mi	# culverts
Upper Emigrant	3.46	0.01	4	0.96	33	0.92	41	0.02	6
Johnson	3.76	0	0	0.04	1	0.04	1	0.04	1
Keene	4.13	0.14	8	1.16	34	1.05	35	0.17	9
Lower Jenny	2.21	0	0	0.22	3	0.22	3	0	0
Middle Jenny	4.29	0	0	1.47	36	1.31	36	0.16	5
Upper Jenny	3.99	0	0	0.4	20	0.37	19	0.15	7
<b>Total</b>	<b>3.25</b>	<b>0.02</b>	<b>12</b>	<b>0.44</b>	<b>127</b>	<b>0.4</b>	<b>135</b>	<b>0.06</b>	<b>28</b>

<sup>1</sup> Only culverts over stream channels are included in this table; ditch relief pipes are excluded.

Alternative 2 would allow for the greatest amount of recovery in Riparian Reserves, as an estimated 123 acres of riparian road would be decommissioned and eventually colonized by riparian vegetation (Table 3-4). Alternative 2 would be expected to contribute slightly less sediment relative to Alternative 3, as 8 less culverts would be removed/improved, but more roads would be decommissioned, reducing road densities by 0.44 mi./mi.<sup>2</sup> (Table 3-3). Alternative 2 also includes 2.5 miles of drainage improvements in Riparian Reserves, and 5 miles in upland areas (Table 3-5).

**Table 3-4. Existing Riparian Reserve Road Mileage and Proposed Future Riparian Road Decommission Miles and Estimated Acres of Recovery on BLM Lands within the Analysis Area Subwatersheds.**

Subwatershed	Existing Riparian Road Mileage	Proposed Riparian Road Miles Decommissioned <sup>1</sup> and Estimated Acres Recovered by Alternative							
		Alt 1		Alt 2		Alt 3		Alt 4	
		Mi	Acres	Mi	Acres	Mi	Acres	Mi	Acres
Upper Emigrant	16.5	0.1	0.4	11.3	41.1	9.5	35	0.4	1.5
Johnson	11.2	0	0	0.3	1.1	0.3	1.1	0.3	1.1
Keene	24.7	1.9	6.9	10.8	39.3	9.7	35.3	2.0	7.3
Lower Jenny	14.3	0	0	0.7	2.6	0.7	2.5	0	0
Middle Jenny	8.7	0	0	7.1	25.8	7.0	25.5	0.7	2.6
Upper Jenny	15.8	0	0	3.7	13.5	3.6	13.1	1.3	4.7
<b>Total</b>	<b>91.2</b>	<b>2.0</b>	<b>7.3</b>	<b>33.9</b>	<b>123.4</b>	<b>30.8</b>	<b>112.5</b>	<b>4.7</b>	<b>17.2</b>

<sup>1</sup> Decommissioned includes full recontour, spot recontour, decommission, and natural decommission treatments. Estimated acres recovered assumes 30' wide road prism.

**Table 3-5. Miles of Proposed Drainage Improvement, by Alternative and Subwatershed, In and Outside of Riparian Reserves.**

Subwatershed	Proposed Road Drainage Improvements by Alternative (miles)							
	Alt 1		Alt 2		Alt 3		Alt 4	
	upland	riparian	upland	riparian	upland	riparian	upland	riparian
Upper Emigrant	3.0	0.4	1.3	0.5	2.7	0.9	3.0	0.4
Johnson	0	0	0	0	0	0	0	0
Keene	2.5	0.8	3.3	1.8	3.3	1.8	2.5	0.8
Lower Jenny	5.3	1.2	0	0	0	0	5.3	1.2
Middle Jenny	0	0	0	0.1	1.6	0.2	0	0
Upper Jenny	0	0	0.4	0.1	0.4	0.1	0	0
<b>Total</b>	<b>10.8</b>	<b>2.4</b>	<b>5.0</b>	<b>2.5</b>	<b>8.0</b>	<b>3.0</b>	<b>10.8</b>	<b>2.4</b>

Less decommissioning would occur in Riparian Reserves under Alternative 3, so approximately 11 acres less recovery of riparian vegetation would be expected to occur under this alternative relative to

Alternative 2. One of the main differences in Alternative 3 compared to Alternative 2 is that 5 miles of road to trail treatment would occur in the Upper Emigrant Subwatershed; these areas are proposed as decommission/spot recontour in Alternative 2. This route bisects numerous Riparian Reserves, and as a portion of the running surface of the road would be retained under Alternative 3 as a trail, slightly less (approximately 6 acres) recovery of Riparian Reserve vegetation would occur. And as the converted road to trail would include 15 stream crossings, there would be less reduction in sediment input into aquatic habitats in Upper Emigrant Creek under Alternative 3 relative to Alternative 2.

In contrast to Alternatives 2 and 3, Alternatives 1 and 4 would result in much less initial disturbance, but long-term benefits to aquatic habitat and riparian areas would be greatly reduced as considerably fewer roads would be decommissioned. So while Alternatives 1 and 4 would result in the estimated short-term input of only 8 and 9 cubic yards of sediment respectively, they would only result in the long-term recovery of 7.3 and 17.2 acres of riparian recovery respectively. Because Alternatives 1 and 4 retain much more road than Alternatives 2 and 3, there is considerably more drainage improvements proposed under these alternatives. However, there is actually less drainage improvement proposed in Riparian Reserves than in Alternatives 2 and 3 (Table 3-5), and hence it would actually likely be less of a positive impact to aquatic habitat even though more is proposed over all. Furthermore, decommissioning a road would in effect eliminate chronic surface erosion and future mass wasting potential, while improving drainage would lessen both of these parameters, but would not eliminate them entirely. For these reasons, implementation of either Alternative 1 or 4 would result in considerably less benefit to water quality and aquatic habitat in each of the analysis area subwatersheds.

Any improvement to riparian vegetation from road decommissioning activities in the watershed of the 303(d) listed streams has the potential to benefit water quality. However, direct recovery of the Riparian Reserves along the mainstem reaches will expedite improvement of water quality of those listed reaches. Alternatives 2, 3, and 4 provide some direct recovery to the Riparian Reserves of 303(d) listed streams (Table 3-6). Alternative 1 does not provide any direct recovery since no treatment is proposed to roads in the Riparian Reserves of 303(d) listed streams. Alternative 2 and 3 provide the most recovery, with the bulk of the recovery to Riparian Reserve acres in Beaver Creek and Keene Creek. Similar to the discussion above, Alternative 1 and 4 will provide the least initial disturbance, but long-term benefits to aquatic habitat and riparian areas would be greatly reduced.

*Table 3-6. Estimated Acres of Recovery on BLM Lands in Riparian Reserves on 303(d) listed Streams in the Analysis Area by Alternative.*

Stream	Estimated Acres of Recovery in BLM Riparian Reserves on 303(d) Listed Streams			
	Alt 1	Alt 2	Alt 3	Alt 4
Emigrant Creek	0	0.04	0.03	0.00
Hobart Creek	0	0.00	0.00	0.00
Tyler Creek	0	0.00	0.00	0.00
Beaver Creek	0	0.15	0.15	0.02
Grizzly Creek	0	0.00	0.00	0.00
Jenny Creek	0	0.08	0.08	0.02
Johnson Creek	0	0.03	0.03	0.03
Keene Creek	0	0.19	0.19	0.00
Mill Creek	0	0.08	0.08	0.00
South Fork Keene Creek	0	0.02	0.02	0.00
<b>Total</b>	<b>0</b>	<b>0.60</b>	<b>0.59</b>	<b>0.07</b>

### Cumulative Effect to Aquatic and Riparian Resources

It is expected that reasonably foreseeable future actions including rotational harvest on private industrial timberlands that maintain forest conditions in an early- to mid-seral condition and ground disturbance attributed to development of private lands will continue (USDI 1995).

Activities on BLM-administered lands in the analysis area (outside of the CSNM) will likely continue to focus on commercial thinning for forest health and fuels reduction projects. Sediment delivery to watercourses in the analysis area from recent BLM timber sales are expected to be limited and any sediment is likely to be captured in Howard Prairie Reservoir, upstream of the CSNM TMP planning area. Riparian Reserves on all BLM lands within the analysis area will continue to improve shade and large wood recruitment providing hydrologic recovery on these lands. Grazing impacts on private lands will likely continue to occur at near present levels, with expected improvements on BLM-administered lands. In the upper portions of the Jenny Creek Watershed, mixed ownership of lands surrounding Howard Prairie Reservoir makes a comprehensive effort to address vehicle use and access outside of the CSNM more complex and less likely to occur. Resource damage outside of the CSNM, particularly in the lands surrounding Howard Prairie Reservoir is likely to continue, particularly when soils are wet or saturated.

Drainages that may be at an elevated risk of experiencing adverse cumulative effects typically have both high road densities and large percentages of canopy cover at less than historic levels. Drainages with

private land with forested stands greater than 60 years old were also included in this analysis. Although unlikely, if all those acres were reduced below historic canopy cover, potential cumulative impacts would be magnified.

Road densities within the analysis area will be decreased to some degree in all the alternatives. Under Alternative 2 and 3, the construction of 0.27 miles of road would be greatly offset by the ability to decommission 2.6 miles of road crossing seven streams that are direct tributaries to Jenny Creek, cumulatively yielding a reduction of road in the Tier 1 Key Watershed. Under all the alternatives, in this TMP, sediment production resulting from road decommissioning activities may slightly increase in the short-term, but will decrease in the long-term as the de-compacted ground re-vegetates. Any short-term sediment increases would be minor relative to existing sediment levels, and would not meaningfully impact either aquatic organisms or aquatic habitat. As described previously in the Aquatic and Riparian Analysis Assumptions section, there will be both spatial and temporal constraints on effects, spreading the impacts over time and space for the duration of project implementation for any of the alternatives.

Although there are both natural and human induced risk factors for cumulative effects, because road density decreases and canopy cover metrics remain or improve beyond existing condition, none of the alternatives increase the risk of adverse cumulative effects. In areas where roads are decommissioned, riparian vegetation vigor would improve over time, thus potentially decreasing stream temperatures. Under all alternatives, aquatic habitat would be benefitted at the site scale through improved connectivity and reduced chronic erosion as a result of the road decommissioning.

### **Aquatic Conservation Strategy Analysis**

The Northwest Forest Plan's (NWFP) Aquatic Conservation Strategy (ACS) has four components: Riparian Reserves, Key Watersheds, Watershed Analysis, and Watershed Restoration. It is guided by nine objectives which are meant to focus agency actions to protect ecological processes at the 5<sup>th</sup>-field hydrologic scale, or watershed, at the 6<sup>th</sup> and/or 7<sup>th</sup> fields (subwatershed and/or drainage), and at the site level. In this case, the analysis area covers six 6<sup>th</sup> field subwatersheds, five of which make up the Jenny Creek 5<sup>th</sup> Field Watershed. The other 6<sup>th</sup> field subwatershed is Upper Emigrant Creek, in the Bear Creek 5<sup>th</sup> Watershed. How the four components of ACS relate to the draft TMP is explained below:

#### ***Riparian Reserves***

Riparian Reserve widths for streams, springs, wetlands, and unstable soils have been determined according to the protocol outlined in the NWFPs Aquatic Conservation Strategy and are designated as 170' site potential tree height (SPTH) for the Jenny Creek Watershed, and 160' SPTH for Bear Creek.

Reserve widths are single SPTH, applied to either side of the stream, for all intermittent and perennial channels, and two SPTH's either side of fish bearing stream channels.

### **Key Watersheds**

Tier 1 Key Watersheds contribute directly to conservation of at-risk anadromous salmonids, bull trout, and resident fish species. They also have a high potential of being restored as part of a watershed restoration program. The Jenny Creel Watershed is a Key Watershed, designated for the presence of two endemic fish species, the Jenny Creek Sucker and the Redband Trout. Key Watersheds have a special management mandate that precludes a net increase in road densities within them.

### **Watershed Analysis**

The BLM completed the Jenny Creek Watershed Analysis in 1995. BLM completed the Upper Bear Creek Watershed Analysis in 2000. These watershed analyses cover the analysis area.

### **Watershed Restoration**

Most of the restoration activities in the watersheds have focused on the lower Jenny Creek Watershed, those areas which support the Jenny Creek sucker and redband trout. Wilderness and national monument designations, land exchanges, cattle exclusion, grazing allotment retirements, riparian plantings, securing of instream water rights, decommissioning of roads and ditches, and restoring fish passage to provide better access to habitat, are among the restorative actions which have occurred in the analysis area since the watershed Analyses were written. Both documents recommended road decommissioning, drainage improvements, and culvert upgrades as restoration opportunities to undertake within the watersheds.

### **Consistency Review**

#### **Evaluation of This Action's Consistency with Northwest Forest Plan Aquatic Conservation Strategy Objectives**

*ACSO 1. 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.*

Topography, slope, forest fire regime, climate, and the distribution of soil types and plant communities are some of the landscape-scale features affecting aquatic systems in the watersheds. One of the treatment objectives of the TMP is to restore native vegetation and natural hydrological processes through the de-compaction of road beds and disconnection of non-porous surfaces from the aquatic

network. Restoration of natural hydrological features would ensure protection of aquatic systems. Alternatives 1 and 4 would restore very little ground, so benefits would accrue only at the site level, in particular in Lincoln Creek in the Keene Creek Subwatershed. Alternative 2 and 3 would treat significantly more area, and as such could yield benefits at larger spatial scales, particularly in the Upper Emigrant, Keene, Upper Jenny, and Middle Jenny Creek Subwatersheds, as road densities would be considerably reduced from current conditions (Tables 3-2, 3-3, and 3-4).

***ACSO 2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.***

In the Jenny Creek Watershed, the presence of four large impoundments has by far the biggest effect on this indicator. The Upper Emigrant Subwatershed is also above a large dam. None of the dams allow for any upstream passage by aquatic organisms. Additionally, there are several smaller diversions throughout the watersheds which are barriers to certain life stages of aquatic organisms at certain flows. Project elements proposed in the TMP that would affect this indicator include culvert removals and upgrades, both activities which would benefit spatial connectivity. Under Alternatives 1 and 4, benefits would be limited to the site level, as only 4 and 6 (respectively) culverts would be removed/improved. Under Alternatives 2 and 3, which would remove/improve 127 and 135 culverts respectively, benefits would be discernable at site level, drainage level, and at the subwatershed scale for the Upper Emigrant, Keene, Upper Jenny, and Middle Jenny Creek Subwatersheds due to the very large amount of proposed culvert work.

***ACSO 3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.***

Removal of culverts and re-shaping of banks at the crossings would restore the stream bank and bottom configurations at all removal locations. Culvert improvements would maintain the status quo. See previous indicator; benefits would be noticeable at the site scale only under Alternatives 1 and 4, but would be discernable at the drainage and subwatershed, and perhaps the watershed scales, under Alternatives 2 and 3.

***ACSO 4. Maintain and restore water quality necessary to support healthy riparian, aquatic and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.***

There would be no effect on water temperature, because shade would not be reduced along any stream channels. In the long-term, shade levels would be increased as decommissioned riparian road segments recovered. Short-term road decommissioning is expected to input up to one cubic yard of sediment at the site of any proposed culvert work. This sediment would likely work its way downstream within a year of the decommissioning. This one time input would be much less than the roads could be expected to contribute to the stream over the lifetime of the roads should they not be decommissioned. Upland work would have no effect on fine sediment levels, due to the filtering action of Riparian Reserve buffers, extensive PDFs designed to prevent overland sediment movement, and normal BMPs. Alternatives 1 and 4 would input much less sediment (estimated 4 and 6 cubic yards) compared to Alternatives 2 and 3 (estimated 127 and 135 cubic yards) in the short-term, but would also yield much less long-term reductions.

***ACSO 5. Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.***

See ACS Objective #4. Road work could potentially lead to short-term one time sediment inputs totaling up to one cubic yard at each crossing where culverts are removed/improved. Site level impacts would occur to the first pool or two downstream of any given crossing. Sediment would be flushed out of the area the following wet season, and either deposited and assimilated into background conditions or flushed through the system as a slightly increased turbidity pulse. Because only a few miles of road work are likely to occur in any given year, it is not anticipated that effects would be discernable beyond the site level. Inputs would be much less than the expected contributions over the lives of the roads should they not be decommissioned or improved.

***ACSO 6. Maintain and restore instream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.***

See ACS Objective #1. The road treatments would help to restore natural hydrological processes, and may lead to increased ground water storage and eventually to increased summer base flows. Time and magnitude of peak flows would be less influenced by roads than at present, as road densities and

road/stream connectivity would be decreased. Alternatives 1 and 4 would treat so little area that it is unlikely that implementation of either one of the alternatives would yield detectable benefits at any spatial scale. Alternatives 2 and 3, because they treat such large portions of drainages and subwatersheds, may yield benefits at these large spatial scales, as well as at the site level.

***ACSO 7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.***

See ACS Objectives #1 and # 6. Restoration of natural flow paths may restore this indicator to some degree.

***ACSO 8. 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.***

Decommissioning of riparian road segments would allow for the eventual recovery of riparian plant communities. Alternatives 1 and 4 would allow for the recovery of only 7 and 17 acres of riparian areas, respectively, while Alternatives 2 and 3 would allow for recovery of 123 and 113 acres, respectively. These benefits would accrue at the site, drainage, and subwatershed scales.

***ACSO 9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.***

See previous objectives. No detectable effects beyond site level turbidity inputs to aquatic and riparian habitat are anticipated to occur as a result of this project. These inputs would not meaningfully affect populations of native flora and fauna at any spatial scale.

## **Road Densities within the Boundaries of the CSNM**

Although, the effects of implementing the alternatives on hydrologic function, water quality, and aquatic habitat need to be analyzed at the watershed and subwatershed scales as analyzed above, the CSNM ROD/RMP (TRAN-14, p. 88) identified that “[r]oad densities throughout the monument are higher than desired to protect the ‘objects of biological interest’ and support naturally functioning ecosystem processes.” In order to assess how the alternatives respond to this identified need, Table 3-7 shows how road densities change within the monument boundary in response to the implementation of each alternative by watershed and subwatershed. This analysis is presented solely to evaluate how the alternatives respond to the identified need to reduce road densities within the monument (ROD/RMP,

TRAN-14, p. 88) and does not represent the appropriate scale to analyze effects to hydrologic function, water quality, and aquatic habitat. That analysis is presented above.

**Table 3-7. Road Densities within the Greater Cascade-Siskiyou National Monument Following Implementation of the Alternatives in the Draft CSNM TMP/EA.**

Watershed	Subwatershed	Existing Condition	ALT 1	ALT 2	ALT 3	ALT 4
		Road Density (mi./mi. <sup>2</sup> )				
Bear Creek	Neil Creek <sup>1</sup>					
	Upper Emigrant Creek	3.64	3.62	1.87	1.96	3.59
	<b>Total</b>	<b>3.64</b>	<b>3.62</b>	<b>1.87</b>	<b>1.96</b>	<b>3.59</b>
Cottonwood Creek	East Fork Cottonwood Creek	3.04	3.04	3.04	3.04	3.04
	Middle Cottonwood Creek	0.92	0.92	0.92	0.92	0.92
	<b>Total</b>	<b>2.36</b>	<b>2.36</b>	<b>2.36</b>	<b>2.36</b>	<b>2.36</b>
Irongate Reservoir-Klamath River	Camp Creek-Scotch Creek	0.17	0.17	0.12	0.12	0.17
	Fall Creek-Klamath River	4.91	4.91	4.91	4.91	4.91
	<b>Total</b>	<b>0.37</b>	<b>0.37</b>	<b>0.32</b>	<b>0.32</b>	<b>0.37</b>
Jenny Creek	Johnson Creek	4.36	4.36	1.76	1.76	1.76
	Keene Creek	4.44	4.22	2.59	2.76	4.16
	Lower Jenny Creek	1.82	1.82	1.51	1.51	1.82
	Middle Jenny Creek	4.62	4.62	2.31	2.56	4.37
	Upper Jenny Creek	6.18	6.18	2.66	2.89	4.91
	<b>Total</b>	<b>3.86</b>	<b>3.79</b>	<b>2.20</b>	<b>2.35</b>	<b>3.59</b>
	<b>Grand Total</b>	<b>3.10</b>	<b>3.05</b>	<b>1.87</b>	<b>1.96</b>	<b>2.93</b>

<sup>1</sup>There are only 1.47 acres of the Neil Creek Subwatershed that are within the CSNM boundary and there are no roads within this 1.47 acres.

## ACCESS FOR FIRE SUPPRESSION, RECREATION, MANAGEMENT, RESEARCH, EDUCATION AND APPRECIATION OF THE CASCADE-SISKIYOU NATIONAL MONUMENT

### Vehicular Access

The road network within the CSNM helps to facilitate human access for a variety of purposes including fire suppression; recreational activities; management and protection of monument resources; valid existing rights; inventory, research and monitoring; and educational purposes. All the alternatives proposed in

this draft TMP/EA retain a transportation system that allows for vehicular access to the monument for the purposes identified above. The alternatives provide vehicular access to the CSNM at varying different levels in response to the issues identified.

Table 3-8 identifies what the post-implementation road system would look like after implementation of the alternatives proposed in this draft CSNM TMP/EA. Implementation of the TMP would be completed in phases, over time as funding becomes available. It could take many years to implement fully all aspects of the TMP given budget constraints, contracting realities, seasonal restrictions, and limited resources. Large scale maps of the post-implementation road network associated with each alternative are provided in Appendix D.

**Table 3-8. Post-Implementation Road System within the CSNM by Alternative.**

Road Status	Alternative 1 Approximate Length (miles)	Alternative 2 Approximate Length (miles)	Alternative 3 Approximate Length (miles)	Alternative 4 Approximate Length (miles)
Open	112.93	82.01	89.82	114.04
BLM and Authorized Use	56.37	38.70	40.92	48.34
Closed	63.32	19.34	19.35	58.17
Inholder	2.29	2.45	2.45	2.29
Non-Inventoried	156.91	91.69	94.74	153.59
Private	13.93	13.93	13.93	13.93
Roads to Trails			1.74	
Passive Decommission Fire/Emergency Access <sup>1</sup>	1.25	37.22	35.20	3.61
Total	407.01	285.33	298.16	393.97

<sup>1</sup> This is the roads proposed for passive decommissioning that would be available for emergency access (e.g., fire suppression, search and rescue, law enforcement, medical evacuation) on a transitional basis until such time as the road becomes overgrown and is no longer drivable.

## Fire Suppression

### **Fire Suppression Common to Alternatives**

#### **Fire Suppression Organization**

The Bureau of Land Management has a contract with the Oregon Department of Forestry (ODF) to provide fire prevention, detection and suppression services. This contract directs ODF to take immediate action to control and suppress all fires. Their primary objective is to minimize total acres burned while providing for fire fighter safety. ODF is required to be consistent with BLM resource management

objectives in selecting suppression action alternatives, and when conducting suppression actions on BLM lands.

### **Fire Suppression Tactics**

During suppression activities on all BLM lands within the Cascade-Siskiyou National Monument the following guidelines would be followed:

- BLM resource advisors will be dispatched to all fires that occur on BLM-administered lands. These resource advisors are utilized to ensure that suppression forces are aware of all sensitive areas and to ensure a minimum amount of damage to resources as a result of fire suppression efforts.
- During fire suppression activities, outside of the Soda Mountain Wilderness, it may be necessary to open decommissioned roads or construct fire lines with a bulldozer. Where emergency actions are required for fire suppression, a project inspector, in consultation with a resource advisor, will be the on-the-ground BLM representative authorized to permit opening decommissioned roads or constructing roads within these areas.
- Backfires will be designed to minimize fire effects on habitat. Natural barriers will be used whenever possible and fires will be allowed to burn to them.
- When feasible and necessary, existing roads or trails could be used as a starting point for burn-out or backfire operations designed to stop fire spread.
- In the construction of fire lines, minimum width and depth will be used to stop the spread of fire. The use of dozers would be minimized and resource advisors will give approval of the use of dozers.
- Dozer line will not be constructed within or along stream channels or dry draws. If dozer line construction is proposed within riparian areas, it would be perpendicular to stream channels or dry draws and the resource advisor would be consulted prior to line construction. Hand line may be used parallel to stream channels and dry draws; however, hand line should be constructed as far as possible from the main channel.
- Live fuels will be cut or limbed only to the extent needed to stop fire spread.
- The felling of snags and live trees will only occur when they pose a safety hazard or will cause a fire to spread across the fire line.

- The construction of helispots should be minimized and all helispots should be approved by the resource advisor. Past locations or natural openings should be used when possible. Helispots will not be constructed within riparian reserves or areas of special concern.
- Retardant or foam will not be dropped on surface waters, Riparian Reserves, or on occupied spotted owl or eagle nests.
- Resource advisors will determine rehabilitation needs and standards in order to reduce the impacts associated with fire suppression efforts.
- Properly designed and adequately spaced water bars would be constructed on all fire lines at the completion of fire suppression activities.
- In addition to the guidelines described above, areas that require special measures or restrictions for fire suppression can be identified where suppression methods will be limited to provide additional protection for these areas.

#### **Road Access Reduction Impacts for Fire Suppression Tactics**

In general, removal of road access increases probability that a larger than average fire might occur and potentially increase cost of fire suppression. With the removal of roads there will be an increased potential for reliance on aerial resources for fire detection and suppression. It also has the added challenge of increased response time for ground personnel.

With fewer roads and limited access a reduction in human caused fires can be expected, however recent history suggests lightning to be a more likely source of ignition. There are scale and location factors associated with these increased probabilities and potentials. A small amount of road access removal can have no impact, as the amount increases the impact can increase. The reduction of the road network can have little or no impact if an adequate amount of road access is retained. The impact increases as road access dwindles or becomes absent.

#### **Fire Facilities**

##### ***Water Sources***

There are 21 existing water source installations identified within the monument boundary that have been identified by ODF and BLM as important for fire suppression for both initial attack and extended attack suppression operations. Ten of these installations are currently in need of improvements for access and/or

improve water holding capabilities. Eleven water sources are currently functioning adequately and need no improvements at this time.

For the 10 water source installations currently in need of improvements for access and/or improved water holding capabilities, it is anticipated that needs and methods would include the use of hand tools, chainsaw, and replacement parts and materials. The potential need for the use of small excavator/backhoe type of equipment may arise to remove sediment buildup to restore water holding capacity.

Routine maintenance and repair of all 21 of these structures would occur as needed. There will be no change to the location, size or type, nor increase to the original designed capacity of these water sources. It is anticipated that needs and methods would include the use of hand tools, chainsaw, and replacement parts and materials. The potential need for the use of small excavator/backhoe type of equipment may arise to remove sediment buildup to restore water holding capacity.

### ***Helispots***

Outside of the SMW, there are no pre-identified helispots (SMW has 3 designated helispots). Helispot location and creation is presently attained on an as-needed basis to achieve individual wildfire suppression and tactical objectives. Their use is temporary and each site undergoes rehabilitation and restoration when no longer needed.

### **Stabilization, Rehabilitation and Restoration Following Wildfire**

The purpose of emergency stabilization is to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural resources resulting from fire. The purpose of rehabilitation is to emulate historical or pre-fire ecosystem structure, function, diversity, consistent with approved land management plans.

### ***Implementation of Rehabilitation of Damages from Suppression Operations***

The goal of wildfire rehabilitation is to mitigate or eliminate impacts caused by the fire suppression effort and rehabilitation of the area to as natural a condition as possible. In the case of wildfire suppression, it is the human involvement that has the potential to be a damaging effect on the resource, sometimes even more so than the effects of the fire. The following general guidance would be used in rehabilitating damages from fire suppression activities:

- BLM policy emphasizes the need to rehabilitate areas disturbed during the fire suppression effort to as natural an appearance as possible.

- BLM and ODF will jointly develop a rehabilitation plan as early as possible during the incident to minimize costs.
- ODF and BLM resource advisor(s) will communicate and collaborate early to ensure efficiency in the rehabilitation work.
- If any motorized vehicle access is used (off existing roads), routes and evidence of human activity would be removed or rehabilitated to the maximum extent possible upon completion of the reclamation work.
- Should seeding be required, the use of certified, weed-free seed and/or use of native species known to compete with invasive species known or likely to be present post-fire would occur. Seed will be certified and supplied by the BLM.

### ***Effects of Alternatives on Wildfire Suppression***

Removing roads will affect access and suppression of fires in the CSNM in the future. This will present a new challenge to fire crews by reducing reliability on fire engine platforms for suppression activity. Any fires in the area that roads have been decommissioned will see an increase in personnel and aircraft use. Response time by ground personnel to these areas could increase an estimated 20 minutes depending on terrain and fire location. This estimate is given with the thought that the hike will not exceed half a mile and the terrain is not particularly adverse. In the areas that the hike exceeds half a mile or the terrain is adverse response time will increase.

#### **Alternative 1**

Alternative 1 would be the most advantageous from a fire suppression standpoint. This option has the least amount of roads being decommissioned or closed. This alternative proposes decommissioning or closing 11.47 miles of roads. Of these 11.47 miles, 5.43 miles are currently not accessible for fire suppression (and 6.52 miles are currently not accessible to the public) (Table 3-9). This Alternative would remove a net amount of 6.04 miles of road access for fire suppression.

Of all the alternatives, this one allows ground personnel and fire apparatus the most access to areas with a response time that is very similar to current times. All 21 existing water sources remain accessible. Additionally, this would allow the fastest possible creation of fire breaks in the case of a large fire. Use of aerial resources would remain at current levels.

## **Alternative 2**

Alternative 2 would be the most restrictive for ground based fire suppression access. It removes the highest number of roads of all the alternatives. This alternative proposes decommissioning or closing 164.19 miles of roads. Of these 164.19 miles, 57.25 miles are overgrown or eroded and currently not accessible for fire suppression apparatus (and 63.82 miles are currently not accessible to the public) (Table 3-9). This Alternative would remove a net amount of 106.94 miles of road access for fire suppression.

This alternative allows ground personnel and fire apparatus the least access to areas with a potential of an increased response time compared to current response times. It would reduce access for fire apparatus and increases response time of personnel to areas that have greater amounts of roads decommissioned or closed. It would increase the amount of time for creation of fire breaks, and influence the location of fire breaks in the case of a large fire. The potential for indirect fire suppression tactics increases the potential for larger acreage burned. In general, a larger dependence on aerial resources would be necessary. This alternative would create blocks of land and/or sections with limited or no access for ground personnel and fire apparatus. These blocks include:

- T. 39 S., R. 4 E., Sections 15, 16, 19, 21, and 22.
- T. 40 S., R. 2 E., Sections 23, 25, and 36.
- T. 40 S., R. 3 E., Sections 15, 19, 23, 24, and 25.
- T. 40 S., R. 4 E., Sections 18 and 19.

One existing water source would be inaccessible. This option does include leaving access for 20 of the existing water sources. Road access to these water sources would remain open with the proposed decommissioning occurring beyond the water sources locations.

## **Alternative 3**

Alternative 3 would be similar to Alternative 2 and has similar effects on fire suppression. It would still provide for a significant amount of roads to be decommissioned, however, it is more advantageous for fire suppression than Alternative 2. It would retain road access in certain areas based on fire suppression considerations. Several road systems in key areas will remain open and therefore ground personnel and fire apparatus access and response times will remain similar to current response times. Construction time for fire breaks in the case of a larger fire will also remain the same for those areas.

This alternative includes providing access to all 21 existing water sources. This alternative proposes decommissioning or closing 150.00 miles of roads. Of this 150.00 miles, 53.00 miles are currently overgrown or eroded and not accessible for fire suppression apparatus (and 59.39 miles are currently not accessible to the public) (Table 3-9). This alternative would remove a net amount of 97.00 miles of road access for fire suppression. Compared to Alternative 2, this alternative would create fewer inaccessible areas and/or sections with limited or no access for ground personnel and fire apparatus. These blocks include:

- T. 39 S., R. 4 E., Sections 15, 19, and 22.
- T. 40 S., R. 2 E., Sections 23, and 25.
- T. 40 S., R. 3 E., Sections 15, 19, and 25.
- T. 40 S., R. 4 E., Sections 18 and 19.

**Alternative 4**

Alternative 4 would be similar to Alternative 1. This alternative proposes decommissioning or closing 27.64 miles of roads. Of this 27.64 miles, 10.69 miles are currently overgrown or eroded and not accessible for fire suppression apparatus (and 11.78 miles are currently not accessible to the public) (Table 3-9). This alternative would remove a net amount of 16.95 miles of road access for fire suppression.

It would be the second most advantageous alternative for fire suppression in the CSNM. It would keep roads accessing water sources and key roads for fire breaks. It would also keep a multitude of secondary roads open that could be used by ground forces to rapidly locate and suppress small fires that occur over a larger area. It would include providing access to all 21 existing water sources.

*Table 3-9. Roads Currently Not Accessible that are Proposed for Decommissioning or Closure<sup>1</sup>.*

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<b>Proposed Decommissioning or Road Closures (mi.)</b>	11.47	164.19	150.00	27.64
<b>Not Currently Accessible to ODF</b>	5.43 mi. (47%)	57.25 mi. (35%)	53.00 mi. (35%)	10.69 mi. (39%)
<b>Not Currently Accessible to the Public</b>	6.52 mi. (57%)	63.82 mi. (39%)	59.39 mi. (40%)	11.78 mi. (43%)

<sup>1</sup>For Alternatives 1 and 4, roads proposed for closure include those that will receive drainage improvements and be blocked per direction in the CSNM ROD/RMP.

### **Helispot Creation Common to Alternatives 2 and 3**

Under Alternatives 2 and 3, the identified blocks of land or sections with limited access for limited or no access for ground personnel and fire apparatus would have roads removed from any future use as re-contour and decommission treatments would no longer allow for vehicle access or ability to re-open roads for emergency use. In areas where hike-in fire suppression and emergency response would require an hour or more, the establishments of designated helispots may occur. These helispots would enable a more rapid response time for fire suppression, evacuations and other emergency situations. The helispots could be created by utilizing existing wide spots on otherwise decommissioned roads and/or utilizing natural open areas when present. Locations and number of helispots would be based the final decisions made for the transportation system. This would take into consideration the road treatments and closures and the hike-in time and difficulty. Designation of these would expedite a rapid response to wildfire and other emergencies and enhance safety for fire fighters and the public.

Helispot locations would need to meet size and condition criteria for safe use for helicopter landings. Criteria would include having stumps, brush, posts, large rocks or anything over 18 inches high cleared from the site. The safety circle would be 75 feet wide with a 15' x 15' width touchdown pad for small Type III helicopter; and 90 feet wide with a 20' x 20' width touchdown pad for medium Type II helicopter. Periodic routine maintenance needs and methods would include the use of hand tools and chainsaws. All work done to maintain or create helispots would be planned and accomplished in accordance with CSNM management objectives and guidelines and in conjunction with resource specialists and advisors.

### **Recreation**

Recreational activities occur throughout the CSNM including camping, hiking, horseback riding, pleasure driving, sightseeing, hunting, fishing, cross-country skiing, and snowmobiling. Some forms of recreation were limited or curtailed by the presidential proclamation. The proclamation banned all motorized and mechanized vehicle use off road (Appendix A).

Implementation of the TMP may alter access to recreational activities and may have both positive and negative consequences depending on the type of recreation and the recreational users' personal perspective. For example, proposed road decommissioning may negatively impact the miles of roads a visitor could drive for pleasure, but would enhance the user experience for those seeking a more primitive or a semi-primitive experience.

The effects from implementing the alternatives on recreation that is associated with the road system is discussed above in the Vehicular Access section of this Chapter. Generally, for recreational activities directly associated with a road system (driving for pleasure, OHV and bicycle use), Alternatives 1 and 4 would provide the highest number of miles of road available for public use (Table 3-8 and Appendix D).

### ***Snowmobiles***

The four alternatives proposed in the draft CSNM/TMP provide a range in allowable snowmobile use. Cross-country travel by snowmobiles is prohibited throughout the CSNM. All the alternatives allow snowmobile use on designated open roads north of Highway 66 and can be used throughout the CSNM by adjacent landowners for ingress/egress to their private properties. Alternatives 1 (Map 25, Appendix B), Alternative 3 (Map 2-5) and Alternative 4 (Map 2-7) designate snowmobile routes within the monument at varying levels with Alternative 4 providing the highest level of available snowmobile routes.

### ***Nordic Ski/Snowshoe Trails***

Alternatives 1 and 4 do not specifically designate Nordic ski/snowshoe trails. Alternative 2 would designate some (non-motorized) trails near Chinquapin Mountain and Hyatt Lake (Map 2-3). Alternative 3 would provide a higher level of Nordic ski/snowshoe trails by allowing these uses to occur on additional trails shared with snowmobile use (winter multi-use trails) (Map 2-5).

### ***Trails and Trailheads***

Alternative 3 is the only alternative that would designate an additional hiking/equestrian trail. Alternative 3 would convert an existing closed road system to a designated trail that accesses a popular hiking destination, Buck Rock Tunnel (Map 2-4).

All alternatives propose prohibiting camping at designated trailheads. There are two existing trailheads within the CSNM (Pilot Rock and Hobart Bluff) and Alternative 3 proposes an additional trailhead along Emigrant Creek Road for the proposed Buck Rock Tunnel Loop Trail.

Under Alternatives 2 and 3, no camping would be allowed at Porcupine Gap and Boccard Point/PCNST recreational access points. Under Alternative 2, no camping or overnight parking would be allowed at the Emigrant Creek Road recreational access point (this location is proposed for trailhead designation under Alternative 3).

## **ACCESS FOR MEMBERS OF FEDERALLY RECOGNIZED NATIVE AMERICAN TRIBES FOR RELIGIOUS, CULTURAL AND CEREMONIAL USE**

Certain areas within the CSNM have been identified by federally recognized Native American tribes as important for religious, cultural and ceremonial use. Under all alternatives, vehicular access would be retained to these areas.

## **ACCESS FOR CITIZENS WITH LIMITED MOBILITY OR DISABILITIES**

Implementation of the TMP would reduce vehicular access to the CSNM as described in the Vehicular Access section above. Alternative 1 would designate 113 miles of road as open and available for public access; Alternative 2 would designate 82 miles; Alternative 3 would designate 90 miles; and Alternative 4 would designate 114 miles (Table 3-8).

Additionally, the CSNM ROD/RMP allows that “[p]ersons requiring wheelchairs for mobility may use a motorized or mechanized wheelchair to access any area in the monument. A wheelchair refers to a device that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area.” (REC-25, pp. 97-98).

## **BOTANICAL RESOURCES**

BLM-administered lands where transportation management activities are proposed include a diversity of plant communities: old-growth mixed-conifer forests with Douglas-fir, white fir, ponderosa pine, sugar pine, incense cedar and Pacific yew, as well as, oak woodlands, shrublands, grasslands, juniper scablands, riparian areas and wetlands. While these plant communities can be rather distinct, often they blend to form diverse ecotones. This diversity, for which the monument was established, supports a variety of rare and endemic plants, lichens, bryophytes and fungi.

The analysis area for threatened, endangered, special status and survey and manage plant species, and noxious weeds, is the road prism or tread and immediate adjacent road shoulders and cut-banks of each transportation feature proposed for treatment.

## **Threatened, Endangered, Bureau Special Status and Survey and Manage Plant and Fungi**

Special Status plants include federal Threatened and Endangered, Bureau Sensitive, and Survey and Manage (S&M) plants and fungi. Different policies apply to the different categories, but the main objectives for managing these species are:

- Protect and conserve Federal listed species and manage their habitats to achieve their recovery in compliance with the Endangered Species Act.
- Manage for the conservation of Bureau Sensitive species and their habitats so as not to contribute to the need to list and to contribute to the recovery of the species (Bureau of Land Management, 1995, pp. 50-51).
- Manage S&M species to maintain their persistence across the Northwest Forest Plan area (U.S. Forest Service and Bureau of Land Management, 2001, pp. S&G 3-4).

### **Surveys**

Special status and S&M plant surveys have been conducted on approximately half of the roads and other transportation features in the CSNM. Most of these surveys occurred south of Highway 66 in 2007.

Other plant and fungi surveys have occurred in scattered locations across the CSNM from 1999 to 2015 (USDI 2016, GeoBOB). Ten sites of bureau special status plants were discovered during these surveys (number of known sites): *Fritillaria gentneri* (1), *Hackellia bella* (6), *Limnanthes floccosa* ssp. *bellingermana* (1), *Nemacladus capillaris* (1), and *Solanum parishii* (1). No S&M plants were discovered in the analysis area. Site-specific surveys and analysis would be conducted prior to implementing each phase of road/transportation feature treatment.

### **Noxious Weeds**

Noxious weeds are plants growing outside their native lands or habitats that are injurious to public health, agriculture, recreation, wildlife, or public or private property (Oregon Department of Agriculture 2013, 4). Oregon Department of Agriculture (ODA) classifies noxious weeds based on their economic threat and the ability to control them. 'A' listed weeds have small enough infestations to make eradication or containment possible. 'B' listed weeds are regionally abundant and control is limited to site specific efforts. 'T' listed species include weeds from the A and B list that are identified as priorities for treatment. The BLM's objectives for noxious weeds are to continue to survey for, avoid introducing or spreading, and contain or reduce infestations on BLM-administered land (USDI 1995, 92-93). The BLM treats noxious weeds on their lands by manual, mechanical, chemical, or biological means under the Medford District Integrated Weed Management Plan and Environmental Assessment (EA #OR-110-98-14) (USDI 1998).

Weeds spread into new locations when there is a seed source, a transportation mechanism, and when conditions at the new site are favorable for germination and growth. Newly disturbed areas are the most vulnerable to noxious weed establishment. Weeds are spread through a variety of activities, including

road or trail construction, timber harvest, mining, farming, over-grazing, vehicular traffic, recreation, and residential development. Natural processes, such as wind, seasonal flooding, fire, and the migration patterns of birds or animals also contribute to the spread of noxious weeds. Soil disturbance creates favorable conditions for the establishment of noxious weeds by removing competing vegetation. Weed seeds that have been suppressed in the soil have an opportunity to germinate and develop before native species are able to become re-established. The disturbed soil is also a ready seed bed if weed seeds or other plant parts are transported into the area by natural processes.

Noxious weeds and non-native invasive plants exist across the CSNM landscape in patchy distributions. Most known noxious weed infestations exist along roads, which are known vectors for introducing and spreading noxious weeds (Taylor, et al. 2011).

Surveys have documented 153 known infestations of noxious weeds in or near the transportation features proposed for treatment under the various alternatives for this TMP. The most common noxious weeds/invasive plants by number of known infestations are Canada thistle (124) and yellow starthistle (18). While existing records (NISIMS 2016) show only 18 infestations of yellow starthistle, some expansive infestations (50+ acres) exist primarily in the south and west areas (near I-5) of the CSNM. Medusahead and bulbous blue-grass are common in most plant communities, but are not mapped during surveys. Other noxious weeds less common (11 known infestations) include: Dyer's woad, jointed goatgrass, cut-leaf teasel, common teasel, cheatgrass, spotted knapweed, diffuse knapweed, and spiny cocklebur. The BLM has an ongoing program of noxious weed control in the CSNM. Approximately 500 acres per year are treated by herbicide application, hand-pulling and bio-control insects (primarily in the Soda Mountain area westward to Interstate 5. Some smaller upland infestations have been eradicated.

## **Environmental Consequences of Implementation on Botanical Resources**

### ***Direct Effects Common to All Alternatives***

Although the scope, scale, and specific proposed treatments vary among alternatives, conducting site specific plant inventories prior to implementing proposed actions, and an appropriate response to known or discovered special status plants, survey and manage plants, and noxious weeds would yield very similar direct effects across alternatives.

### **Threatened, Endangered, Bureau Special Status, and Survey and Manage Plants**

Ground disturbing activities such as recontouring, spot recontouring, drainage improvements, road-ripping, water source maintenance/improvements, road blockages, and road to trail conversions could damage special status and survey and manage plants and their habitat in the short-term. However,

conducting surveys prior to project implementation, and protection of existing sites by no-disturbance buffers and/or seasonal restrictions is expected to minimize or eliminate mechanical damage to these Bureau Special Status/S&M plants. Decommissioning and maintenance activities would improve habitat after the initial disturbance by de-compacting soils, implementing noxious weed treatments, sowing native vegetation, and allowing native species to re-establish in treatment areas.

Any *Fritillaria gentneri* (FRGE) sites discovered during pre-treatment surveys would be protected per the Project Design Criteria in the programmatic consultation (#01EOFW00-2014-I-0013) (USDI 2013) (USDI FWS 2014). Any Bureau Special Status/S&M plant species discovered will be protected on a case-by-case basis depending on site conditions and the species habitat needs. Therefore, there will be no effect on threatened, endangered, Bureau Special Status or S&M plant species.

### **Noxious Weeds/Non-Invasive Plants**

Soil disturbance from recontouring, decommissioning, creating earthberms, installing gates, creating trails from roads, and drainage improvements create favorable conditions for the establishment of noxious weeds by removing competing vegetation. Weed seeds that have been suppressed in the soil have an opportunity to germinate and develop before native species are able to become reestablished. In the short-term, existing noxious weeds may spread. Alternatives 2 and 3 would create considerably more ground disturbance associated with proposed road treatments than Alternatives 1 and 4.

However, conducting noxious weed/non-native invasive plant inventories prior to project implementation will provide current infestation data, and inform best methods for weed control and re-vegetation procedures. Implementing project design features (i.e., cleaning equipment and promoting native vegetation) would have a beneficial effect on existing plant communities by increasing native plant cover to compete against weed invasion or spread. Previous experience treating noxious weeds prior to road decommissioning (Ladybug Gulch, Applegate Valley) has shown that a combination of herbicide spot-spraying and hand-pulling was effective at eradicating three small, but dense, infestations of yellow starthistle.

The primary differences between alternatives are the amounts of road closure/decommissioning proposed, and conversely the length of roads maintained as open for use. Since open roads would continue to be a vector for noxious weed spread, closing roads and implementing weed control treatments would have beneficial effects by reducing weed infestations, reducing weed spread potential, and improving native plant communities. Table 3-10 shows the relative differences between alternatives of post-

treatment/closure potential for noxious weeds and non-native invasive plant spread, and acres of botanical habitat created by returning road prisms to the land base.

**Table 3-10. Relative Weed Spread Potential and Potential Habitat Created by Alternative.**

Alternative	Miles of Roads Decommissioned	Potential Weed Spread	Acres of Habitat
1	6.14	high	12
2	164.2	low	318
3	150.0	low	291
4	22.31	moderate	43

## WILDLIFE RESOURCES

The Cascade-Siskiyou National Monument lies at the convergence of the Cascade, Siskiyou and Klamath Mountains. Elevation ranges from 730 to 1,870 m above sea level. This 85,141-acre monument is unique in the high level of biodiversity of plant and animal species. The lower elevation vegetation is dominated by oaks (Oregon white and California black) and shrublands (chaparral). Higher elevations are dominated by coniferous forests with meadows and hardwoods interspersed by aspect, soil type and elevation.

There are approximately 200 species of resident or migratory birds confirmed (Trail 2006). Nelson (1997) lists seven species of amphibians, 16 species of reptiles and 61 species of mammals known or suspected to occur in the area. The region is rich in invertebrate diversity including nearly 70 species of butterflies recorded in June of 2015.

Only federally listed and proposed species suspected within the CSNM are discussed below. Survey and Manage and Bureau Sensitive species known or suspected to be present within the project area and impacted by the proposed actions are addressed in Table 3-11 at the end of this Wildlife Resources section.

The greater CSNM boundary (including the Soda Mountain Wilderness) was used for the wildlife analysis area for all wildlife species addressed below.

### Northern Spotted Owl

#### ***Affected Environment***

Northern spotted owls (NSOs) are closely associated with old forests for nesting, foraging, and roosting throughout most of their range (Forsman et al. 1984; Carey et al. 1990; and Solis and Gutierrez 1990). Spotted owl habitat on federal lands within the CSNM boundary was divided into four categories:

**Nesting, Roosting and Foraging (NRF) – 14,292 acres**

Nesting habitat meets all spotted owl life requirements. These forests have a high canopy closure (greater than 60 percent), a multi-layered structure, and large overstory trees. Deformed, diseased, and broken-top trees, as well as large snags and down logs are also present.

**Dispersal – 16,781 acres**

Dispersal habitat is not suitable for spotted owl nesting, but is thought to be important for travel between old-growth stands due to a canopy closure greater than 40 percent. Dispersal habitat has the potential to grow into NRF habitat if given enough time and appropriate management. However, due to soil types and precipitation rates, some dispersal habitat is not likely to provide the late-successional conditions required by spotted owls for reproduction.

**Capable Habitat – 30,203 acres**

Capable habitat does not presently meet spotted owl needs. Past disturbances such as logging or fire have reduced canopy closure and other important late-successional features. These areas have the potential to grow into NRF habitat if given enough time and appropriate management.

**Non-Habitat – 4,158 acres**

Primarily found in the southern portion of the monument, these areas do not have the potential of developing into late-successional forest or supporting old-growth dependent species. Examples include chaparral, natural meadows, rocky open areas and oak woodlands.

On June 30, 2011, the US Fish and Wildlife Service (USFWS) released the Revised Recovery Plan for the Northern Spotted Owl for public comment (USDI FWS 2011). This Revised Recovery Plan recommends achieving recovery of the spotted owl through recovery actions, such as conserving spotted owl sites and retaining high quality habitat. The Recovery Plan is not a regulatory document; it provides guidance to bring about recovery through prescribed management actions and supplies criteria to determine when recovery has been achieved. The BLM works with the USFWS to incorporate the Recovery Goals and Actions in the Recovery Plan consistent with BLM laws and regulations.

The USFWS published the Revised Critical Habitat for the Northern Spotted Owl, which designated NSO critical habitat on federal lands, in the Federal Register on December 4, 2012 (77 FR 233:71876-72068) and became effective January 3, 2013. The East Cascades ECS-2 Critical Habitat Unit and Sub-Unit are within the monument (10,073 acres).

Formal consultation for the CSNM Resource Management Plan with the USFWS was signed on June 26, 2006 and revised on October 16, 2006 with the Revised Biological Assessment for the Record of Decision on the EIS and Activities in the Cascade-Siskiyou National Monument (USDI BLM 2006). The USFWS released a Biological Opinion (BO) (LOC #13420-2007-I-0034) on November 21, 2006 (USDI FWS 2006). The BLM submitted a Conference Report to the Service on the proposed revised spotted owl critical habitat on December 6, 2012.

### ***CSNM Northern Spotted Owl Site History***

There are 23 known historic NSO sites within the wildlife analysis area. Surveys have not been conducted in several years for sites associated with the CSNM, therefore, all sites are assumed to be occupied.

### **Environmental Consequences of the Alternatives on Northern Spotted Owl**

#### ***Alternative 1***

Selection of the Alternative 1 (No Action) would perpetuate the current level of road conditions within the CSNM. Potential disturbance to NSO from off road vehicles, hikes, horse riders and hunters could occur in areas that are not rehabilitated. Long-term benefits to habitat restoration and reduced disturbance would not occur under this alternative.

#### ***Common to Alternatives 2, 3, and 4***

This plan proposes eight different types of potential road treatments which may occur under any of these alternatives. The current proposed treatments do not occur in NSO habitat. However, the treatments involving ground disturbing activities which would affect vegetation would need to be evaluated by a wildlife biologist prior to implementation. Project Design Features would be implemented to reduce potential impacts to nesting spotted owls at historic spotted owl sites. Short-term disturbance to owls due to restoration activities would be offset by the long-term potential for habitat restoration. Further, associated beneficial effects are expected through the closure of roads and subsequent reduction of human presence.

### **Fisher (Federally Proposed Threatened Species)**

#### ***Affected Environment***

The West Coast Distinct population Segment (DPS) of the fisher (*Pekania pennanti*) was proposed for listing as Threatened under the Endangered Species Act on October 7, 2014 (79 FR 194: 604190-60443). The CSNM (wildlife analysis area) is within the range of the DPS. Fishers are closely associated

with low- to mid-elevation forests (generally less than 4,100 feet) with a coniferous component, large snags or decadent live trees, and fallen logs for denning and resting, and complex physical structure near the forest floor (Aubry and Lewis 2003). Forest type is probably not as important to fishers as the vegetative and structural complexity that lead to abundant prey populations and potential den sites (Lofroth et al. 2010). Fishers do not appear to occur as frequently in early-successional forests as they do in late-successional forests in the Pacific Northwest (Powell and Zielinski 1994), but they will use harvested areas if patches of habitat with residual components (i.e., logs, hardwoods) and areas where patches of larger trees are left in the landscape (Lofroth et al. 2010). In addition, Buskirk and Powell (1994) hypothesized that the physical structure of the forest and prey associated with forest structures are the critical features that explain fisher habitat use, not specific forest types. Prey and scavenged remains recovered from den and rest sites in southwest Oregon include rabbit, ground squirrel, flying squirrel, woodrat, opossum, skunk, porcupine, bobcat, deer and elk carrion, jay, woodpecker, grouse, berries, and yellow jackets (Lofroth et al. 2011; Aubry and Raley 2006).

Fishers are highly mobile and have large home ranges, and travel over large areas. In the Southern Cascades population, the average home range for females was approximately 6,200 acres (25 km<sup>2</sup>). Male home ranges varied from approximately 36,300 acres (147 km<sup>2</sup>) during breeding season to 15,300 acres (62 km<sup>2</sup>) during the nonbreeding season (Aubry and Raley 2006). Other fisher research studies on the west coast have shown that fisher mean home range sizes vary considerably. Females' mean home ranges vary from 1.7 km<sup>2</sup> to 59 km<sup>2</sup>, and males' from 7.4 km<sup>2</sup> to 177.5 km<sup>2</sup>.

The NRF habitat described above for the NSO also adequately describes suitable fisher denning and resting habitat because there is a direct correlation of key habitat features between NSO habitat and fisher habitat (high canopy cover, multi-storied stands, large snags, and large down trees on the forest floor). Cavities in live and dead trees are used for natal and maternal dens and resting sites (Aubry and Raley 2002). Fishers also use snags, mistletoe brooms, rodent nests, logs, and cull piles for rest sites (Lofroth et al. 2010). The use of NRF habitat as a habitat proxy for fisher resting and denning habitat is supported empirically as the association of spotted owls and fisher with elements of late-successional conifer-dominated forests is well established (Zielinski et al. 2006) and has legal precedence (KS Wild vs. US BLM, Case No. 06-3076-PA, Order and Judgment 9/10/2007).

Based on the NSO habitat analysis, there are approximately 14,292 acres of suitable fisher denning and resting habitat within the wildlife analysis area. Fisher surveys using baited camera stations and hair snares have been conducted in the northern portion of the CSNM and fishers have been detected within the CSNM. Habitat is present within this area that possesses the structure (e.g., large hollow snags and

downed logs) necessary for fisher den sites. No den sites have been documented in the area. It is likely that habitat across the landscape is used for all stages of fishers' life history (i.e., foraging, resting, dispersing, reproduction).

## **Environmental Consequences of the Alternatives on Fisher**

### ***Alternative 1***

Under Alternative 1 (No Action) a very limited number of the proposed road treatments would occur. Maintenance of roads would continue at the same level as it has in the past. No suitable fisher denning and resting habitat would be removed within the analysis area through existing projects and decision already approved in the CSNM ROD/RMP. No additional potential habitat would be restored through the closure or removal of roads in the CSNM. The current road density would continue to cause habitat fragmentation and disrupt habitat connectivity for fishers and potential disturbance effects from human activities on the current road system.

### ***Common to Alternatives 2, 3, and 4***

The proposed treatments currently do not occur in fisher resting and denning habitat. However, the treatments involving ground-disturbing activities which would affect vegetation would need to be reviewed at the site level prior to implementation.

A single linear feature may have a small effect on fisher movements, but multiple linear features (e.g., paved highways, railroad rights-of-way, and rivers) nearby may create more formidable filters and barriers to movement (Naney et al. 2012, p. 36). The adverse impacts of roads on movement patterns are more severe on low-density carnivores like fishers than on many wildlife species due to the fisher's large home ranges, relatively low fecundity, and low natural population density (Ruediger et al. 1999, p. 7).

Disruption of movement patterns can contribute to a loss of available habitat (Mansergh and Scotts 1989, pp. 703–706), isolate populations, and increase the probability of local extinctions (Mader 1984, pp. 93–94). Adverse effects of roads and other linear features also include displacement due to noise and human activity, secondary loss of habitat due to the spread of human development, increased exotic species invasion, increased wildfire starts, and increased vulnerability to predators (Naney et al. 2012, pp. 16, 22, 26, 36).

All of the proposed action alternatives would reduce the road densities within the CSNM, and would provide beneficial effects to fishers by reducing the effects described above. However, the amount of

restoration would change for each alternative. Alternatives 2 and 3 propose the highest level of road removal and therefore, the highest level of potential habitat restoration.

As indicated in the Affected Environment, surveys have detected fishers within the CSNM. Disturbance from treatment activities would likely be the principal effect to fisher within the CSNM. Disturbance from project activities would be temporally and geographically limited to the area being treated.

However, fishers are highly mobile, and with large home ranges, they would likely move to another part of their home range while the activity is ongoing, which would result in a minimal short-term impact. A radio telemetry project was initiated in 2015 overlapping the north portion of the CSNM. If fisher den sites are found within the CSNM near a proposed restoration project site, seasonal restrictions would be implemented to avoid disturbance.

## **Oregon Spotted Frog**

### ***Affected Environment***

The Oregon spotted frog (*Rana pretiosa*) was listed as 'Threatened' under the Endangered Species Act on August 29, 2014 (50 CFR Part 17 [Docket No. FWS-R1-ES-2013-0013; 4500030113] RIN 1018-AZ04). The primary threats cited in the listing document are: reduction in wetland habitat, spread of disease, drought conditions, predation, population isolation, and livestock grazing. The Oregon spotted frog (OSF) occupies wetland ponds at the north end of the CSNM near Parsnip Lakes which is fed by Keene Creek. This site (located on BLM-administered land) was first documented as occupied by OSF in 2003 by Dr. Michael Parker, an Southern Oregon University (SOU) professor. Dr. Parker estimates there are fewer than 20 breeding females in the Parsnip Lakes aquatic ecosystem. This aquatic habitat area is important for the survival of this species as it is one of the most southern isolated population locations for this vulnerable species. Steve Godwin, a BLM Wildlife Biologist, is currently writing a Management Plan for the Parsnip Lakes OSF.

The proposed designation of critical habitat (CH) was announced on August 29, 2013 (50 CFR Part 17 [FWS-R1-ES-2013-0088; 4500030114] RIN 1018-AZ56). The Parsnip Lakes OSF population lies within the Proposed Critical Habitat Unit #14 as described in Federal Register (Vol. 78, No. 168, August 29, 2013 (Proposed Rules 53551)). CHU #14 includes Parsnip Lakes, in Jackson County: seasonally wetted areas associated with Keene Creek from the Keene Creek dam to 0.55 mi (0.88 km) east from the confluence of Mill Creek as well as four lakes associated with the creek. The Parsnip Lakes site is isolated hydrologically by great distances (greater than 20 miles (32 km)) and hydrological barriers (inhospitable habitat and dams) to other sites in the Klamath Basin. The essential features within this unit may require

special management considerations or protection to ensure maintenance or improvement of the existing nonbreeding, breeding, rearing and overwintering habitat; aquatic movement corridors; or refugia habitat, and to address any changes that could affect these features.

### **Environmental Consequences of the Alternatives on Oregon Spotted Frog**

#### ***Alternative 1***

Selection of Alternative 1 would perpetuate the current level of road conditions within the CSNM. In general, it is anticipated that roaded areas that are not currently maintained would further erode, which could affect OSF and their habitat through increased sedimentation to the aquatic environment.

#### ***Common to Alternatives 2, 3, and 4***

Alternative 2, 3 or 4 would require a site specific review for impacts to OSF and/or their habitat prior to implementation of activities around or within the Parsnip Lakes aquatic ecosystem. Proposed restoration activities may have short-term impacts that would have long-term benefits to the species by reducing potential disturbance to habitat through reduction of road densities in the CSNM.

#### ***Common to Alternatives 2 and 3***

Alternatives 2 and 3 propose road decommissioning activities in the Keene Creek area which is within the Proposed Critical Habitat for OSF. Recent satellite imagery shows a high level of unauthorized vehicle damage in this area adding to the degradation of habitat for wetland dependent species such as the OSF. Obliteration of roads in this sensitive riparian habitat would have short-term impacts (possible added sediment load in Keene Creek), but would result in long-term benefits of habitat improvement.

### **Cumulative Effects – Common to All Wildlife Species**

Road densities would be reduced to some degree in all alternatives. Private land owners would continue to harvest timber and utilize existing road systems in the CSNM. On BLM managed lands, there would be both spatial and temporal constraints on effects, spreading the impacts over time and space for the duration of project-related activities. In locations where roads are decommissioned in stream ecosystems, riparian vegetation would return over time increasing stability of riparian habitats for a wide variety of wildlife species. Access for fire suppression personnel would remain on primary access roads throughout the CSNM planning area. Recent satellite imagery shows a high level of unauthorized vehicle damage in the Keene Creek area. Reducing road densities through the activities proposed in this draft CSNM TMP/EA would reduce potential cumulative impacts of the unauthorized vehicle damage. Some level of young forest thinning is proposed in the future under the CSNM ROD/RMP (2008) to improve late-

successional habitat and would be designed for forest health and resiliency. The CSNM TMP would not impact late-successional habitat; therefore, no cumulative effects are anticipated.

### **Effects to Wildlife in the CSNM Common to All Alternatives**

Effects of roads on wildlife species richness and diversity are thoroughly studied and well-documented. According to Tombulak and Frissell, roads affect terrestrial and aquatic communities in seven general ways: 1) increased mortality from road construction; 2) increased mortality from collision with vehicles; 3) modification of animal behavior; 4) alteration of the physical environment; 5) alteration of the chemical environment; 6) spread of exotic species; and 7) increased alteration and use of habitats by humans. The proposed road treatments are designed to reduce all of these potential effects listed above. A general summary of the effects to other wildlife species in the CSNM planning area are described below in Table 3-11.

On July 29, 2015 a new Special Status Species list went into Effect (IM No. OR-2015-028). According to BLM Special Status Species Management (6840), only Sensitive species are required to be addressed in NEPA documents. All Sensitive species were considered and evaluated for this project, and only those that could be impacted by the proposed actions are discussed in more detail in the EA.

Table 3-11. Bureau Special Status Species within the CSNM TMP Planning Area.

<b>Table 3-11: SPECIAL STATUS SPECIES IN THE CSNM PLANNING AREA</b>				
<b>SPECIES</b>	<b>07/29/15 STATUS</b>	<b>Project within RANGE (Y/N)</b>	<b>PRESENCE Within the Planning Area</b>	<b>PROJECT SPECIFIC COMMENTS/ BASIC CONCLUSIONS</b>
<b>Birds: Bureau Sensitive &amp; Federally Threatened</b>				
American peregrine falcon	BSEN	Y	A	There is nesting habitat within the planning area, and they could forage within the planning area. Project activities would not affect this species at the landscape scale.
Bald eagle	BSEN	Y	A	No known nest sites within the planning area. Project activities would not adversely affect individuals.
Lewis' woodpecker	BSEN	Y	P	Adequate potential habitat exists within the Planning Area. Project activities would not affect this species at the landscape scale as adequate levels of snags would remain post treatment.
Northern spotted owl	FT	Y	P	Seasonal Restrictions would protect known sites from project activity disturbance.. Proposed activities impacts have been addressed in detail in the EA.
White-headed woodpecker	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Project activities would not adversely affect this species at the landscape scale as adequate levels of snags are available.
<b>Amphibians: Bureau Sensitive and Federal Threatened</b>				
Oregon spotted frog	FT	Y	P	This species is highly aquatic. Proposed critical habitat is addressed in detail in the EA.
Foothill yellow-legged Frog	BSEN	Y	U	Project activities would not affect this species if present in the Planning Area.
<b>Reptiles: Bureau Sensitive</b>				
Northwestern pond turtle	FP	Y	S	Located within the Planning Area. Site specific analysis would be required prior to implementation.
<b>Mammals: Bureau Sensitive, Federal Threatened, and Federal Candidate</b>				
Gray Wolf	FE	Y	P	Adequate habitat exists within and adjacent to the Planning Area. Proposed activities impacts would not affect this species if present in the Planning Area. PDFs would reduce potential disturbance to known dens if discovered.

**Table 3-11: SPECIAL STATUS SPECIES IN THE CSNM PLANNING AREA**

SPECIES	07/29/15 STATUS	Project within RANGE (Y/N)	PRESENCE Within the Planning Area	PROJECT SPECIFIC COMMENTS/ BASIC CONCLUSIONS
Fisher	FP	Y	P	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities impacts have been addressed in detail in the EA. PDFs would reduce potential disturbance to known den sites if discovered.
Fringed myotis	BSEN	Y	S	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Pacific pallid bat	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Townsend's big-eared bat	BSEN	Y	U	Project activities should not affect maternity or hibernacula areas.
<b>Invertebrates: Bureau Sensitive</b>				
Chase sideband snail	BSEN	Y	S	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Coronis Fritillary	BSEN	Y	U	No known sites in Planning Area. Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Western Bumblebee	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Franklin's Bumblebee	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Johnson's Hairstreak	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Mardon skipper butterfly	FC	Y	S	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.

**Table 3-11: SPECIAL STATUS SPECIES IN THE CSNM PLANNING AREA**

SPECIES	07/29/15 STATUS	Project within RANGE (Y/N)	PRESENCE Within the Planning Area	PROJECT SPECIFIC COMMENTS/ BASIC CONCLUSIONS
Oregon Shoulderband snail	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.
Travelling sideband snail	BSEN	Y	U	Adequate potential habitat exists within and adjacent to the Planning Area. Proposed activities would not affect this species if present in the Planning Area.

## CHAPTER 4 – PUBLIC PARTICIPATION

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A letter briefly describing the transportation management plan and inviting comments was mailed to adjacent landowners, interested individuals, organizations, and other agencies on December 2, 2011. The public scoping period was open through April 2, 2012.

Scoping letters describing the CSNM TMP were sent to the federally recognized Native American tribes with a connection to southern Oregon. Letters were sent on December 2, 2011 to the Klamath Tribes, Confederated Tribe of the Siletz Indians, Confederated Tribes of the Grand Ronde Community, Cow Creek Band of the Umpqua Tribe of Indians and the Quartz Valley Indian Reservation, initiating consultation with the local federally recognized Native American tribes. No comments were received from the tribes in response to the scoping letters. Letters were mailed to the tribes on March 15, 2016 notifying them of the upcoming availability of the Draft CSNM TMP/EA. The BLM met with a representative of the Klamath Tribes on March 17, 2016 to discuss access needs for Native American religious ceremonial purposes.

During the scoping process, the BLM received nine (9) written comment letters in response to its scoping notice. As described in Chapter 1 of the EA, the BLM interdisciplinary team of resource specialists reviewed public input received, and identified relevant issues to be addressed during the environmental analysis. Some issues identified as relevant to this project proposal were analyzed in association with broader level environmental analyses. Where appropriate, this EA incorporates by reference the analysis from broader level NEPA documents (40 CFR § 1508.28), to be considered along with project-specific analysis.

This Draft CSNM Transportation Management Plan and EA will be made available online at:

<http://tinyurl.com/BLM-ORWA-M040-2016-0003-EA>

Publication of a legal notice of the availability of the Draft CSNM TMP/EA in Medford's *Mail Tribune* newspaper will begin a 45-day public comment period. Hardcopies will be made available at the Medford District Office of the BLM upon request. Hardcopies will be available for review at the Ashland and Medford Public Libraries and BLM's Medford District Office and Grants Pass Field Office. Letters will be sent to those parties who expressed an interest or provided scoping comments notifying them of the availability of the Draft CSNM TMP/EA for public comment. Notification letters will also be sent to the organizations and agencies listed below. Copies will be sent either via email or via standard mail depending on what was requested.

## **ORGANIZATIONS AND AGENCIES**

Bureau of Reclamation  
Talent Irrigation District  
Rogue River-Siskiyou National Forest  
City of Ashland  
Department of Environmental Quality  
Association of O&C Counties  
Jackson County Board of Commissioners  
Jackson County Soil and Water  
Jackson County Stockman's Association  
Klamath County Commissioners  
NOAA Fisheries  
Oregon Department of Agriculture  
Oregon Department of Fish and Wildlife  
US Fish and Wildlife Service  
Southern Oregon University  
Bear Creek Watershed Council  
California Oregon Broadcasting, Inc.  
Friends of the CSNM  
Friends of the Greensprings  
The Nature Conservancy  
Klamath Siskiyou Wildlands Center  
Maka Oyate Sundance Society  
Native Plant Society of Oregon  
North Umpqua Back Country Horseman  
Rogue Valley Equestrian Trails Association  
Northwest Environmental Defense Center  
Oregon Broadcasting Company  
Pacific Crest Trail Association  
Pacific Forest Trust, Inc.  
People for the USA  
Rogue Valley Audubon Society  
Rogue Group Sierra Club  
Oregon Natural Resources Council  
Center for Biological Diversity  
Soda Mountain Wilderness Council  
Siskiyou Uplands Trails Association  
Applegate Trails Association  
Southern Oregon Nordic Club  
Rogue Valley Mountain Bike Association  
Southern Oregon Mountain Bike Association  
Siskiyou Velo  
The Wilderness Society  
Umpqua Watersheds, Inc.  
Geos Institute  
Oregon Department of Forestry  
Colestine Rural Fire Department  
Ashland Woodlands and Trails Association  
Klamath Bird Observatory  
Oregon Hunters Association  
Rogue Snowmobile Club  
Oregon State Snowmobile Association  
Backcountry Hunters/Anglers  
Medford Parks and Recreation  
US Cellular  
Wildkat, LLC  
Green Diamond Resource Company  
Mountain Cabins, LLC  
Oregon Department of Transportation  
Pinehurst School District  
US West Communications, Inc.  
Qwest Corporation  
Buckhorn Mineral Springs, Inc.  
Oregon State Board of Forestry  
Snowy Butte Timberlands, LLC

Mountcrest Ltd. Partnership  
Meriwether Southern Oregon  
Jefferson Public Broadcasting  
Pilot Rock Land Association, LLC  
Oregon Wild  
American Forest Resource Council

PacifiCorp  
AT&T Mobility  
KOB! TV  
Pacific Power  
The Larch Company



## **LIST OF PREPARERS**

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## **APPENDIX A**

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### **PRESIDENTIAL PROCLAMATION 7318**

June 9, 2000

#### **ESTABLISHMENT OF THE CASCADE-SISKIYOU NATIONAL MONUMENT BY THE PRESIDENT OF THE UNITED STATES OF AMERICA A PROCLAMATION**

With towering fir forests, sunlit oak groves, wildflower-strewn meadows, and steep canyons, the Cascade-Siskiyou National Monument is an ecological wonder, with biological diversity unmatched in the Cascade Range. This rich enclave of natural resources is a biological crossroads -- the interface of the Cascade, Klamath, and Siskiyou ecoregions, in an area of unique geology, biology, climate, and topography.

The monument is home to a spectacular variety of rare and beautiful species of plants and animals, whose survival in this region depends upon its continued ecological integrity. Plant communities present a rich mosaic of grass and shrublands, Garry and California black oak woodlands, juniper scablands, mixed conifer and white fir forests, and wet meadows. Stream bottoms support broad-leaf deciduous riparian trees and shrubs. Special plant communities include rosaceous chaparral and oak-juniper woodlands. The monument also contains many rare and endemic plants, such as Greene's Mariposa lily, Gentner's fritillary, and Bellinger's meadowfoam.

The monument supports an exceptional range of fauna, including one of the highest diversities of butterfly species in the United States. The Jenny Creek portion of the monument is a significant center of fresh water snail diversity, and is home to three endemic fish species, including a long-isolated stock of redband trout. The monument contains important populations of small mammals, reptile and amphibian species, and ungulates, including important winter habitat for deer. It also contains old growth habitat crucial to the threatened Northern spotted owl and numerous other bird species such as the western bluebird, the western meadowlark, the pileated woodpecker, the flammulated owl, and the pygmy nuthatch.

The monument's geology contributes substantially to its spectacular biological diversity. The majority of the monument is within the Cascade Mountain Range. The western edge of the monument lies within the older Klamath Mountain geologic province. The dynamic plate tectonics of the area, and the mixing of igneous, metamorphic, and sedimentary geological formations, have resulted in diverse lithologies and soils. Along with periods of geological isolation and a range of environmental conditions, the complex geologic history of the area has been instrumental in producing the diverse vegetative and biological richness seen today.

One of the most striking features of the Western Cascades in this area is Pilot Rock, located near the southern boundary of the monument. The rock is a volcanic plug, a remnant of a feeder vent left after a volcano eroded away, leaving an out-standing example of the inside of a volcano. Pilot Rock has sheer, vertical basalt faces up to 400 feet above the talus slope at its base, with classic columnar jointing created by the cooling of its andesite composition.

The Siskiyou Pass in the southwest corner of the monument contains portions of the Oregon/California Trail, the region's main north/south travel route first established by Native Americans in prehistoric times, and used by Peter Skene Ogden in his 1827 exploration for the Hudson's Bay Company.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 43 1), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Cascade-Siskiyou National Monument:

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 43 1), do proclaim that there are hereby set apart and reserved as the Cascade-Siskiyou National Monument, for the purpose of protecting the objects identified above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the map entitled "Cascade-Siskiyou National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 52,000 acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.

There is hereby reserved, as of the date of this proclamation and subject to valid existing rights, a quantity of water sufficient to fulfill the purposes for which this monument is established. Nothing in this reservation shall be construed as a relinquishment or reduction of any water use or rights reserved or appropriated by the United States on or before the date of this proclamation.

The commercial harvest of timber or other vegetative material is prohibited, except when part of an authorized science-based ecological restoration project aimed at meeting protection and old growth enhancement objectives. Any such project must be consistent with the purposes of this proclamation. No portion of the monument shall be considered to be suited for timber production, and no part of the monument shall be used in a calculation or provision of a sustained yield of timber. Removal of trees from within the monument area may take place only if clearly needed for ecological restoration and maintenance or public safety.

For the purpose of protecting the objects identified above, the Secretary of the Interior shall prohibit all motorized and mechanized vehicle use off road and shall close the Schoheim Road, except for emergency or authorized administrative purposes.

Lands and interests in lands within the monument not owned by the United States shall be reserved as a part of the monument upon acquisition of title thereto by the United States.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management, pursuant to applicable legal authorities (including, where applicable, the Act of August 28, 1937, as amended (43 U.S.C. 11 8 la-I 18 lj)), to implement the purposes of this proclamation.

The Secretary of the Interior shall prepare, within 3 years of this date, a management plan for this monument, and shall promulgate such regulations for its management as he deems appropriate. The management plan shall include appropriate transportation planning that addresses the actions, including road closures or travel restrictions, necessary to protect the objects identified in this proclamation.

The Secretary of the Interior shall study the impacts of livestock grazing on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics. Existing

authorized permits or leases may continue with appropriate terms and conditions under existing laws and regulations. Should grazing be found incompatible with protecting the objects of biological interest, the Secretary shall retire the grazing allotments pursuant to the processes of applicable law. Should grazing permits or leases be relinquished by existing holders, the Secretary shall not reallocate the forage available under such permits or for livestock grazing purposes unless the Secretary specifically finds, pending the outcome of the study, that such reallocation will advance the purposes of the proclamation.

The establishment of this monument is subject to valid existing rights.

Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Oregon with respect to fish and wildlife management.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ninth day of June, in the year of our Lord two thousand, and of the Independence of the United States of America the two hundred and twenty-fourth.

WILLIAM J. CLINTON

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