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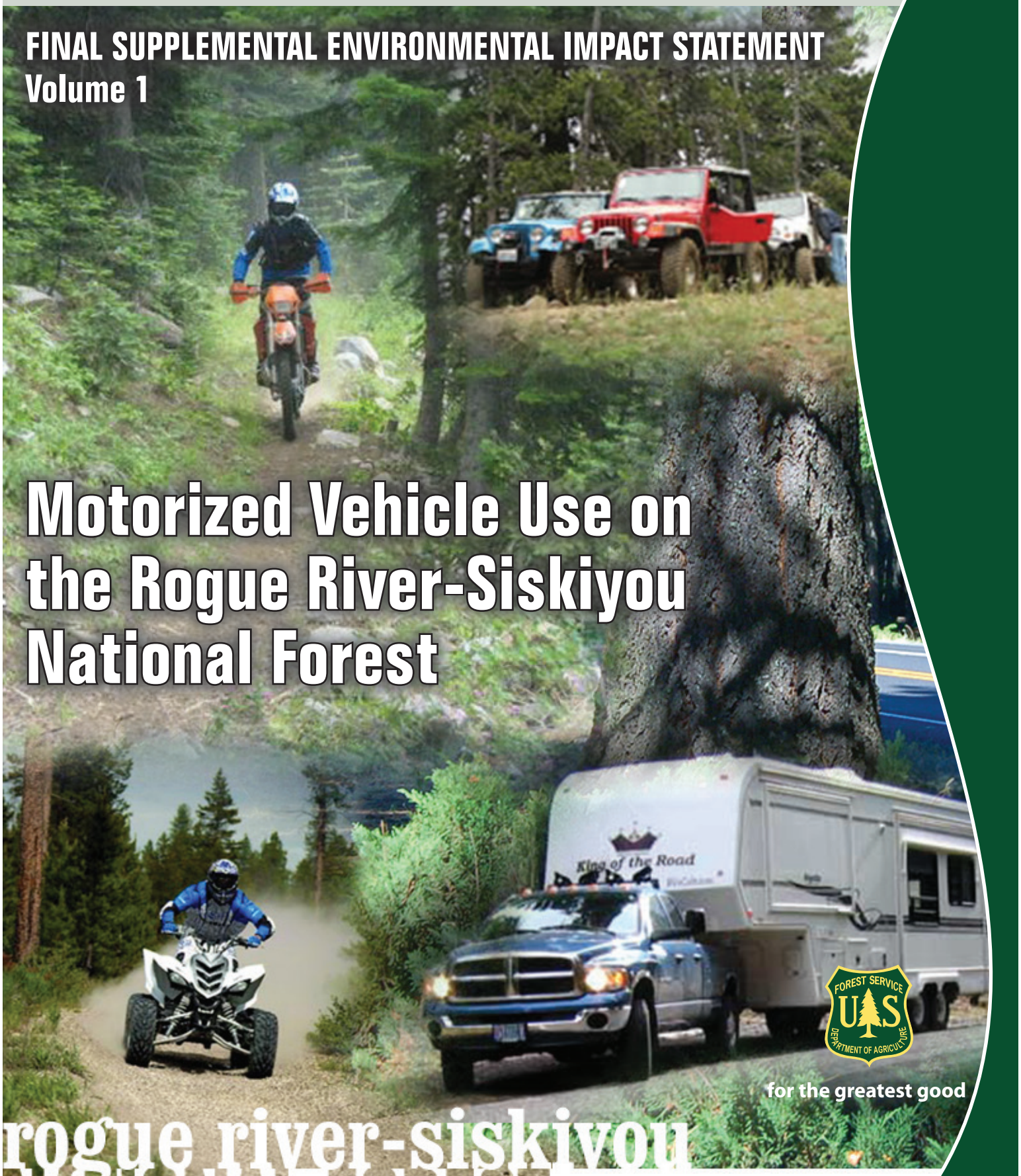

Motorized Vehicle Use on the Rogue River-Siskiyou National Forest

FOREST SERVICE
U.S.
DEPARTMENT OF AGRICULTURE

for the greatest good

rogue river-siskiyou
NATIONAL FOREST

September 2015

Vicinity Map

Lead Agency: **USDA Forest Service**
Rogue River-Siskiyou National Forest

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FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT-VOLUME 1

MOTORIZED VEHICLE USE ON THE ROGUE RIVER-SISKIYOU NATIONAL FOREST

Douglas, Klamath, Jackson, Curry, Coos, and Josephine Counties in Oregon
Del Norte and Siskiyou Counties in California

Lead Agency: USDA Forest Service
Rogue River-Siskiyou National Forest

Responsible Official: **Robert G. MacWorter**
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Abstract:

On November 9, 2005, the Final Rule for Travel Management; Designated Routes and Areas for Motor Vehicle Use (Travel Management Rule) was published in the Federal Register. This affects 36 Code of Federal Regulations (CFR) Parts 212, 251, 261, and 295. These rules became effective in December 2005. The Rule revises several regulations to require identification of roads, trails, and areas for motor vehicle use on National Forests and National Grasslands.

Highlights of the Travel Management Rule: each National Forest or Ranger District will designate those roads, trails, and areas open to motorized vehicles; designation will include class of vehicle and, if appropriate, season of use for motor vehicle; once the designation process is complete, the rule will prohibit motor vehicle use off the designated system or use that is inconsistent with the designations; and decisions are to be made locally, with public input and in coordination with state, local, and tribal governments.

The Travel Management Rule provides better opportunities for sustainable motorized recreation and access to the National Forest System; better protection of natural and cultural resources; increases public safety, and reduces use conflicts. Former Forest Service Chief Dale Bosworth prioritized actions to keep America's forests and grasslands healthy by restoring and rehabilitating damaged areas. One of four main ways is to manage impacts of motorized recreation vehicles by restricting use to designated roads, trails, or areas.

The ***purpose*** for this action is to implement 36 CFR Part 212 Subpart B of the Travel Management Rule. Motorized use is popular and an important form of recreation for many individuals, families, and groups. A designated and managed system is required by the Travel Management Rule to provide this use. Increased demand for motorized use, lack of designated areas/routes, has led to resource damage and social impacts, user conflicts, and safety concerns.

In order to meet these objectives the following changes are ***needed*****:** eliminate general cross-country travel; improve public safety; amend the Rogue River and Siskiyou National Forest Plans; make minor, limited changes to the National Forest Transportation System to preserve a diversity of unique motorized recreation opportunities; and establish conditions or provisions to allow motorized access for dispersed camping.

The Rogue River-Siskiyou National Forest (RRSNF) began the first steps of the designation process in spring of 2006 and is targeting completion in 2014. The Proposed Action is being carried forward in accordance with the Travel Management Rule. In accordance with the rule and following a decision on this proposal, the Forest would publish a Motorized Vehicle Use Map (MVUM) identifying all Forest roads, trails and areas that are designated as open for motor vehicle use by the public across the approximately 1.8 million acres of National Forest System lands in southern Oregon. The MVUM shall specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. The MVUM would be updated and published annually and/or when changes to the Forest's transportation system are made. Future decisions associated with changes to the MVUM may trigger the need for documentation of additional environmental analysis.

Highlights of the Supplemental EIS Process: A Draft Supplemental Environmental Impact Statement (**DSEIS**) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest was prepared and issued in September of 2011. The purpose for supplementing the Final Environmental Impact Statement (FEIS) dated December 3, 2009, was to clarify issues, expand on analyses, and provide additions, changes and corrections that are responsive to issues brought forth from administrative appeals on the Record of Decision (ROD) for the FEIS, signed on December 3, 2009, that ultimately resulted in the withdrawal of the 2009 decision.

Changes and edits associated with the DSEIS for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest were completed throughout the September 2011 DSEIS document to provide clarification of information previously presented in the December 2009 FSEIS. All edits were based on issues identified internally and externally through the appeals process. In the DSEIS, all changes, modifications, clarifications, or additions within each chapter were framed within a box. Other minor corrections, explanations and edits were also made throughout. For this Final Supplemental Environmental Impact Statement (**FSEIS**), all information has been incorporated into standard text (without boxes). Any changes between the 2011 DSEIS and the 2015 FSEIS are noted within an additional section within each FSEIS chapter.

Alternatives considered in detail, include Alternative 1-No Action, which represents the current condition. The Action Alternatives are comprised of: Alternative 2, which would designate the current condition, excluding cross-country travel, with Plan Amendments be consistent with the Travel Management Rule, and implement site-specific route Plan Amendments to make current use consistent with the Forest Plans; Alternative 3, the Proposed Action, based on the Forest's Travel Analysis process, aiming to strike a balance for various forms of motorized use; it would also implement the Travel Management Rule with Plan Amendments; Alternative 4 emphasizes the significant resource issues identified in Chapter I through some reduction in motorized use over current conditions; and Alternative 5 (the Preferred Alternative), which combines elements from Alternatives 3 and 4.

READER'S GUIDE

This Final Supplemental Environmental Impact Statement (**FSEIS**) is a full text document about proposed use and resulting environmental effects associated with **Motorized Vehicle Use on the Rogue River-Siskiyou National Forest.**

A Draft Supplemental Environmental Impact Statement (**DSEIS**) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest was prepared and issued in September of 2011. The purpose for supplementing the Final Environmental Impact Statement (FEIS) dated December 3, 2009, was to clarify issues, expand on analyses, and provide additions, changes and corrections that are responsive to issues brought forth from administrative appeals on the Record of Decision (ROD) for the FEIS, signed on December 3, 2009, that ultimately resulted in the withdrawal of the decision.

For this FSEIS, all supplemental information has been incorporated into standard text (without boxes). Changes were made to the entire FSEIS to clarify issues, expand on analysis, and provide additions, changes, updates and corrections that are responsive to issues and comments brought forth from the DSEIS comment period. In addition, issues, updates and corrections identified internally requiring modifications are also included. **This FSEIS prevails regarding any differences or conflicts with the DSEIS.** Any changes between the 2011 DSEIS and the 2015 FSEIS are noted within an additional section contained in each FSEIS chapter.

The following provides an overview of the components of this document.

Summary: The summary included in this FSEIS provides a concise overview of the analysis process, information, and consequence analyses presented in the complete text the document. The format for this Summary is adapted from "Eight NEPA Questions" (8 questions any EA or EIS should readily answer), developed by Owen L. Schmidt, Attorney, formerly with USDA, OGC Portland OR.

Table of Contents: A table of contents is presented at the beginning of the document. It includes specific page reference to the primary Chapters of the FSEIS and to three levels into the outline structure of these Chapters. Lists of maps, tables, figures, and the contents of the appendices are also included in the Table of Contents.

Chapter I - Purpose and Need: Chapter I provides a background to the proposal and the Travel Management Rule, describes the Purpose and Need for the proposal, and the scope of analysis. It briefly describes the Proposed Action and identifies the decision framework. A summary of applicable management direction is also provided. The final sections describe Scoping and other public involvement activities, identification of issues, including Significant, Other, and Out of Scope Issues.

Chapter II - Alternatives: Chapter II includes a description of the alternative development process, describes alternatives considered in detail, including Alternative 1-No Action, which represents the current condition. The Action Alternatives are comprised of: Alternative 2, which would designate the current condition, excluding cross-country travel, with Plan Amendments be consistent with the Travel Management Rule, and enact site-specific route Plan Amendments to make current use consistent with the Forest Plans; Alternative 3, the Proposed Action, based on the Forest's Travel Analysis process, aiming to strike a balance for various forms of motorized use; it would also implement the Travel Management Rule with Plan Amendments; Alternative 4 addresses the significant resource issues identified in Chapter I through some reduction in motorized use over current conditions; and Alternative 5, which combines elements from Alternatives 3 and 4.

Each alternative considered in detail is presented, including function and description, as well as Forest-wide and District specific elements where appropriate. Mitigation measures, monitoring framework, and an implementation strategy for the Action Alternatives are also discussed. The final section presents a comparison of alternatives, in a table format, of the components contained within alternatives, the alternative's response to the Significant Issues (i.e., environmental consequences), and the alternative's response to Other Issues.

Chapter III - Affected Environment and Environmental Consequences: Chapter III describes the current physical, biological, and human social, and economic conditions within the area of influence of the Alternatives Considered in Detail (organized by and referred to in terms of the various Significant and Other Issues, as described in Chapter I). Also described is attainment of the Purpose and Need. This information provides the baseline for assessing and comparing the potential consequences of the Action Alternatives, and No Action.

This chapter also includes a section on Consistency with Forest Plan direction which considers and discloses the effect of proposed Forest Plan amendments on objectives, guidelines, and other contents of Forest Plans. This analysis would be used by the Forest Supervisor to determine whether these amendments are significant for the purposes of the planning process.

Chapter IV - References: This chapter of the document provides a list of sources of information, literature and data used to prepare this FSEIS.

Chapter V - List of Preparers and Contributors: Chapter V provides a summary of the responsibilities for project leadership, and resource specialists with input into the preparation of this EIS and other agency personnel who provided data, review, and/or information throughout the process.

Chapter VI - List of Agencies and Organizations to Whom Copies of the Statement Are Sent: Chapter VI contains the names of the agencies, organizations, and individuals who were provided copies of the FSEIS.

Glossary: Definitions of key or technical words used in the FSEIS are included in a section that follows Chapter VI.

Appendices: Nine appendices are included with the FSEIS. They contain technical and support information that is important to understanding the process and analysis: **APPENDIX A** contains a Summary of Comments and **Responses to Comments Received on the September 2011 Draft Supplemental EIS; APPENDIX B** summarizes **Forest Plan direction** for motorized use and contains detail on **proposed Forest Plan Amendments**; **APPENDIX C** contains **terrestrial wildlife species accounts**, **APPENDIX D** summarizes **watershed, hydrologic and soils characteristics**, **APPENDIX E** contains a compilation of **current Forest Orders**, **APPENDIX F** contains a **Port-Orford cedar risk key, APPENDIX G** contains the **Aquatic Biota Biological Evaluation**, **APPENDIX H** includes a table of **motorized trail class and season of use by Ranger District**, and **APPENDIX I** contains an **Errata sheet,** including additional road and trail corrections identified for 2014 FSEIS.

List of Frequently Used Acronyms and Abbreviations: follow, as part of this Reader's Guide.

Frequently Used Acronyms and Abbreviations

4WD	Four wheel drive
ACS	Aquatic Conservation Strategy
ACSO	Aquatic Conservation Strategy Objectives
ANSI	American National Standard Institute
AQMA	Air Quality Management Area
ATV	All-terrain vehicle
BE	Biological Evaluation
BLM	Bureau of Land Management
BMPs	Best Management Practices
Ca	Circa
CA	California
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH	Critical Habitat
CHU	Critical Habitat Unit
CVC	California Vehicle Code
CWA	Clean Water Act
DBH	Diameter at breast height
DD	Detrimental disturbance
DEIS	Draft Environmental Impact Statement
DSEIS	Draft Supplemental Environmental Impact Statement
DEQ	Department of Environmental Quality
EFH	Essential Fish Habitat
EO	Executive Order
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
F	Fahrenheit (temperature)
FEIS	Final Environmental Impact Statement
FSEIS	Final Supplemental Environmental Impact Statement
FPO	Forest Protection Officer
FR	Federal Register
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
FWS	Fish and Wildlife Service
GIS	Geographic Information Systems
IDT	Interdisciplinary Team
IRA	Inventoried Roadless Area
LEI	Law Enforcement and Investigation
LEO	Law Enforcement Officer
LRMP	Land and Resource Management Plan
LSR	Late-Successional Reserve
LSRA	Late-Successional Reserve Assessment
MA	Management Area
MBTA	Migratory Bird Treaty Act
MIS	Management Indicator Species
MA	Management Area
ML	Maintenance Level
MS	Management Strategy
MVUM	Motor Vehicle Use Map
NAAQS	National Ambient Air Quality Standards
MIIH	May impact individuals or habitat
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NF	National Forest
NFMA	National Forest Management Act
NFS	National Forest System
NFSL	National Forest System Lands
NFTS	National Forest Transportation System
NIHL	Noise induced hearing loss
NLAA	Not Likely to Adversely Affect
NMFS	National Marine Fisheries Service
NOA	Naturally occurring asbestos
NOAA	National Oceanic & Atmospheric Administration
NOI	Notice of Intent
NRCS	Natural Resource Conservation Service
NRF	Nesting, Roosting, Foraging (owl habitat)
NSO	Northern Spotted Owl
NWFP	Northwest Forest Plan
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ONHP	Oregon Natural Heritage program
OHV	Off-highway vehicle
ORV	Off-road vehicle
OR	Oregon
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health
PETS	Proposed, Endangered, Threatened, Sensitive
PCNST	Pacific Crest National Scenic Trail
PL	Public Law
PL	*Phytophthora lateralis*
PR	*Phytophthora ramorum*
PM	particulate matter
PNW	Pacific Northwest
POC	Port-Orford-cedar
ppm	Parts per million
R.	Range
R6	Forest Service Region Six
RARE	Roadless Area Review and Evaluation
RD	Ranger District
RMO	Road Management Objectives
RNA	Research Natural Area
ROD	Record of Decision
RRNF	Rogue River National Forest
RRSNF	Rogue River-Siskiyou National Forest
RS	Revised Statute
S.	South
S&G	Standard and Guideline
SAE	Society of Automotive Engineers
SHPO	State Historic Preservation Office
SNF	Siskiyou National Forest
SOD	Sudden oak death
SRI	Soil Resource Inventory
SW	Southwest
T.	Township
TES	Threatened, Endangered, Sensitive
TMO	Trail Management Objectives
TMDL	Total Maximum Daily Load
TSP	Total Suspended Particulates
TSRC	Total Soil Resource Commitment
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

Frequently Used Acronyms and Abbreviations
(continued)

VQO	Visual Quality Objective
WEPP	Water Erosion Prediction Project model
W.M.	Willamette Meridian
WO	Washington Office (Forest Service)
WQL	Water Quality Limited
WQMP	Water Quality Management Plan

SUMMARY

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

MOTORIZED VEHICLE USE
ON THE ROGUE RIVER-SISKIYOU NATIONAL FOREST

Douglas, Klamath, Jackson, Curry, Coos, and Josephine Counties in Oregon
Del Norte and Siskiyou Counties in California

A Final Supplemental Environmental Impact Statement (**FSEIS**) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest (RRSNF) has been prepared as required by the National Environmental Policy Act (NEPA), the Council on Environmental Quality Regulations for implementing NEPA provisions (40 CFR 1500), the National Forest Management Act and its accompanying regulations, as well as applicable Forest Service Manuals, Handbooks and other higher-level direction.

A Draft Supplemental Environmental Impact Statement (DSEIS) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest was prepared and issued in September of 2011. The purpose for supplementing the Final Environmental Impact Statement dated December 3, 2009, was to clarify issues, expand on analyses, and provide additions, changes and corrections that are responsive to issues brought forth from administrative appeals on the Record of Decision (ROD) for the FEIS, signed on December 3, 2009, that ultimately resulted in the withdrawal of the decision. In addition, issues identified internally requiring modifications were included in the supplemental EIS document. Since the 2009 ROD was withdrawn, the Forest Service will issue a new decision.

Changes and edits associated with the EIS for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest were completed throughout the September 2011 DSEIS document to provide clarification of information previously presented in the December 2009 FEIS. All edits were based on issues identified internally and externally through the appeals process. In the 2011 DSEIS, all changes, modifications, clarifications, or additions within each chapter were framed within a box. Other minor corrections, explanations and edits were also made throughout. For the FSEIS, all supplemental information has been incorporated into standard text (without boxes). Any changes between the 2011 DSEIS and the 2015 FSEIS are noted within an additional section contained in each FSEIS chapter.

This ***Summary*** is intended as a brief overview of the site-specific analysis documented in the Final Supplemental Environmental Impact Statement (FSEIS). The purpose of this Environmental Impact Statement is to analyze and disclose the environmental effects associated with a Proposed Action and alternatives that would implement the Travel Management Rule (36 CFR Part 212 Subpart B), to provide a designated and managed system of travel routes for wheeled motorized use, enact changes to reduce existing resource damage from wheeled motorized use, and reduce social impacts, user conflicts and safety concerns. This Summary does not present the depth of analysis contained within the complete text of the FSEIS; please consult the complete text for further detailed information[1].

[1] The format for this Summary is adapted from "Eight NEPA Questions" (8 questions any EA or EIS should readily answer), developed by Owen L. Schmidt, Attorney formerly with USDA, OGC Portland OR.

INTRODUCTION

Recreation is an important value and use of the Forest. Motorized and non-motorized recreation visitors share an interest in enjoying outdoor recreation in a natural environment. On November 9, 2005, the *Final Rule for Travel Management; Designated Routes and Areas for Motor Vehicle Use* (hereafter referred to as Travel Management Rule) was published in the Federal Register, affecting 36 Code of Federal Regulations (CFR) Parts 212, 251, 261, and 295. The Rule revises several regulations to require designation of roads, trails, and areas for motor vehicle use on National Forests and National Grasslands, and became effective in December 2005.

Highlights of the Travel Management Rule include the following: each National Forest or Ranger District will designate those roads, trails, and areas open to motorized vehicles; designation will include class of vehicle and, if appropriate, season of use for motor vehicle; once the designation process is complete, the rule will prohibit motor vehicle use off the designated system or use that is inconsistent with the designations; and decisions are to be made locally, with public input and in coordination with state, local, and tribal governments. The Travel Management Rule does not require reconsideration of all previous travel management decisions. Reconsideration of previous decisions would unnecessarily waste public resources, disregard public participation in the development of planning decisions and expand the scope of the Travel Rule beyond its intended purpose. The Travel Management Rule requires designation to be consistent with the applicable land management plans developed pursuant to the National Forest Management Act. Therefore, if a proposed designation is not consistent with the land management plan, the responsible official must either change the proposed designation or propose an amendment to the land management plan(s). Land management plan amendments are proposed and considered in this analysis. The Travel Management Rule provides better opportunities for sustainable motorized recreation and access to the National Forest System (NFS); better protection of natural and cultural resources; increases public safety, and reduces use conflicts.

The Proposed Action is being carried forward in accordance with the Travel Management Rule (36 CFR Part 212 Subpart B). In accordance with the rule and following a decision on this proposal, the Forest would publish a Motorized Vehicle Use Map (MVUM) identifying all Forest roads, trails and areas that are designated open for motor vehicle use by the public across the approximately 1.8 million acres of National Forest System lands in southern Oregon.

The MVUM shall specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. It would also identify areas where parking for dispersed camping and day use would be allowed. The MVUM would be updated and published annually and/or when changes to the Forest's transportation system are made. Future decisions associated with changes to the MVUM may trigger the need for documentation of additional environmental analysis.

For the RRSNF, this project's analysis has focused on the change from the current situation. A tightly focused process was developed, which includes a site-specific proposal that does not aim to solve all travel management issues at once. For example, this process does not analyze all existing system roads to make recommendations on road decommissioning. Travel analysis to identify the minimum road system is a separate process from this travel analysis for purposes of designation of roads, trails, and areas for motor vehicle use (FSM 7712). Neither the regulations under 36 CFR 212.5 or agency directives contain a time frame for determining the minimum road system. The agency however, views this as important work that needs to be addressed within the next decade.

For the RRSNF, this project and its environmental analysis is documented in an Environmental Impact Statement. The context and scale for conducting this NEPA analysis includes one Proposed Action at the scale of the entire Forest, including Forest-wide and route-specific Forest Plan Amendments. The Forest Supervisor is the Line Officer/Responsible Official for the forthcoming decision(s).

WHY IS THE ACTION BEING PROPOSED?

Former Forest Service Chief Dale Bosworth prioritized actions to keep America's forests and grasslands healthy by restoring and rehabilitating damaged areas. One of four main ways is to manage impacts of motorized recreation vehicles by restricting use to designated roads, trails, or areas.

The *purpose* for action is to implement Subpart B of the Travel Management Rule. Motorized use is popular and an important form of recreation for many individuals, families, and groups. A designated and managed system is required by the Travel Management Rule to provide this use. Increased demand for motorized use, lack of designated areas/routes, has led to resource damage and social impacts, user conflicts, and safety concerns. In order to meet these objectives the following changes are needed:

- eliminate general cross-country travel by prohibiting all motorized access off existing, previously designated routes, and outside existing, previously designated areas where such use is not currently prohibited or otherwise restricted by past actions;
- improve public safety, by implementing Forest Service Regional policy to determine the suitability of continuing to allow for motorized "mixed" use (i.e. analyze those roads which currently allow for motorized "mixed" use under State Law)[2];
- amend the Rogue River and Siskiyou National Forest Plans to restrict motorized access to designated routes consistent with the Travel Management Rule and to provide consistent direction for conflicting plan allocations that will allow historical use of travel routes where appropriate;
- make minor, limited changes to the National Forest Transportation System to preserve a diversity of unique motorized recreation opportunities (4X4 vehicles, motorcycles, ATVs, passenger vehicles, etc.) because implementation of Subpart B of the Travel Management Rule will reduce motorized recreation opportunities relative to current levels; and
- establish conditions or provisions to allow motorized access for dispersed camping that are consistent with Subpart B of the Travel Management Rule.

WHAT WOULD IT MEAN TO NOT MEET THE NEED?

To not meet the need is defined by the No Action Alternative (Alternative 1). As required by NEPA, a No Action Alternative is included and analyzed in this FSEIS as a baseline against which the Action Alternatives (Alternatives, 2, 3 4, & 5) can be compared. Under this alternative the agency would take no affirmative action (no change from current management or direction). This means continued cross-country travel, continued use of unauthorized routes, and no change to the current NFS roads, trails and areas.

The No Action Alternative is not a proposal to add all of the unauthorized routes to the NFS. It is a proposal to 'do nothing' and maintain the 'status quo'. The 'status quo' would be the combination of all previous decisions by the Forest (allowing cross country travel, the creation of temporary roads associated with permits or other authorizations and any previous decisions associated with the NFS roads, trails and areas).

It is important to approach the No Action Alternative in this manner because it establishes an important benchmark for the assessment of impacts resulting from the existing condition, and largely forms the justification for the need for action since unacceptable environmental impacts are likely to continue or get worse. The No Action Alternative provides a benchmark for contrasting resource impacts and use conflicts with the Action Alternatives.

Under the No Action Alternative, the existing condition, which represents the situation associated with motorized use originally analyzed in 2008 with updates throughout this process, would continue. These existing routes on the Forest would primarily be used for public wheeled motor vehicle use. Cross-country travel and route proliferation

[2] Mixed use allows for both highway-legal and non-highway-legal motor vehicles.

would still occur in isolated areas on the Forest since it is not currently prohibited.

Areas for dispersed activities would continue to be used by public wheeled motor vehicles primarily for the purpose of dispersed camping and parking. No changes would be made to the current National Forest transportation system and no cross-country travel prohibition would be put into place. The following table provides a Forest-wide summary of current conditions for roads, trails and areas:

Table S- 1. Alternative 1 (No Action - Current Condition) Summary

Roads and Trails	Current Condition
Total NFS Roads	5,270 miles
NFS Roads "open" to the public	4,496 miles
Open roads that allow mixed use	3,167 miles
Open roads that prohibit mixed use	1,329 miles
Total NFS Trails	1,190 miles
NFS Trails that allow motorized use	236 miles
Total area open to cross country travel	274,670 acres[3]

Under this alternative, the Travel Management Rule would not be implemented, and no MVUM would be produced. The No Action Alternative is not designed to meet the Purpose and Need for action. It would not enact site- specific Plan Amendments for historical use on existing trails and therefore does not provide consistent direction via the Forest Plans. Wheeled motor vehicle travel by the public would not be limited to designated routes. Unauthorized routes would continue to have no status or authorization as NFS roads or trails. Existing closures and orders would continue.

The complete FSEIS document includes a map packet containing four large maps. These maps display current conditions and proposed changes by alternative for roads and trails that **allow** motorized vehicle use on the five Ranger Districts on the Rogue River-Siskiyou National Forest (Powers, Gold Beach, Wild Rivers, Siskiyou Mountains, and High Cascades).

Additional corrections to the baseline inventory and base map have been identified between the 2011 DSEIS and the 2015 FSEIS. These corrections are a result of continued internal review (and public comment). FSEIS Chapter II, section D (Corrections to Baseline Inventory and Mapping) discusses and summarizes these corrections, as well as corrections to the baseline inventory and mapping throughout the travel management process. Reference is made to FSEIS Appendix I (Errata Sheet) which has been expanded to specifically include and identify these changes. The baseline change in miles of roads and trails is reflected in each of the alternatives and is displayed in the FSEIS summary tables, alternative descriptions, and accompanying maps.

WHAT ACTION IS PROPOSED?

The Forest Service has a Proposed Action when the agency agrees to move forward with the proposal to authorize, recommend, or implement an action (CFR 1508.23). The following is a summary of the Proposed Action. The Proposed Action (Alternative 3) is discussed in detail in FSEIS Chapter II. The Proposed Action would function to

[3] Areas open for cross-country travel were identified through GIS mapping of the Siskiyou and Rogue River Land and Resource Management Plan allocations, congressionally designated areas, and Forest closure orders.

implement the Travel Management Rule (36 CFR Part 212 Subpart B), and provide a designated and managed system.

It would also provide changes to reduce existing resource damage from motorized use, and reduce social impacts, user conflicts and safety concerns. Other functions of the Proposed Action are to establish a framework that the Forest used to initiate the NEPA process, facilitate meaningful public comment, and serve as a basis for identification of the issues.

The Proposed Action (**Alternative 3**) is based on the Forest's Travel Analysis process and focuses on the change from the current condition. It aims to strike a balance for various forms of motorized use by identification of sustainable motorized use opportunities that reduces resource impacts, and implement the Travel Management Rule. Based on the stated Purpose and Need for action and as a result of analysis of the transportation system process, under the Proposed Action (Alternative 3), the Forest proposes to:

- Implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest.
- Implement site-specific level Forest Plan Amendments to make the plans consistent with current and historical motorized use on the portions of the Boundary Trail and portions of the Game Lake, Lawson Creek, Lower Illinois, and Silver Peak Hobson Horn Trails.
- Formally designate approximately 4,482 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,181 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Authorize designation of two new motorized trail segments (Penn Sled & Woodruff connector) to provide loop route opportunities (approximately 1.7 miles).
- Authorize conversion of approximately 12 miles of NFS Maintenance Level 1 roads to motorized trails to maintain a portion of the currently used travel routes for motorized opportunities.
- Designate two areas where off-road motorized use would be allowed. This includes continued use of the existing Woodruff area near Prospect and the development of an additional area near Willow Lake. Both areas are located on the High Cascades Ranger District and total approximately 25 acres where motorized cross-country travel would be allowed.
- Prohibit all other cross country motorized travel outside of the play areas identified above (i.e. closure of 274,670 acres).
- Prohibit motorized use on 774 miles of NFS Maintenance Level 1 roads.

Under the Proposed Action, most NFS Maintenance Level 2, 3, 4, and 5 roads, trails and areas that are currently part of the Forest Transportation System and are open to wheeled motorized vehicle travel would remain designated for such use. The Proposed Action was designed to take into account past patterns of OHV use on the Forest as well as other public motor vehicle use.

Where possible, routes creating connections between popular use areas were included to provide all-purpose access for destination travel, driving for pleasure, hunting, fishing, and other recreational activities, such as, travel to dispersed camping locations, specific features or destinations, or unique motorized recreation experiences, while directing OHV use onto routes where there is available mileage and connections to other routes open to OHVs.

Under the Proposed Action, approximately 4,482 miles of road and 216 miles of trail would be open to motorized use. Table S-2 below summarizes and compares the Proposed Action to the current condition.

In the FSEIS, maps displaying specific aspects of Alternative 3 are presented.

Table S- 2. Alternative 3 (Proposed Action) Summary

Roads and Trails	Current Condition	Proposed Action	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,482 miles	-14 miles
Open roads that **allow** mixed use	3,167 miles	3,181 miles	+14 miles
Open roads that **prohibit** mixed use	1,329 miles	1,315 miles	-14 miles
Total NFS Trails	1,190 miles	1,204 miles	+14 miles
NFS Trails that **allow** motorized use	236 miles	216 miles	-20 miles
New trails authorized		1.7 miles	
Authorize conversion ML1 road to trail		12 miles	
Total area open to cross country travel	274,670 acres	25 acres (not including gravel bars)	

ARE THERE OTHER ALTERNATIVES THAT WOULD MEET THE NEED?

Alternative 2 would designate the current condition with Plan Amendments that would close all roads, trails and cross-country travel unless designated open to be consistent with the Travel Management Rule, and enact site-specific route Plan Amendments to make current use consistent with the Forest Plans. This alternative would implement actions consistent with the Travel Management Rule with no change to the current system of NFS roads, trails and designated areas. This alternative is similar to the No Action Alternative since it represents no change with respect to the existing NFS facilities or "baseline" transportation system. It is designed to assess the consequences of implementing the Travel Management Rule with no changes to the current system of roads, trails, and designated areas. This alternative is also designed to be responsive to Scoping comments received in the fall of 2008 in which many people expressed concern about the possible loss of motorized opportunities.

To implement the Travel Management Rule, general cross-country travel would be prohibited. The continued use of unauthorized routes would not be allowed, and there would be no changes to the current system of NFS roads, trails and designated play areas. Alternative 2 would maintain the 'status quo' and would be the combination of all previous decisions by the Forest, except allowing cross-country travel. (i.e. previous decisions associated with the NFS of roads, trails and designated play areas). Areas for dispersed activities would continue to be used by public wheeled motor vehicles primarily for the purpose of dispersed camping and parking.

Alternative 4 is designed to addresses the Significant Issues identified through the Scoping and public involvement processes (FSEIS Chapter I) by increasing restrictions on motorized use while still remaining within a reasonable range. This alternative, in general, is more restrictive on motorized use in exchange for putting more management emphasis on other resource values. It would also implement the Travel Management Rule with Plan Amendments to allow consistency with the Travel Management Rule and current inconsistent Forest Plan direction.

This alternative is designed to be responsive to Scoping comments received in fall of 2008 and throughout the process. Many people were concerned about possible effects to Botanical Areas, serpentine soils (and associated meadows, fens, and bogs), water quality, and spread of invasive non-native species. Based on the stated Purpose and Need for action and as a result of the travel analysis process, Alternative 4 proposes to:

- Formally designate approximately 4,449 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,139 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Designate one area where off-road motorized use would be allowed. This would include continued use of the Woodruff area near Prospect on the High Cascades Ranger District.
- Prohibit motorized public access on approximately 47 miles of Maintenance Level 2 roads currently open in order to minimize or reduce resource damage.
- Prohibit motorized use on approximately 108 miles of trails currently open in order to minimize or reduce resource damage and user conflicts.
- Prohibit motorized use on 774 miles of NFS level 1 roads.
- Prohibit all other cross country motorized travel outside of the Woodruff OHV play area (i.e. closure of 274,670 acres).

Under Alternative 4, approximately 4,449 miles of road and 128 miles of trail would be open to motorized use. Table S-3 below summarizes Alternative 4 and compares it to the current condition.

In the FSEIS, maps displaying specific aspects of Alternative 4 are presented.

Table S- 3. Alternative 4 Summary

Roads and Trails	Current Condition	Alternative 4	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,449 miles	-47 miles
Open roads that **allow** mixed use	3,167 miles	3,139 miles	-28 miles
Open roads that **prohibit** mixed use	1,329 miles	1,357 miles	+28 miles
Total NFS Trails	1,190 miles	1,190 miles	0 miles
NFS Trails that **allow** motorized use	236 miles	128 miles	-108 miles
New trails authorized		0 miles	
Authorize conversion of ML1 road to trail		0 miles	
Total area open to cross country travel	274,670 acres	15 acres (not including gravel bars)	

Alternative 5 is based on the Forest's analysis of the transportation system process and aims to strike a balance for various forms of motorized use by identification of sustainable motorized use opportunities with minimal adverse resource impacts. It would also implement the Travel Management Rule with Plan Amendments to allow consistency with the Travel Management Rule and currently inconsistent Forest Plan direction. Alternative 5 would provide for a designated and managed system, implement changes to reduce existing resource damage from motorized use, and reduce social impacts such as user conflicts and safety concerns. Alternative 5 was developed as a combination of the Proposed Action (Alternative 3) and Alternative 4, including elements of both alternatives.

Based on the stated Purpose and Need for action and as a result of the analysis of the transportation system process, under Alternative 5, the Forest proposes to:

- Implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest.
- Implement project-level Forest Plan Amendments to make the plans consistent with current and historical motorized use.
- Formally designate approximately 4,482 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,144 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Authorize designation of one new motorized trail (Penn Sled) to provide loop route opportunities (approximately 1.2 miles).
- Authorize conversion of approximately 9 miles of NFS Maintenance Level 1 roads to motorized trails.
- Designate one area where off-road motorized use would be allowed: the continued use of the Woodruff area near Prospect. This area is located on the High Cascades Ranger District.
- Prohibit motorized use on 774 miles of NFS Maintenance Level 1 roads.
- Prohibit public motorized use on approximately 29 miles of trail currently open in order to minimize or reduce resource damage.
- Prohibit all other cross country motorized travel outside of the play area identified above (i.e. closure of 274,670 acres).

Under Alternative 5, many of roads, trails and areas that are currently part of the Forest Transportation System and are open to wheeled motorized vehicle travel would remain designated for such use. This alternative was designed to take into account past patterns of OHV use on the Forest as well as other public motor vehicle use.

Where possible, routes creating connections between popular use areas were included to provide all-purpose access for destination travel, driving for pleasure, hunting, fishing, and other recreational activities, such as, travel to dispersed camping locations, specific features or destinations, or unique motorized recreation experiences, while directing OHV use onto routes where there is available mileage and connections to other routes open to OHVs.

Under Alternative 5, approximately 4,482 miles of road and 207 miles of trail would be open to motorized use. Table S-4 below summarizes Alternative 5 and compares it to the current condition. In the FSEIS, maps displaying specific aspects of Alternative 5 are presented.

Table S- 4. Alternative 5 Summary

Roads and Trails	Current Condition	Alternative 5	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,4829 miles	-14 miles
Open roads that **allow** mixed use	3,167 miles	3,144 miles	-23 miles
Open roads that **prohibit** mixed use	1,329 miles	1,352 miles	+23 miles
Total NFS Trails	1,190 miles	1,199miles	+10 miles
NFS Trails that **allow** motorized use	236 miles	207miles	-29 miles
New trails authorized		1.7 miles	
Authorized conversion of ML1 road to trail		9.0 miles	
Total area open to cross country travel	274,670 acres	15 acres (not including gravel bars)	

WHAT ARE THE EFFECTS OF THE ALTERNATIVES?

This section summarizes environmental effects and consequences linked with implementing the Action Alternatives, or the No Action Alternative, considered and analyzed in detail. The following tables portray outcomes for each alternative in terms of the physical, biological, economic, and social direct, indirect and cumulative effects on the human environment, in regard to the Significant Issues, and Other Issues (see FSEIS Chapter I).

Significant Issues as used in this environmental analysis are those that are used to evaluate alternatives, affect the design of component proposals, prescribe mitigation measures, and/or describe important and variable environmental effects. They are significant because of the extent of their geographic consequence, the duration of the effects, or the intensity of interest or resource conflict. Other Issues, as used in this analysis, differ from Significant Issues in that they often describe minor and/or non-variable consequences.

Table S- 5. Comparison of Alternatives - Significant Issues

Significant Issues	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Water Quality and Erosion	Miles of open roads closed to public use	No change	No change	14 miles	47 miles	15 miles
	Miles of motorized trails closed to motorized use	No change	No change	19 miles	106 miles	29 miles
Botanical Areas, Research Natural Areas and Special Plant Habitats	Acres of cross-country travel allowed within BAs or RNAs	274,670 acres	0 acres	0 acres	0 acres	0 acres
	Miles of motorized trails closed to motorized use within BAs or RNAs	No change	No change	4 miles	11 miles	6 miles
Public Safety	Change in traffic density on open roads and trails	No change	No change	Slight increase	Slight increase	Slight increase
	Miles of road where mixed use is allowed	3,167 miles	3,167 miles	3,167 miles	3,092 miles	3,129 miles
Motorized Opportunities	Change in miles of roads and trails open to the public	No change	No change	-14 miles	-47 miles	-15 miles
	Miles of open roads	4,496 miles	4,496 miles	4,482 miles	4,449 miles	4,481 miles
	Miles of motorized trails	236 miles	236 miles	218 miles	130 miles	207 miles
Roadless Character within Inventoried Roadless Areas	Miles of motorized trails within IRAs	94 miles	94 miles	72 miles	0 miles	64 miles
	Miles of open roads within IRAs	48 miles	48 miles	34 miles	0 miles	34 miles
	Acres of cross-country travel allowed within IRAs	30,170 acres	30,170 acres	0 acres	0 acres	0 acres

Table S- 6. Comparison of Alternatives - Other Issues

Other Issues	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Terrestrial Wildlife Listed Species	Determination for listed species	N/A	Effects to the northern spotted owl and marbled murrelet due to disturbance could occur under all action alternatives and would result in a "may effect, not likely to adversely affect (NLAA)" determination. Consultation completed with USFWS with concurrence.			
Management Indicator Species	Harassment to big game (deer and elk) within winter range areas	No change	Potential decrease due to elimination of cross-country travel	Harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public		
	Effects to other MIS	No change	None of the action alternatives would result in substantial direct or indirect adverse effects to other Management Indicator Species			
Other Rare or Uncommon Species	Effects to other rare or uncommon species	No change	Reduced potential due to closure of cross-country travel	Reduced potential due to closure of cross-country travel and due to potential disturbance from noise associated with passenger vehicle and OHV traffic, alternatives may impact but not adversely impact these species		
Fisheries and Aquatic Species	Determination for listed species	N/A	None of the Action Alternatives would result in measurable direct or indirect effects to fisheries resources at the watershed or subwatershed scale			
Visuals	Attainment of visual quality objectives	No change	No change is expected from cross-country travel closure	The reduction of roads and trails would not substantially affect or change the attainment of visual quality objectives		
Sound Level	Change in use conflicts related to sound	No change	Potential decrease due to closure of cross-country travel	Slight decrease in potential use conflicts related to sound	Moderate decrease in potential use conflicts related to sound	Slight decrease in potential use conflicts related to sound
Mining Access	Effect to access for prospecting, locating, or developing mineral resources.	Selection of any alternative would not affect access that is reasonably incident to mining. However, alternatives that are more restrictive on vehicle travel would result in a higher degree of administration to determine if access is reasonably incident and necessary for the stage of mineral activity				
Enforcement	Change in ability to enforce compliance with Federal law	No change	Amendments to the Forest Plans and publication of the Motor Vehicle Use Map would increase the ability to cite those who cause resource damage			
Cultural Resources	Increase in risk to heritage sites	No change	The reduction of cross-country travel would further limit access to existing and yet undiscovered sites			
Climate Change	All alternatives were identified to have minor cause-effect relationships to greenhouse gas emissions or the carbon cycle, and determined to be of such a minor scale at the global or even regional scale, that direct effects would be meaningless to a reasoned choice among alternatives					
Designated and Eligible Wild and Scenic Rivers	Protect or enhance outstandingly remarkable values (ORVs)	No Change	Potential for enhancement of ORVs due to closure of cross-country travel	Alternatives 3, 4, and 5 would have a slight potential to enhance ORVs by eliminating cross-country travel Slightest potential for enhancement to ORVs from reduction in motorized roads and trails	Most potential for enhancement to ORVs from reduction in motorized roads and trails	Potential for enhancement to ORVs from reduction in motorized roads/trails

CAN ADVERSE EFFECTS BE MITIGATED?

Specific mitigation measures have been developed for the Action Alternatives analyzed in detail. These include appropriate measures as defined by NEPA Regulations at 40 CFR 1502.14(f) and 1508.20. Additional measures incorporated into the Action Alternatives emphasize applicable Best Management Practices (BMPs) and Forest-wide Standards and Guidelines. These mitigation measures would reduce, rectify, avoid, eliminate, and/or compensate the potential resource impacts as required by 40 CFR 1508.20. Mitigation measures common to all of the Action Alternatives are described in FSEIS Chapter II.

WHAT FACTORS WILL BE USED IN MAKING THE DECISION BETWEEEN ALTERNATIVES?

In addition to and concurrent with attainment of Purpose and Need, the response of the alternatives in relation to the identified Significant and Other Issues will be used as important decision factors (see above). No one element of Purpose and Need or Issues will be used to make the decision, rather, they will be reviewed together with an assessment of tradeoffs to make the final decision, documented in a forthcoming Record of Decision (ROD). ,

On March 27, 2013, new regulations regarding an Objection process (rather than an Appeal process) were released that will apply to Motorized Vehicle Use on the Rogue River-Siskiyou National Forest. The new regulations, found at 36 CFR 218, provide an opportunity for individuals, organizations and tribal entities to file an objection to a project before the final decision is signed.

For Forest Plan amendments, the regulations require the decision-maker (the Rogue River-Siskiyou National Forest Supervisor) to determine whether the proposal would result in a significant change to the Forest Plans based on an analysis of the goals, desired conditions, objectives, guidelines and other contents of the Plan. If the amendment is determined not significant, then the Forest Supervisor may implement the amendments following appropriate public notification and satisfactory completion of (in this case concurrent) NEPA procedures.

WHAT MONITORING IS NECESSARY?

Monitoring is a required element of all Action Alternatives and would be carried out according to a detailed Monitoring Plan for authorized use and/or development activities. This Monitoring Plan would be developed specifically to the activities contained in the ROD, and be specific to the action(s) and area(s) where authorized actions would occur. Project activities should be monitored during and after implementation of management actions to ensure that decision elements and mitigation measures are implemented as specified. Monitoring is also proposed to evaluate the effectiveness of the decisions, including standard practices and mitigation measures, in achieving desired outcomes.

WHICH ALTERNATIVE IS THE PREFERRED?

NEPA requires that the Supplemental Environmental Impact Statement identify the agency's Preferred Alternative or alternatives, if more than one exists. The "agency's preferred alternative" is the alternative (or alternatives) which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. The concept of the "agency's preferred alternative" is different from the "environmentally preferable alternative," (an element documented in a Record of Decision); although in some cases they may be both. A Preferred Alternative is identified so that agencies and the public can understand the agency's orientation. The Forest Supervisor of the Rogue River-Siskiyou National Forest has identified **Alternative 5** as the Preferred Alternative. This alternative would implement the Travel Management Rule (36 CFR Part 212 Subpart B), and provide a designated and managed system, provide changes to reduce existing resource damage from motorized use, and reduce social impacts, user conflicts and safety concerns, and is the preferred course of action.

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT-VOLUME 1

MOTORIZED VEHICLE USE ON THE ROGUE RIVER-SISKIYOU NATIONAL FOREST

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CHAPTER I – PURPOSE AND NEED

This Final Supplemental Environmental Impact Statement (**FSEIS**) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest (RRSNF) has been prepared as required by the National Environmental Policy Act (NEPA), the Council on Environmental Quality Regulations for implementing NEPA provisions (40 CFR 1500), the National Forest Management Act and its accompanying regulations, as well as applicable Forest Service Manuals, Handbooks and other higher-level direction.

A. INTRODUCTION

A Draft Supplemental Environmental Impact Statement (**DSEIS**) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest was prepared and issued in September of 2011. The purpose for supplementing the Final Environmental Impact Statement (FEIS) dated December 3, 2009, was to clarify issues, expand on analyses, and provide additions, changes and corrections that are responsive to issues brought forth from administrative appeals on the Record of Decision (ROD) for the FEIS, signed on December 3, 2009, that ultimately resulted in the withdrawal of the decision. In addition, issues identified internally requiring modifications were included in the supplemental EIS document. This FSEIS analysis supplements, is tiered to, and incorporates by reference the Administrative Record for the 2009 FEIS for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest.

Changes and edits associated with the EIS for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest were completed throughout the September 2011 DSEIS document to provide clarification of information previously presented in the December 2009 FSEIS. All edits were based on issues identified internally and externally through the appeals process. In the 2011 DSEIS, all changes, modifications, clarifications, or additions within each chapter were framed within a box. Other minor corrections, explanations and edits were also made throughout.

For the FSEIS, all supplemental information has been incorporated into standard text (without boxes). Any changes between the 2011 DSEIS and the 2015 FSEIS are noted within an additional section contained in each FSEIS chapter.

This chapter describes the Purpose and Need for this action. This includes: (1) background and legal framework for this proposal; (2) describing the scope and scale of the Proposed Action and alternatives; (3) summarizing the Rogue River-Siskiyou Land and Resource Management Plan and other management direction; and (4) identifying the decisions to be made. This chapter also includes a section on the public involvement process to date and the identification and development of issues that frame the analysis for this process.

B. CHANGES BETWEEN 2011 DSEIS AND 2015 FSEIS

As noted above, For the FSEIS, all supplemental information has been incorporated into standard text (without boxes). Changes were made to the entire FSEIS to clarify issues, expand on analysis, and provide additions, changes, updates and corrections that are responsive to issues

and comments brought forth from the DSEIS comment period. **This FSEIS prevails regarding any differences or conflicts with the DSEIS.**

In this chapter, based on public comments, edits for clarification were made to Decision Framework section regarding a Record of Decision (ROD) for the FEIS was previously signed on December 3, 2009. Issues were raised through the appeal process that ultimately resulted in the withdrawal of the December decision and the beginning of a Supplemental Environmental Impact Statement process. Since the 2009 ROD was withdrawn, the Forest Service will issue a new decision.

On March 27, 2013, new regulations regarding an Objection process (rather than an Appeal process) were released that will apply to Motorized Vehicle Use on the Rogue River-Siskiyou National Forest. The new regulations, found at 36 CFR 218, provide an opportunity for individuals, organizations and tribal entities to file an objection to a project before the final decision is signed.

Clarification was made to the Decision Framework section regarding roads: "No decision will be made for State and County roads and other roads *OR ROAD SEGMENTS* not under the jurisdiction of the Forest Service."

Added to the Decision Framework section, that based on evaluation Forest-wide or project-specific Land and Resource Management Plan amendments, the Forest Supervisor will determine whether the proposed amendments significantly change the delivery of goods and services as described in the respective Forest Plans.

Text was added to the Management Direction section regarding the FEIS and Record of Decision (2005) for the *Invasive Plant Program - Preventing and Managing Invasive Plants*. Also identified the Environmental Assessment and Decision Notice and Finding of No Significant Impact and Finding of Non-significant Forest Plan Amendments (2010): *Fire Use Amendment*.

Text was added to the Management Direction section regarding the 2001 Roadless Rule. The purpose of this clarification is to highlight management prohibitions pursuant to the 2001 Roadless Rule and provide an analysis of the Roadless Rule against the project proposals contained in the FSEIS.

The Public Involvement section was expanded to include the history of public involvement and events regarding the release of the DSEIS, the DSEIS comment period, and the development of a Response to Comments document (now FSEIS Appendix A), is added to the section on Scoping Process.

Minor edits or additions to Out of Scope Issues section notably potential wilderness and other undeveloped areas, publications of Strittholdt et al., Ross et al. and Caroll et al., and use of brush hog and effects on vegetation.

C. BACKGROUND AND LEGAL FRAMEWORK

Recreation is an important value and use of the Forest. Motorized and non-motorized recreation visitors share an interest in enjoying outdoor recreation in a natural environment.

On November 9, 2005, the *Final Rule for Travel Management; Designated Routes and Areas for Motor Vehicle Use* (hereafter referred to as Travel Management Rule) was published in the Federal Register; affecting 36 Code of Federal Regulations (CFR) Parts 212, 251, 261, and 295. The Rule revises several regulations to require designation of roads, trails, and areas for motor vehicle use on National Forests and National Grasslands, and became effective in December 2005.

Highlights of the Travel Management Rule:

- Each National Forest or Ranger District will designate those roads, trails, and areas open to motorized vehicles.
- Designation will include class of vehicle and, if appropriate, season of use for motor vehicles.
- Once the designation process is complete with publication of a Motorized Vehicle Use Map, the rule will generally prohibit motor vehicle use off the designated system or use that is inconsistent with the designations.
- Designation decisions are to be made locally, with public input and in coordination with state, local, and tribal governments.

The Travel Management Rule Provides:

- Better opportunities for sustainable motorized recreation and access to the National Forest System
- Better protection of natural and cultural resources
- Increased public safety
- Reduced user conflicts

Key portions of the rule are shown in Figure I-1. The Travel Management Rule requires designation of those roads, trails, and areas that are open to motor vehicle use by the public on National Forests. Designations would be made by class of vehicle and, if appropriate, by time of year. The Travel Management Rule prohibits the use of motor vehicles by the public off the designated system (i.e., use of motor vehicles on routes and in areas that are not designated). Persons exempt from the final rule prohibitions would be those with a permit, or excluded by law or regulation, specifically authorizing access.

Figure I-1. Key Excerpts from the 2005 Travel Management Rule (36 CFR 212 Subpart B)

§ 212.1 Definitions
Designated road, trail, or area. A National Forest System road, a National Forest System trail, or an area on National Forest System lands that is designated for motor vehicle use pursuant to § 212.51 on a motor vehicle use map.
Motor vehicle. Any vehicle which is self-propelled, other than: (1) A vehicle operated on rails; and (2) Any wheelchair or mobility device, including one that is battery powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area.

Figure I-1. Key Excerpts from the 2005 Travel Management Rule (continued)

§ 212.50 Purpose, scope, and definitions

(a) *Purpose.* This subpart provides for a system of National Forest System roads, National Forest System trails, and areas on National Forest System lands that are designated for motor vehicle use. After these roads, trails, and areas are designated, motor vehicle use, including the class of vehicle and time of year, not in accordance with these designations is prohibited by 36 CFR 261.13. Motor vehicle use off designated roads and trails and outside designated areas is prohibited by 36 CFR 261.13.

(b) *Scope.* The responsible official may incorporate previous administrative decisions regarding travel management made under other authorities, including designations and prohibitions of motor vehicle use, in designating National Forest System roads, National Forest System trails, and areas on National Forest System lands for motor vehicle use under this subpart.

(c) For definitions of terms used in this subpart, refer to § 212.1 in subpart A of this part.

§ 212.51 Designation of roads, trails, and areas

(a) *General*. Motor vehicle use on National Forest System roads, on National Forest System trails, and in areas on National Forest System lands shall be designated by vehicle class and, if appropriate, by time of year by the responsible official on administrative units or Ranger Districts of the National Forest System, provided that **the following vehicles and uses are exempted from these designations:**

(1) Aircraft;
(2) Watercraft;
(3) Over-snow vehicles (see § 212.81);
(4) Limited administrative use by the Forest Service;
(5) Use of any fire, military, emergency, or law enforcement vehicle for emergency purposes;
(6) Authorized use of any combat or combat support vehicle for national defense purposes;
(7) Law enforcement response to violations of law, including pursuit; and
(8) Motor vehicle use that is specifically authorized under a written authorization issued under
Federal law or regulations.

(b) *Motor vehicle use for dispersed camping or big game retrieval*. In designating routes, the responsible official may include in the designation the limited use of motor vehicles within a specified distance of certain designated routes, and if appropriate within specified time periods, solely for the purposes of dispersed camping or retrieval of a downed big game animal by an individual who has legally taken that animal.

36 CFR 212.55 contain general and specific criteria for the Responsible Official to consider in designating roads, trails, and areas for motor vehicle use. These criteria are largely taken from Executive Order 11644 (as amended by EO 11989). Since the language of the Executive Order addresses trails and areas (rather than roads), the criteria for designating roads differs from that of trails.

The Travel Management Rule makes a key clarification of the Executive Order in this section. The Executive Order says "areas and trails *shall be located to minimize*" damage to soils, harassment of wildlife, conflicts between motor vehicle use and existing or proposed recreational uses, etc. The rule says "the responsible official *shall consider effects on the following, with the objective of minimizing.*" The preamble explains:

> *The Department believes this language is consistent with EO 11644 and better expresses its intent. It is the intent of EO 11644 that motor vehicle use of trails and areas on Federal lands be managed to address environmental and other impacts, but that motor vehicle use on Federal lands continue in appropriate locations. An extreme interpretation of "minimize" would preclude any use at all, since impacts always can be reduced further by preventing them altogether. Such an interpretation would not reflect the full context of EO 11644 or other laws and policies related to multiple use of National Forest System lands.*

Designation Process for the Rogue River-Siskiyou National Forest
To meet these regulations, the RRSNF began the first steps of the designation process in the spring of 2006, published the Final EIS in December 2009, and published the Draft Supplemental EIS (DSEIS) in September 2011. The Final Supplemental EIS (FSEIS) is the current step. Following the environmental analysis process, the RRSNF will produce a Motor Vehicle Use Map (MVUM) displaying roads, trails and areas open for motorized use across the approximately 1.8 million acres of Rogue River-Siskiyou National Forest lands in Southern Oregon.

The process of inventory, designation, and public participation is guided by a national protocol. This national protocol is known as the "OHV Route Inventory and Designation Guide" which was developed by a Forest Service Off-Highway Vehicle (OHV) Implementation Team.

Major steps in the process include:

1. Compile existing travel management direction
2. Assemble resource and social data
3. Use travel analysis to identify proposals for change
4. Environmental analysis and decision making
5. Publish motor vehicle use map
6. Implement, monitor, and revise

This document and process are associated with Step 4, to result in Step 5. Steps 1 through 3 were used to help in developing the proposals put forth in the Proposed Action. Step 6 would occur after a decision is made.

D. LOCATION AND SETTING

Located in southwestern Oregon and extending into California, the Rogue River-Siskiyou National Forest ranges from the crest of the Cascades Mountains west into the Siskiyou Mountains, nearly to the Pacific Ocean. The Forest covers approximately 1.8 million acres; portions of the Applegate and Illinois River drainages extend into northern California. The Rogue River drains over 75 percent of the Forest's land area.

The Rogue River-Siskiyou National Forest features a Supervisor's Office located in Medford, OR and five Ranger Districts including: High Cascades, Siskiyou Mountains, Wild Rivers, Gold Beach, and Powers. Field offices remain in the communities of Prospect, Butte Falls, Ashland, Ruch, Grants Pass, Cave Junction, Brookings, Gold Beach, and Powers. The Forest also is home of the J. Herbert Stone Nursery located near Central Point.

The Forest itself is composed of two distinct geological provinces: The Cascade Range and the Klamath Mountains. The Cascade Range is dominated by snowcapped volcanic peaks such as 9,495 foot Mt. McLoughlin located within the Sky Lakes Wilderness on the High Cascades Ranger District. The Klamath area embodies the most complex soils, geology, landscape, and plant communities in the Pacific Northwest. World-class wild rivers, biological diversity, remarkable fisheries resources, and complex watersheds define the Klamath.

The Rogue River-Siskiyou is one of the most floristically diverse National Forests in the country with some extraordinary botanical resources, and is home to incredible wild and scenic rivers, isolated wilderness, outstanding fisheries and wildlife resources, and breathtaking landscapes of mountains, meadows, streams, and lakes.

Recreational opportunities abound on the Forest, from white water rafting to wilderness camping, from lake and stream fishing to winter snowmobiling. Hundreds of miles of trails welcome users of all types and abilities: wheelchairs, horses, bicycles, motorcycles, snow-mobiles, cross-country and downhill skiers, and hikers.

E. SCOPE AND SCALE

The need to complete the designation process was recognized early and broad spectrums of interest groups support this goal. In order to expedite designation and avoid process gridlock, route and area designation was guided by the following considerations:

- **For the RRSNF, this project and its analysis has focused on the change from the current situation.** A tightly focused process was developed; this includes a focused site-specific proposal that does not aim to solve all travel management issues at once. For example, this process does not analyze all existing system roads nor make recommendations on road decommissioning. This project's focus is on the designation of motorized use for roads, trails and areas.

- This initial travel management planning and subsequent publishing of a Motor Vehicle Use Map (MVUM) is the first step in long term management of travel pursuant to the travel management regulations in 36 CFR 212. Travel management planning is an on-going process and MVUMs will be revised annually to address changes needed.

- Travel analysis to identify the minimum road system can be a separate process from this travel analysis for purposes of designation of roads, trails, and areas for motor vehicle use (FSM 7712). Neither the regulations under 36 CFR 212.5 or agency directives contain a time frame for determining the minimum road system. The agency however, views this as important work that needs to be addressed within the next decade.

- A complete inventory of user-created routes was determined to not be necessary. Only the information needed to evaluate proposed changes in travel management direction was gathered.

- There is no requirement to reconsider decisions made prior to the Travel Management Rule. Reconsideration of previous decisions would unnecessarily waste public resources, disregard public participation in the development of planning decisions and expand the scope of the Travel Rule beyond its intended purpose. The Travel Management Rule requires designation to be consistent with the applicable land management plans developed pursuant to the National Forest Management Act. Therefore, if a proposed designation is not consistent with the land management plan, the responsible official must either change the proposed designation or propose an amendment to the land management plan(s). It is expected that some land management plan amendments will be proposed and considered during this analysis.

- An analysis of the transportation system was used to identify narrowly tailored proposals to change travel management direction, and conduct environmental analysis only when and where necessary. A decision to construct a route, add a route to the Forest transportation system, or change authorization of or prohibitions on motor vehicle use on a route or in an area is subject to environmental analysis under the National Environmental Policy Act (NEPA). The administrative action of displaying a designated route or area as open on a Motor Vehicle Use Map is not subject to NEPA.

NEPA Strategy for the Rogue River-Siskiyou National Forest
For the RRSNF, this project and its environmental analysis is documented in an Environmental Impact Statement (EIS). The strategy for the context and scale for conducting NEPA includes one Proposed Action at the scale of entire Forest.

The Forest Supervisor is the Line Officer/Responsible Official for the forthcoming decision(s). The RRSNF has conducted analysis with one process and one interdisciplinary team planning effort for the entire Forest. Much of the analysis was done from the Forest perspective and utilized Forest-level staff and specialists on the Interdisciplinary Team. Specific development of proposals, and evaluation and analysis has involved District Rangers and their respective resource staff and specialists.

F. PURPOSE AND NEED FOR ACTION

The *purpose* for action is to implement Subpart B of the Travel Management Rule. Motorized use is popular and an important form of recreation for many individuals, families, and groups. A designated and managed system is required by the Travel Management Rule to provide this use. Increased demand for motorized use, lack of designated areas/routes, has led to resource damage and social impacts, user conflicts, and safety concerns. In order to meet these objectives the following changes are *needed*:

- Eliminate general cross-country travel by prohibiting all motorized access off existing, previously designated routes, and outside existing, previously designated areas where such use is not currently prohibited or otherwise restricted by past actions.
- Improve public safety, by implementing Forest Service Regional policy to determine the suitability of continuing to allow for motorized "mixed" use (e.g., analyze those roads which currently allow for motorized "mixed" use under State Law).
- Amend the Rogue River and Siskiyou National Forest Plans to restrict motorized access to designated routes consistent with the Travel Management Rule and to provide

consistent direction for conflicting plan allocations that would allow historical use of travel routes where appropriate.
- Make minor, limited changes to the National Forest Transportation System to preserve a diversity of unique motorized recreation opportunities (e.g., 4X4 vehicles, motorcycles, ATVs, passenger vehicles) because implementation of Subpart B of the Travel Management Rule would reduce motorized recreation opportunities relative to current levels.
- Establish conditions or provisions to allow motorized access for dispersed camping that are consistent with Subpart B of the Travel Management Rule.

G. PROPOSED ACTION

The following is a summary of the Proposed Action. The Proposed Action (Alternative 3) is discussed in detail in Chapter II. Based on the stated purpose and need for action and as a result of the recent analysis of the transportation system, the Forest proposes to:

- Implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest.
- Implement site-specific level Forest Plan Amendments to make the plans consistent with current and historical motorized use.
- Formally designate approximately 4,482 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,181 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Prohibit motorized use on 774 miles of NFS level 1 roads.
- Prohibit public motorized use on approximately 14 miles of NFS roads and 20 miles of trail currently open in order to minimize or reduce resource damage.
- Authorize two motorized trails to provide loop route opportunities (approximately 2 miles).
- Authorize conversion of approximately 12 miles of NFS level 1 roads to motorized trails to maintain a portion of currently used travel routes for motorized opportunities.
- Designate two areas where off-road motorized use would be allowed. This includes continued use of the existing Woodruff area near Prospect and the development of an additional area near Willow Lake. Both areas are located on the High Cascades Ranger District and total approximately 25 acres where motorized cross-country travel would be allowed.
- Prohibit all cross-country motorized travel outside of the play areas identified above.

This proposal focuses on the analysis of specific wheeled motorized vehicle routes and areas. The Proposed Action is being carried forward in accordance with the Travel Management Rule (36 CFR Part 212 Subpart B). In accordance with the rule and following a decision on this proposal, the Forest would publish a Motor Vehicle Use Map (MVUM) identifying all Forest roads, trails and areas that are designated open for motor vehicle use by the public.

The MVUM shall specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. The MVUM would be updated and published annually to reflect changes to the Forest's transportation system. Future decisions associated with changes to the MVUM may trigger the need for documentation of additional environmental analysis.

H. DECISION FRAMEWORK

As noted above, a Record of Decision (ROD) for the FEIS was previously signed on December 3, 2009. Shortly thereafter, issues were raised through the appeal process that ultimately resulted in the withdrawal of the December 2009 decision and the beginning of a Supplemental Environmental Impact Statement process that addresses issues requiring additional analysis or clarification.

Under the FSEIS, the Forest Supervisor will make a number of forthcoming decisions to achieve the Purpose and Need and address the identified issues and to improve the overall health of the land. The Forest Service Responsible Official will use the results of this supplemental analysis to make a new decision. The Forest Supervisor may select any alternative, or a combination of the alternatives. The decisions to be made include whether or not to:

- Allow motorized mixed use on certain paved roads.
- Prohibit public motorized use on certain roads.
- Convert certain Maintenance Level 1 roads to motorized trails.
- Construct/reconstruct motorized trails.
- Prohibit motorized use on certain trails.
- Restrict motorized mixed use on certain roads.
- Eliminate motorized cross country travel.
- Implement Forest-wide or project-specific Land and Resource Management Plan amendments to provide consistency with the Travel Management Rule and Standards and Guidelines.

Based on evaluation Forest-wide or project-specific Land and Resource Management Plan amendments, the Forest Supervisor will determine and document whether the proposed amendments significantly change the delivery of goods and services as described in the respective Forest Plans.

Although State and private lands are included within the analysis area (the entire RRSNF), the decision to be made is only for National Forest System lands and Forest System roads and trails. No decision will be made for State and County roads, and other roads or road segments not under the jurisdiction of the Forest Service.

A forthcoming decision may designate routes for motorized use on the Rogue River-Siskiyou National Forest. From time to time, it is anticipated that some routes may become impassable due to unforeseen events such as weather, vegetation conditions or other factors. Users should be aware that route conditions may vary and use appropriate caution.
If the current condition is found to be causing resource damage, these routes may be temporarily closed and removed from the MVUM while the appropriate maintenance work is analyzed and completed.

No decision is necessary to continue motorized use of NFS roads and trails where it is currently authorized or otherwise not prohibited. This decision does not affect management direction set through laws, regulations, executive orders, national and regional Forest Service policy, or other separate amendments to the Rogue River or Siskiyou National Forest Land and Resource Management Plans.

36 CFR 218 Objection Process
When the DSEIS was released, the associated documentation indicated that the upcoming decision would be subject to an administrative appeal process according to the Code of Federal Regulations (36 CFR 215); this process allows people who submitted comments during the comment period on the draft EIS an opportunity to appeal the final decision after it is signed. ***However, on March 27, 2013, new regulations were released that will apply to Motorized Vehicle Use on the Rogue River-Siskiyou National Forest.***

The new regulations, found at 36 CFR 218, provide an opportunity for individuals, organizations and tribal entities to file an objection to a project before the final decision is signed. This allows interested individuals, organizations and tribal entities to advise the responsible official (deciding officer) about concerns regarding the final decision *before* the decision is made.

I. OTHER RELATED NEPA ANALYSIS

The Forest transportation system is always changing depending on resource administration needs and management concerns. This current proposal is just one of many in the Rogue River-Siskiyou National Forest's continuing effort to manage the transportation system in a sustainable and cost-effective manner. Other project-level analyses often study the transportation system in individual project areas and propose actions for individual routes such as adding to the transportation system, closing, decommissioning, or abandoning roads and trails as necessary to meet management objectives.

Ongoing efforts include: project-specific efforts to reduce the impacts associated with system and unauthorized routes, addressing impacts associated with the current road system through the Forest's road operation and maintenance program, and researching and correcting jurisdiction of roads and motorized trails in INFRA (roads and trails database). Implementation of this project is only one step in the overall management of motor vehicle travel on the Rogue River-Siskiyou National Forest.

J. MANAGEMENT DIRECTION

Land management direction for the Rogue River-Siskiyou National Forest is contained in two Land and Resource Management Plans: one for the Siskiyou National Forest (1989) and the other for the Rogue River National Forest (1990) as amended by *The Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl*, and now commonly known as the Northwest Forest Plan (NWFP). This ROD, jointly signed by the Secretaries of Agriculture and Interior, amended the Rogue River and Siskiyou National Forest Land and Resource Management Plans and other existing plans within the range of the northern spotted owl. This amendment, which became effective on May 20, 1994, provided additional goals, objectives, standards, and guidelines for resource management.

A Land Management Plan (or Forest Plan) is a dynamic management plan that provides integrated direction reflecting decisions, plans, and assessments made at various scales and times. It describes desired future conditions, goals, objectives, standards, and guidelines--collectively referred to as "management direction"--for a specific National Forest. Changes in management direction are incorporated in proposed amendments to the plan that add, delete, and modify items of programmatic direction.

Except for Congressionally established or special administrative boundaries, the management area boundaries within the Forest Plans are not firm lines and do not always follow prominent topographic features, such as major ridges. The boundaries represent a transition from one set of opportunities and constraints to another with management direction established for each. The boundaries are flexible to assure the values identified are protected, and to incorporate additional information gained from further on-the-ground reconnaissance and project-level planning. When a Forest Plan is first written, a programmatic environmental impact statement (EIS) and Forest Plan document incorporating applicable law, regulation, and policy and direction from the Regional Guide is prepared, and a record of decision (ROD) signed. All future actions are to be carried out within the constraints of the Forest Plan. Any changes to the Forest Plan are made in the form of an amendment.

Pursuant to CEQ 1502.20, this FSEIS is tiered to the Final Environmental Impact Statement and Record of Decision (ROD) for the Siskiyou and Rogue River National Forests' Land and Resource Management Plans as amended by the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl*. The Proposed Action and alternatives described in this analysis for the entire Forest, occurs within the land allocations described starting with the "Northwest Forest Plan" below.

This document is tiered to the Final Supplemental Environmental Impact Statement *Record of Decision and Land Resource Management Plan for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest* (USDA, USDI 2004) which is a programmatic decision amending Standards and Guidelines of the Siskiyou National Forest Land and Resource Management Plan.

This document is tiered to the FEIS and Record of Decision (2005) for the *Invasive Plant Program - Preventing and Managing Invasive Plants*. Under this decision, invasive plant management direction is added to all National Forest Plans in the Region and becomes part of the individual Forest Plans.

This document is also tiered to the Environmental Assessment and Decision Notice and Finding of No Significant Impact and Finding of Non-significant Forest Plan Amendments (2010): *Fire Use Amendment*. This amendment is an administrative action involving the modification and changing of the wording for management direction and Standards and Guidelines for the Rogue River-Siskiyou National Forest regarding appropriate management response to meet current federal and Forest Service fire terminology and policy.

1. Northwest Forest Plan (1994)

The ROD for the Northwest Forest Plan specifically incorporates seven land allocation categories, as set forth below (from Northwest Forest Plan ROD pages 6, 7):

Congressionally Reserved Areas are lands that have been reserved by acts of Congress for specific land allocation purposes. The ROD for the Northwest Forest Plan does not alter any of these congressionally mandated land allocations. As applicable to the RRSNF, included in this category are Wilderness, and Wild and Scenic Rivers.

Late-Successional Reserves, in combination with the other allocations and standards and guidelines, are designed to maintain a functional, interactive, late-successional and old-growth forest ecosystem. They are designed to serve as habitat for late-successional and old-growth related species including the northern spotted owl.

Adaptive Management Area (AMA), designed to develop and test new management approaches to integrate and achieve ecological, economic, and other social and community objectives. The Forest Service and BLM work with other organizations, government entities and private landowners in accomplishing those objectives. Each area has a different emphasis to its prescription, such as maximizing the amount of late-successional forests, improving riparian conditions through silvicultural treatments, and maintaining a predictable flow of harvestable timber and other forest products. A portion of the timber harvest comes from this land.

Managed Late-Successional Areas are lands either (1) mapped managed pair areas; or (2) unmapped protection buffers. Managed pair areas are delineated for known northern spotted owl activity centers. Protection buffers are designed to protect certain rare and locally endemic species.

Administratively Withdrawn Areas are identified in current Forest and District plans and include recreational and visual areas, back country, and other areas not scheduled for timber harvest.

Riparian Reserves are areas along all streams, wetlands, ponds, lakes, and unstable or potentially unstable areas where the conservation of aquatic and riparian-dependent terrestrial resources receives primary emphasis. The main purpose of the reserves is to protect the health of the aquatic system and its dependent species; the reserves also provide incidental benefits to upland species. These reserves help maintain and restore riparian structures and functions, benefit fish and riparian-dependent non-fish species, enhance habitat conservation for organisms dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for terrestrial animals and plants, and provide for greater connectivity of late-successional forest habitat.

Matrix is the federal land outside the six categories of designated areas set forth above. It is also the area in which most timber harvest and other silvicultural activities are conducted. However, the matrix does contain non-forested areas as well as forested areas that may be technically unsuited for timber production.

2. Siskiyou Land and Resource Management Plan (1989)

The National Forest System land within the Siskiyou National Forest was assigned to fourteen management areas, each with different management goals, resource potential and limitations (Figure I-2). The Forest-wide management direction (LRMP IV 20 through 64) including the Standards and Guidelines, apply to all management areas unless specifically excepted in the management area prescription.

The Standards and Guidelines of individual management area prescriptions are only to define exceptions to, or additions to the Forest-wide direction. The following figure contains a listing of the fourteen management area prescriptions for the Siskiyou portion of the Forest.

Figure I-2. Management Area Prescriptions - Siskiyou National Forest 1989

1 Wilderness
2 Wild River
3 Research Natural Area
4 Botanical
5 Unique Interest
6 Backcountry Recreation
7 Supplemental Resource
8 Designated Wildlife Habitat
9 Special Wildlife Site
10 Scenic/Recreation River
11 Riparian
12 Retention Visual
13 Partial Retention Visual
14 General Forest

from SNF LRMP IV-14

3. Rogue River Land and Resource Management Plan (1990)

The National Forest System land within the Rogue River National Forest was assigned to twenty-four management areas (Figure I-3), each with different management goals, resource potential and limitations, and each with an accompanying Management Strategy (MS). Each Area has different resource goals, opportunities, Standards and Guidelines. In essence, it is a unit of land to be managed to achieve a desired future condition. This is accomplished by the application of its corresponding Management Strategy, or "prescription."

Figure I-3. Management Strategies - Rogue River National Forest 1990

Wilderness (13)
Wild River (10)
Research Natural Area (25)
Botanical Area (12)
Special Interest Area (5)
Developed Recreation (4)
Backcountry Non-motorized (3)
Restricted Watershed (22)
Spotted Owl Habitat (19)
Old-Growth (15)
Restricted Riparian (26)
Scenic River (11)
Foreground Retention (6)
Foreground Partial Retention (7)
Middle Ground Retention (8)
Mature (16)
Middleground Partial Retention (9)
Big-game Winter Range (14)
Managed Watershed (23)
Timber Suitable 2 (21)
Timber Suitable 1 (20)
Primary Range (17)
Secondary Range (18)
Minimum Management (1)

from RRNF LRMP 4-31

4. Inventoried Roadless Areas and 2001 Roadless Rule

The original inventory of roadless lands took place in the early 1970s during the RARE I (Roadless Area Evaluation and Review) evaluations, and then again in the late 1970s during RARE II. The inventory is displayed in the current Forest Plan FEIS and is an output of the RARE II inventory. Complete descriptions of these areas can be found in Appendix C of the FEIS for the Forest Plans (USDA 1989 and USDA 1990).

All Inventoried Roadless Areas (IRAs), identified in Appendix C of the Land and Resource Management Plans (LRMP), are managed according to the direction provided in the LRMP for their underlying land allocations. Some allocations permit motorized use within an IRA while others limit or prohibit motorized opportunities. FSEIS Chapter III, Map III-1 shows the IRAs on the Rogue River-Siskiyou National Forest.

There is a long history of debate and legal proceedings over direction for IRAs, and the Roadless Rule. A Roadless Area Conservation Rule was adopted by the US Forest Service on January 12, 2001, after extensive public involvement. The 2001 Roadless Rule generally prohibits road construction and timber cutting in 58.5 million acres of IRAs, covering about 30 percent of the National Forest System.

On October 21, 2011, the Tenth Circuit Court of Appeals reversed Judge Brimmer's August 2008 decision that had invalidated the Roadless Rule and lifted a nationwide injunction. The Tenth Circuit's decision resolved the legal uncertainty that had resulted from the conflicting rulings by Judge Brimmer and the Ninth Circuit, making it clear that the 2001 Roadless Rule is legally adopted.

While this latest ruling came out after the DSEIS was published, Travel Management on the Rogue River-Siskiyou NF is not inconsistent with this ruling. This ruling essentially returns management direction to the 2001 Roadless Rule. The 2001 Roadless Rule does not prohibit motorized trails in IRAs, nor does it prohibit National Forest Transportation System roads in existence prior to January 12, 2001. (36 CFR § 294.14)

In addition, all proposed Action Alternatives analyzed within this FSEIS (Alternatives 2, 3, 4 and 5) comply with the 2001 Roadless Rule because continued use of existing roads and trails within IRAs is not road construction or reconstruction as defined by the rule. (36 CFR § 294.12) Further, the proposed designation of existing roadways for motorized public use is not new and has occurred on all routes for many decades prior to promulgation of the 2001 Roadless Rule. The Roadless Rule (36 CFR Part 294) clearly defines a road as a "motor vehicle travelway over 50 inches, unless designated and managed as a trail." Therefore, the roads being considered for continued authorization as open to motorized vehicles by the general public are consistent with the 2001 Roadless Rule.

K. PUBLIC INVOLVEMENT

The goals of the public involvement efforts for the EIS process were to contact and involve members of the public, user and interest groups, Tribes, local community groups, elected officials, Forest Service employees, and other federal/state or local agencies to share information and involve people in a timely manner on the development of the Forest's Motorized Vehicle Use designation process. The priority for the Forest Service for this analysis was to provide proactive communications and involvement in travel management planning.

Community Interest and Involvement

Forest Service personnel held open house public meetings in Oregon beginning on June 4, 2007 in Medford, at the Rogue Regency Inn & Suites; June 5 in Grants Pass, at the Grants Pass Interagency Office-Wild Rivers Ranger District Office; June 7 in Gold Beach, at the Event Center on the Beach-Curry County Fairgrounds; and ending on June 20 in Myrtle Point, at the OSU Extension Service Coos County. The objective of each meeting was to inform local residents of the travel management project, and provide an opportunity for them to visit with Forest Service staff to ask questions and learn about the timeline for implementation. These open houses were listening sessions for Forest Service personnel to hear interests, concerns, and ideas, and an occasion for motorized and non-motorized users alike to get involved early, as the Forest Service started to gather information for the project.

Letters were sent to members of the public who had voiced an interest in the project, and flyers were available at the Supervisor's Office and throughout the five districts of the Rogue River-Siskiyou National Forest, which invited all interested publics to attend these meetings. In addition, a press release was issued, and information was available and posted on the Rogue River-Siskiyou National Forest website.

Individual and Group Briefings

From June 2007 to October 2008, individual briefings by Forest Service personnel were offered to groups interested in learning more about the project, including both motorized and non-motorized points of view. Throughout the project planning efforts, the Project Team Leader, Forest Public Affairs Officer and the Forest's Project Planners and Analysts were responsible for responding directly to public inquiries or receiving information by telephone or in person.

Rogue River-Siskiyou Forest Employee Briefings

The Travel Management team met with RRSNF personnel and presented the Travel Management Rule at District all-employee meetings, as well as to District Rangers, Staff Officers, and at Rogue River-Siskiyou National Forest Leadership Team meeting updates.

Interagency and Elected Official Briefings

The Rogue River-Siskiyou National Forest held discussion and dialogue with neighboring Forests and Bureau of Land Management (BLM) District Offices including: the Umpqua, Fremont-Winema, Six Rivers, and Klamath National Forest(s); as well as Roseburg, Coos Bay, Lakeview and Medford BLM Districts.

Periodic meetings and telephone call briefings of the project efforts and status were held with local elected officials including County Commissioners, and with local Congressional staffs. In addition, letters from the Forest Service with information about travel management planning were sent to the Oregon Department of Forestry, Douglas Forest Protection Association and Coos Forest Protection Association.

Tribal Relations
Under the Forest Service's government-to-government consultation responsibilities, the Rogue River-Siskiyou National Forest shared information with seven federally recognized Indian tribes regarding the upcoming Travel Management Planning efforts. Consultation letters were mailed on August 18, 2008 to the Confederated Tribes of the Siletz Indians of Oregon, Confederated Tribes of the Grande Ronde Community of Oregon, Coquille Indian Tribe, Cow Creek Band of the Umpqua Tribe of Indians, The Klamath Tribes, Quartz Valley Indian Reservation, and Smith River Rancheria. Tribal government representatives and tribal members were invited to participate in the project, attend the open house meetings and visit the web site for additional information. Tribal concerns were incorporated into either the Proposed Action or would be addressed through mitigation. In addition, a second set of letters were mailed to the seven Tribes prior to the issuance of the Draft EIS in March, 2009.

Communication Tools
In May 2007 the Rogue River-Siskiyou National Forest's Internet Website for Travel Management "went live". This site contains information that allows individuals and groups to learn more about the project efforts and how to become involved. It helps to improve communications and expand public interest about the project. Maps illustrating the Proposed Action were made available at the Ranger Districts or Supervisor's Office, and on the Forest Website: www.fs.fed.us/r6/rogue-siskiyou/projects/travel.

The Rogue River-Siskiyou National Forest has established and maintained communication materials on the travel management process since the project's inception. This includes producing news releases for local media (see below), briefing papers for Congressional staffs and County Commissioners, and information sheets available for public handouts at the front desks of the Supervisor's Office and Districts. These communication materials explain and inform the public about the project's background, timeline, and a variety of opportunities for public involvement throughout the project.

The Forest Public Affairs Officer distributed news releases to the Medford Mail Tribune, Ashland Daily Tidings, Grants Pass Daily Courier, Curry Coastal Pilot, Curry County Reporter, Coos Bay World and the Myrtle Point Herald newspapers. Local radio and television stations were also included to notify the community of any public meetings and to inform individuals and groups regarding project updates. Telephone calls from the Public Affairs Officer and project Team Leader were also made to individual reporters.

1. Scoping Process

Scoping is the name for the process used to determine the extent of the environmental analysis to be conducted. It is used early in the NEPA process to identify (1) the issues to be addressed, (2) the depth of analysis required, (3) alternatives to the Proposed Action, and (4) potential environmental effects of the Proposed Action. This EIS process has been enacted with extensive public participation. The public involvement requirements of NEPA (40 CFR 1501.7) have been employed in order to develop and publish an EIS for release to an informed public.

In August 2008, the formal process under NEPA was initiated. A scoping letter and Notice of Intent to prepare an Environmental Impact Statement was mailed to all interested publics, having been involved in the initial sensing process, describing the Proposed Action and Purpose and Need for the Project to other agencies and to tribes, such as Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Oregon Parks and Recreation, Medford Water Commission, U.S. Geological Survey, Environmental Protection Agency, National Park Service, NOAA Fisheries, Bureau of Land Management, and various city and county government entities in southwest Oregon and northwest California. The Scoping process for this project officially began with the issuance of a Notice of Intent to prepare an Environmental Impact Statement published in the Federal Register on August 26 2008 (FR page 50299-50301). A Scoping Letter was sent to approximately 700 individuals, businesses, and organizations on August 27, 2008. Written and electronic responses to the Scoping Letter were received through March of 2009. The planning team received 187 letters and over 11,000 form letters that were generated via an electronic site established to facilitate an electronic response (that contained a pre-determined viewpoint).

A 45-day DEIS public comment period for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest formally began on March 28, 2009 with publication of a Notice of Availability in the Federal Register Vol. 74, No. 58 (FR page 13432). The 45-day comment period closed on May 11, 2009.

A total of 11,359 comments to the Draft EIS were received by the Forest at the close of the comment period. Approximately 1,200 additional comments were received after May 11, 2009. All comments received by the close of the comment period were reviewed and were considered as part of the comment analysis process. Comments received following the close of the comment period (through June 5, 2009) were reviewed for substantive content and were entered in the database (and responded to as appropriate).

A Final Environmental Impact Statement (FEIS) for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest (RRSNF) was dated November, 2009. That FEIS included a Response to Comments (Appendix A) addressing substantive comment received on the March 2009 Draft EIS. A Record of Decision (ROD) based on that FEIS was signed on December 3, 2009. Shortly thereafter, issues were raised through the appeal process that ultimately resulted in the withdrawal of the December decision and the beginning of a Supplemental Environmental Impact Statement, process, designed to address issues raised during the appeal process requiring additional analysis, clarification, or modification.

For the Draft Supplemental EIS there was no “Scoping”. Under 40 CFR 1502.9(c)(4), there is no formal Scoping period required for this action. Appropriate procedures under NEPA required a Notice of Intent (NOI) to prepare a Supplemental EIS; the Notice of Intent to prepare an Environmental Impact Statement was published in the Federal Register on August 2, 2010 (FR page 45089-45090).

A 45-day DSEIS public comment period for Motorized Vehicle Use on the Rogue River-Siskiyou National Forest formally began on October 7, 2011, the first day following publication of a Notice of Availability in the Federal Register Vol. 76, No. 195 (FR page 62406). The 45-day comment period began on October 8, 2011 and closed on November 21, 2011.

A total of 453 comments to the DSEIS were received by the Forest at the close of the comment period. All comments received within a few days of the close of the comment period were also reviewed and were considered as part of the comment analysis process. All comments were read and coded based on content and intent, by a Forest Service planning team, with Forest oversight, review and concurrence.

A Response to Comments document was prepared in response to the 2011 DSEIS. It therefore is the second Response to Comments document that has been prepared for the Travel Management Process; the previous one having been prepared in 2009 for the Draft EIS. Both response documents are referenced as Appendix A to their respective Final EISs.

Given the history of this process, now spanning several years, there has been a substantial volume of public input to this process. Input has included Scoping in 2008, formal comments to the DEIS in 2009, appeals to the Record of Decision made in 2009, input received outside of any input or NEPA process, and now, the formal input received during the comment period to the September 2011 DSEIS.

2. Significant Issues

Issues are defined in this environmental analysis as points of discussion, debate, or dispute about the environmental effects of a proposal. Significant Issues as used in this environmental analysis are those that are used to formulate alternatives or drive alternative themes, evaluate alternatives, affect the design of component proposals, prescribe mitigation measures, and/or describe important and variable environmental effects. They are significant because of the extent of their geographic consequence, the duration of the effects, or the intensity of interest or resource conflict.

NEPA requires Federal agencies to focus analysis and documentation on the Significant Issues related to the Proposed Action. The Interdisciplinary Team (IDT), with Responsible Official involvement and approval, has identified the following as Significant Issues associated with the motorized use proposals presented in this analysis. This list is presented in a format that intends to ask the question "what action may have what effect, on what resource or value?"

Each Significant Issue statement contains a reference (Chapter and Section of this document, in parenthesis) for where in the document a description or discussion of the effects of each alternative considered in detail is located, relevant to the stated issue. Indicators are developed in Chapter III of this FSEIS, as well as current condition background and consequences of each alternative analyzed in detail.

A summary of the consequences of each alternative considered in detail in relation to these issues is contained at the end of FSEIS, Chapter II, Alternatives (Table II-14).

Water Quality and Erosion

Effects of motorized vehicle use on water quality. (III, D, 1)

Botanical Areas and Special Plant Habitats

Effects of motorized vehicle use on Botanical Areas, Research Natural Areas and/or special botanical habitats. (III, D, 2

Public Safety
Motorized vehicle use conflicts and public safety. (III, D, 3)

Motorized Opportunities
Changes to motorized recreation opportunities. (III, D, 4)

Roadless Character within Inventoried Roadless Areas
Effects of motorized vehicle use on roadless character within Inventoried Roadless Areas. (III, D, 5)

3. Other Issues

Other Issues as used in this environmental analysis are those that have been determined to be relevant, are used to disclose consequences, may affect design of component actions, may prescribe mitigation measures, or whose disclosure of environmental effects are required by law or policy. Other Issues differ from Significant Issues in that they often describe minor and/or non-variable consequences.

This list is limited to those issues that specifically identify potential effects that may result from implementation of elements of the Proposed Action; their corresponding effects are documented in the FEIS. Issues that are related to satisfying Federal, State, and local requirements and standards (e.g., Threatened and Endangered species or air quality) are also included.

Each Other Issue statement contains a reference (Chapter and Section of this document, in parenthesis) for where in the document a description or discussion of the effects of each alternative considered in detail is located, relevant to the stated issue. The consequences of each alternative considered in detail, in relation to these issues are also summarized at the end of FSEIS, Chapter II, Alternatives (Table II-15).

Soils - Site Productivity
Effects of motorized vehicle use on soils and site productivity. (III, E, 1)

Aquatic Conservation Strategy
Effects of motorized vehicle use on the Aquatic Conservation Strategy Objectives associated with the Northwest Forest Plan. (III, E, 2)

Air Quality - Vehicle Emissions
Effects of motorized vehicle use on air quality and human health. (III, E, 3)

Air Quality - Dust and Asbestos
Effects of motorized vehicle use on air quality via dust and naturally occurring asbestos. (III, E, 4)

Fire Risk
Effects of motorized vehicle use on fire risk. (III, E, 5)

Federally Listed Plants, FS Sensitive, and NWFP Survey and Manage (S&M) Vascular Plants, Bryophytes, Lichens, and Fungi

Effects of motorized vehicle use on rare, sensitive and federally listed botanical species. (III, E, 6)

Invasive Non-native Plants

Effects of motorized vehicle use on the spread of invasive non-native plants. (III, E, 7)

Invasive Pathogens

Effects of motorized vehicle use on the spread of invasive pathogens Phytophthora lateralis and Phytophthora ramorum. (III, E, 8)

Terrestrial Wildlife Listed Species

Effects of motorized vehicle use on wildlife species federally listed as Threatened and Forest Service Sensitive species. (III, E, 9)

Management Indicator Species

Effects of motorized vehicle use on species identified as LRMP Management Indicator Species, especially deer and elk within Big Game Winter Range areas. (III, E, 10)

Other Special or Rare and Uncommon Terrestrial Wildlife

Effects of motorized vehicle use on other special or rare and uncommon terrestrial wildlife species and neotropical birds. (III, E, 11)

Fisheries and Aquatic Species

Effects of motorized vehicle use on fish (native and anadromous) and other aquatic species. (III, E, 12)

Visuals

Effects of motorized vehicle use on scenic quality. (III, E, 13)

Sound Level

Effects of motorized use on human hearing and human solitude. (III, E, 14)

Enforcement

Effects of proposed actions on the Agency's' ability to enforce laws. (III, E, 15)

Mining Access

Effects of proposed actions on access for prospecting, locating, and developing mineral resources. (III, E, 16)

Cultural Resources

Effects of motorized vehicle use on cultural resource values. (III, E, 17)

Climate Change

Effects of motorized vehicle use on climate change (greenhouse gas emissions and carbon cycling) and effects of global climate change on motorized use. (III, E, 18)

Wild and Scenic Rivers

Effects of the motorized vehicle use on the free-flowing character and Outstandingly Remarkable Values (ORVs). (III, E, 19)

4. Out of Scope Issues

There were several issues identified during scoping and other opportunities for public comment as being non-significant and "out of the scope" of this environmental analysis. These issues include those that are not or cannot be addressed or solved in this project-level analysis, issues already decided by law, regulation, or other higher level decisions, issues irrelevant to the decision to be made, and/or issues that are conjectural or not supported by scientific evidence. These issues are listed along with a rationale for their being determined "out of scope", as follows:

Criticism of 2005 Rule and Forest Service Travel Management Policies

The implication in this statement has no direct application to the NEPA process being conducted for travel management under the Travel Management Rule. The Forest Service has responsibility to enact actions under public law (in this case, Travel Management) and does not take a position on the appropriateness of the laws themselves. While all citizens are entitled to their opinion, criticism of the laws is not germane to this analysis.

Must analyze all roads and trails to determine the most efficient system per 36 CFR 212 subpart A

36 CFR §212.5 requires that a responsible official identify the minimum road system for safe and efficient travel. Note that this requirement does not include trails. This regulation also requires a science-based roads analysis.

As stated throughout this process, identification or "rightsizing" of the entire road system is neither a goal nor part of the analysis conducted for designation of motorized vehicle use on the RRSNF. The purpose of the Travel Management Rule is to designate a system of roads, trails, and areas for motor vehicle use (other than over-snow vehicle use) and end unmanaged cross-country motor vehicle use.

The rule is not intended to require reevaluation of the entire Forest transportation system. This process does not analyze all existing system roads nor make recommendations on road decommissioning. Other site-specific analyses and projects will undertake this compliance requirement. This project's focus is on the identification of motorized use for roads, trails and areas.

Must rely on roads analysis

A science based roads analysis was conducted and documented in 2004 for the Forest. It was used to inform the analysis for this process. A complete inventory of user-created routes was determined to not be necessary. Only the information needed to evaluate proposed changes in travel management direction was gathered. A formal report on the minimum road system was not prepared.

Consider the cumulative effects of all Forest Service and federal agency motorized use closures
Some commenters feel that motorized recreational opportunity has been and will be drastically reduced throughout the region. They suggest the Proposed Action continues the trend of eliminating opportunity for vehicle-based recreation. Additional closures are being proposed by land managers across the region and nation. They feel that the cumulative loss of motorized recreational opportunity should be brought into the analysis and incorporated into the decision-making process. Significance criteria could include number of miles closed, number of acres closed or other similar quantifiers.

This issue is considered out of scope because this issue cannot be solved with a single project analysis for one Forest. The context for this analysis is the entire RRSNF. The analysis will include a brief description of the current travel management activities on adjacent public lands. This analysis cannot account or foresee all ongoing travel management planning projects on all public lands in the region or nation.

Analyze social, economic (cost/benefit) issues associated with motorized recreation
NEPA does not require Federal agencies to prepare cost-benefit analyses as part of an Environmental Impact Statement (40 CFR 1502.23). The factors related to social issues (in addition to environmental resources) that are relevant to this analysis have been included in the analysis in the Final EIS.

Must analyze the adverse effects on adjacent private land values
There are many factors related to the economic or personal value of private lands. There is no meaningfully quantifiable way to predict the effect of motorized use on private land values. This analysis is specific to the actions and alternatives being proposed that are within the Rogue River-Siskiyou National Forest.

Must analyze costs of enforcement, monitoring, signage, gating, staff time, maps, mitigation (restoration of damaged sites)
While there will be discussion in the analysis on enforcement, the overall costs of the current condition or of the alternatives or the decision is not considered to be in the scope of analysis. Implementing the Travel Management Rule is Forest Service policy and direction. A relative comparison of effects regarding enforcement will be made but a detailed cost accounting of elements like these will not be made.

Must analyze effects on grazing
Commenters asked for analysis of the effects on grazing and other special uses. This issue is out of scope because there would be no effects resultant of any Action Alternative under this process; special uses, permitted actions and other authorized actions would continue as is the situation currently. The MVUM would not specify these special authorizations for motorized uses.

How does RS 2477 fit in with this process?
Revised Statute 2477 is a law from 1866, providing (granting) right of way across public lands. These rights often predate the establishment of the National Forest. Comments were received that expressed concern that rights (particularly access for mining) were being precluded, based on an assumption that roads potentially qualifying as RS 2477, were being closed.

As noted above, this project is not evaluating the entire Forest Transportation System, nor is it making recommendations for road decommissioning. Rights granted under this statue are not being affected or changed. For the RRSNF, no specific routes were identified as qualifying for RS 2477. The MVUM would designate roads available for public motorized use. Other (special) uses are not being precluded. Because there is no change (no effect), this issue is considered out of scope.

Mountain bike enthusiasts create bike trails that can be used by motorcycles
This statement reflects a real situation that can occur on the National Forest; however there are no situations where trails created by mountain bikes are being proposed in this analysis to be authorized as motorized trails. If existing mountain bike trails were being used by motorized vehicles on routes not designated in the forthcoming MVUM, this would be an unauthorized and illegal use. It is not in scope to this process because unauthorized or illegal use is not being analyzed.

Consider requirements of PL 105-359 (outdoor recreation by persons with disabilities)
Commenters asked what about motorized use for older Americans in poor health or with disabilities. While this law is generically applicable to this process, it is not specifically a design criteria or issue that is analyzed. Federal laws, regulations, and policies do not require areas that prohibit motorized vehicle use to make exceptions because a person has a disability.

Analyze effects on potential wilderness areas and other undeveloped areas
This issue is in reference to areas without roads, typically 1,000 acres or greater, that may possess special natural character. These areas are not part of Inventoried Roadless Areas, as discussed in Appendix C of each Land and Resource Management Plan for the Rogue River and Siskiyou National Forest.

Under all Action Alternatives, no proposals are made that would create additional roads, harvest timber, or create other developments. Thus, the Action Alternatives would not adversely affect Wilderness characteristics (i.e., the naturalness, undeveloped character, opportunities for solitude, special features or values, or manageability) of potential wilderness areas or special resource values of other undeveloped areas. Therefore, this document does not inventory or analyze these areas. This issue is out of scope because 1) there are no motorized uses being proposed in these areas and 2) there is no requirement to identify and analyze these types of areas.

Why is motorized over-snow use not being analyzed?
Over snow use is part of 36 CFR 212 subpart C. There is no timeline requirement to analyze this type use under the Travel Management Rule (Subpart B) § 212.51; Designation of roads, trails, and areas (also see § 212.81). The reason it is not being done and considered out of scope to this process is because of the differences in the purpose and need and environmental effects associated with over-snow use. This use could be specifically analyzed with another separate process in the future.

There are inconsistencies from latest process maps and data to earlier or previously existing maps and data
This statement is considered out of scope because while there may be differences, the process begun in 2006 for the Forest has continually strived for increased accuracy and many elements of previous mapping and data have been updated, even among versions within this process.

The public is asked to assume that data and maps presented in the FSEIS represent the latest and most accurate information available and have employed the principles of the Data Quality Act (PL106-554).

OHV grant money used to conduct the travel management process represents a conflict of interest.
The Forest made a request for state grant money from Oregon State Parks and Recreation Department (OHV grant funding) in January 2008. These funds are to be used for motorized use planning. There is no commitment, agreement or guarantee associated with these funds to provide any quantity or type of motorized or OHV uses. They simply are used to supplement federal appropriated funding to support planning.

Funds were needed because there has been no specially appropriated funds to conduct an analysis of the transportation system for this designation process; Forest funding sources include Forest roads and trails appropriated funds, which are the same funds that are used for administration and maintenance of existing access facilities.

As part of the designation process, advice was provided by the Forest Service that suggested that a mix of appropriated funding could be used to conduct this process. This advice is applicable for federally appropriated funds from Congress; there is no prohibition on a Forest requesting grant monies to supplement the motorized-use planning process. State grants associated with this process allow an approximate 50/50 match with appropriated funds.

NEPA Process: Separate EISs, one for RRNF and SNF
Comments received during scoping suggested that the designation process be separated between the Rogue River and Siskiyou portion of the National Forest. This could facilitate the separate Forest Plans that may need to be amended, and there are some resource issues that are specific to each Forest (e.g., Port-Orford-cedar root disease). This was considered but was abandoned due to the additional cost of two separate processes. These costs would include separate NEPA public involvement processes and resultant decisions. This comment is out of scope because the current process has clearly stated its parameters for conducting the process, beginning with the Notice of Intent in the Federal Register.

Federal funding for recreation and maintenance
Comments received expressed concern for the lack of recreation facility maintenance and road maintenance. Concern was expressed that motorized use is receiving more attention than non-motorized uses. Concern was expressed that this lack of funding should not be used as a criterion for forthcoming decisions for Travel Management.

All of these funding related comments are considered out of scope to this designation process. The MVUM is designed to be a cost efficient way to designate use and funding associated with administration of designated uses (or lack thereof) will not be a decision criterion for these use designations.

Publications of Strittholdt et al., Ross et al., and Caroll et al.
The Forest is familiar with the publications of Strittholdt et al., Ross et al. and Caroll et al. regarding wildlife linkages in the Klamath-Siskiyou ecoregion. These papers support conservation of ecosystems of the Klamath province and make recommendations regarding land management and/or land allocations.

Since changing entire land allocations or managing in different ways than prescribed by the Forest Plans is not part of Travel Management, this comment is considered out of scope for further analysis and to this designation process.

Use of brush hog for road maintenance and effects on rare vegetation
Comments raised issue with the use of brush hog for road maintenance and its effects on vegetation. The comment further asked if there were studies done to see if any rare plants or vegetation were affected?

This comment is related to ongoing road maintenance and largely out of the scope to Travel Management; however, Forest botanists are routinely involved with road maintenance activities and provide recommendations as necessary for protection of rare plants or vegetation.

L. PERMITS

In accordance with 40 CFR 1502.25 (b), the Supplemental Environmental Impact Statement is to list all Federal permits, licenses, or other entitlements that must be obtained in implementing the proposal. Throughout the planning process, no additional Federal, State or County permits, licenses, or other entitlements were identified as requirements for implementation of the Proposed Action or alternatives.

The Travel Management Rule prohibits the use of motor vehicles by the public off the designated system as well as use of motor vehicles on routes and in areas that are not designated. Persons exempt from the final rule prohibitions would be those with a permit specifically authorizing access and those exempt by Federal law or regulation. Special uses, permitted actions and other authorized actions would continue as is currently. The MVUM would not specify these special authorizations for motorized uses.

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CHAPTER II - ALTERNATIVES

This chapter of the FSEIS describes and compares the alternatives considered in detail for this project. It identifies function and includes a detailed description of each alternative considered as well as Mitigation Measures to minimize environmental effects, as well as monitoring applicable to the Action Alternatives. Alternatives and elements considered but not analyzed in detail are also discussed. Alternative comparison tables are included at the end of this chapter.

A. CHANGES BETWEEN 2011 DSEIS AND 2015 FSEIS

For the FSEIS, all supplemental information has been incorporated into standard text (without boxes). Changes were made to the entire FSEIS to clarify issues, expand on analysis, and provide additions, changes, updates and corrections that are responsive to issues and comments brought forth from the DSEIS comment period. In addition, issues, updates and corrections identified internally requiring modifications are also included. **This FSEIS prevails regarding any differences or conflicts with the DSEIS.**

Additional corrections to the baseline inventory and base map have been identified between the 2011 DSEIS and this FSEIS. These corrections are a result of continued internal review (and public comment). Section D of this chapter (Corrections to Baseline Inventory and Mapping) discusses and summarizes these corrections, as well as corrections to the baseline inventory and mapping throughout the travel management process. Reference is made to FSEIS Appendix I (Errata Sheet) which has been expanded to specifically include and identify these changes. The baseline change in miles of roads and trails is reflected in each of the alternatives and is displayed in the FSEIS summary tables, alternative descriptions, and accompanying maps.

In this chapter, based on public comments, edits for clarification were made to

In Assumptions and Elements Common to Action Alternatives, the definition of Forest Service administrative use has been clarified.

In Assumptions and Elements Common to Action Alternatives, the FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any *existing* site near a stream course, wetland, or water body. This was done to address the potential for motorized vehicles to encroach on Riparian Reserves and impact Aquatic Conservation Strategy

In the Land Management Plan Amendments section, clarification was added to the introduction. Changes are noted to content and wording (additions and deletions); specific detail regarding the content and wording of proposed Forest Plan Amendments is contained in FSEIS Appendix B.

In the alternative description sections, clarified reference to the McGrew Trail that is actually classified as a Forest Service Maintenance Level 2 road.

In the Mitigation Measure section, reference is now made to new National Best Management Practices (BMPs) for Water Quality Management (April 2012). These are now used in concert

with the General Water Quality Best Management Practices, Pacific Northwest Region, November 1988.
In the Mitigation Measure section, clarified and made reference to the latest quarantine area for *Phytophthora ramorum*, the pathogen that causes Sudden Oak Death (SOD).

In the Alternatives and Elements Considered but Eliminated from Detailed Study section, discussion was added for consideration for physical signs at approved dispersed campsites in Riparian Reserves was also considered but eliminated from detailed study.

B. INTRODUCTION

Identification of motorized vehicle use over an entire National Forest is a large and complex undertaking. The Rogue River-Siskiyou National Forest is approximately 1.8 million acres in size, with approximately 4,496 miles of roads currently open to the public, and approximately 236 miles of trails that allow motorized use. Combine this with possible seasonal restrictions on use and other components of a designation process, and the result is an infinite number of permutations and combinations that could be developed as alternatives. Therefore, the Forest developed a strategy to limit the number of alternatives to study in detail while providing a clear basis of choice among options.

1. Strategy for Developing the Proposed Action and Alternatives

- Under NEPA, a reasonable alternative is one that fulfills the Purpose and Need for action and responds to one or more significant issues [FSH 1909.15 (14.2)]. Analysis of the initially Proposed Action and the current situation relative to the Significant Issues showed, in general, that impacts vary with the level of human use, particularly motorized use. A criterion for the alternatives was to provide a range that would also vary in terms of amount of motorized opportunities to be provided. The alternatives should also be responsive to public comments received on the Proposed Action.

- Each alternative should provide for sufficient opportunities of public motorized recreation on the Forest while implementing the Travel Management Rule, which requires the authorized official to consider minimizing impacts to natural and cultural resources, public safety concerns, and conflicts among users. In short, the alternatives should strive to achieve or attain the stated Purpose and Need for this process.

- In response to the Travel Management Rule, the planning process under NEPA began when the Forest Service determined that there was a need to change how public motorized travel was being managed on the Rogue River-Siskiyou National Forest (see Chapter I). An initial proposal was developed based on results from analysis of the Forest's transportation system. Forest and Ranger District staff identified changes they believed should be made based on information available regarding the potential effects of travel, as well as higher-level direction, public reports of problems, and knowledge of the Forest road and trail system. This led to the development of Alternative 3-Proposed Action, which the Forest Service used to initiate the NEPA process, facilitate meaningful public comment, and serve as a basis for identification of the issues.

- Motorized use planning is designed to assess human access and travel within the Rogue River-Siskiyou National Forest. Given this, the possible options would range from unregulated or unmanaged motorized use across the Forest to prohibiting all motorized

use and travel. Although there were a few comments advocating such management, neither of these extremes was considered reasonable. They clearly would not meet the Purpose and Need for this process.

- Alternative 2, which represents the situation associated with motorized use originally analyzed in 2008 with updates throughout this process, was determined to be sufficient in representing the most motorized-use end of the range of alternatives. The Forest Service did not identify a reason to consider alternatives that would further relax control of motorized use in general. It should be noted that limiting the more motorized end of the range of alternatives to Alternative 2 did not mean that new motorized routes could not be considered within the range. The Proposed Action in particular, includes some motorized routes or areas that are not available today.

- Alternative 4, in general, is more restrictive on motorized use in exchange for putting more management emphasis on other resource values. Based on individual values, a case can be made for alternatives that would get more and more restrictive on human use (including non-motorized uses). For example, environmental analysis could demonstrate that there would be other resource benefits if all Forest roads were closed and reclaimed; if motorized, mountain bike and stock use were prohibited; and if trails were not cleared, making hiking more difficult. Most people would consider these options, as well as the option of prohibiting all human use, to be unreasonable. They would also not meet the stated Purpose and Need. The challenge was developing alternatives with increasing restrictions on motorized use while still remaining within a reasonable range. The Forest determined this end of the spectrum to be represented by Alternative 4.

- Alternative 5 was developed to reflect a combination of Alternatives 3 and 4. The development of this alternative was primarily based on public comments received during the formal 2009 DEIS comment period.

The existing level of use of NFS roads and trails is part of the current condition.

2. Identification of the Preferred Alternative

NEPA requires that the FSEIS identify the agency's Preferred Alternative or alternatives, if one or more than one exists. As noted above, the Forest Service has developed and analyzed Alternative 5, a combination of Alternatives 3 and 4. The Forest Supervisor of the Rogue River-Siskiyou National Forest has identified this alternative as the Preferred Alternative which is described in section J, this chapter.

C. ALTERNATIVE DEVELOPMENT PROCESS

1. National Forest System Roads and Trails

National Forest System (NFS) roads and trails are Forest roads and trails other than those authorized by a legally documented right-of-way held by a state, county, or other public road authority. Only NFS roads and NFS trails can be designated for motor vehicle use. State, county, and other public roads (including Forest highways) are administered by the applicable public road authority.

Roads are motor vehicle routes 50 inches or greater in width, unless defined and managed as a trail. Roads are managed by Forest Service Engineering groups. **Trails** are less than 50 inches in width, or when greater than 50 inches in width, defined and managed as a trail. Trails are managed by Forest Service Recreation managers. A designation of a trail includes the width of the trail and, to promote public safety, the distance necessary to allow other users to pass where it is safe to do so without causing damage to NFS resources or facilities. An old railroad grade converted to a trail would be an example of a trail wider than 50 inches.

Temporary roads and trails are necessary for emergency use or authorized by contract or permit. Temporary roads and trails and unauthorized roads and trails are not included on the Forest transportation atlas and are not part of this analysis.

Some NFS roads and NFS trails are not designated for motor vehicle use. These include non-motorized trails and single-purpose roads or trails (examples: Wilderness trails, intermittent service Maintenance Level 1 roads providing access for future land management activities, or roads constructed for access to power lines, ski areas, or other special use permits). The Motor Vehicle Use Map would identify only the NFS roads, NFS trails, and areas on NFS lands designated for motorized public vehicle use. NFS roads are designed for use by full-sized highway-legal vehicles, but many NFS roads also provide recreational access for OHVs and other non-highway-legal vehicles. NFS trails may be connected to each other by segments of road.

Existing Designations

Many National Forests are able to begin the designation process with the presumption that NFS roads and trails are in effect already designated for the motor vehicle uses for which they are currently managed. All National Forests, for example, include NFS roads managed as open to highway-legal vehicles. Generally, these NFS roads are identified as Maintenance Level 2, 3, 4, or 5.

Table II- 1. Road Maintenance Level Definitions

Level 1	Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. While being maintained at level 1, roads are administratively[4] closed to vehicular traffic.
Level 2	Assigned to roads open for use by high clearance vehicles. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses.
Level 3	Roads in this Maintenance Level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material.
Level 4	Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated.
Level 5	These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated.

[4] Administratively closed is defined as being restricted for access by features (e.g. berm, gate, or barricade) that prevent passenger vehicle access but is not closed by forest order. All Maintenance Level 1 roads are currently available for motorized use where vehicles are operated in a manner that does not cause damage to land, wildlife, or vegetation as defined in the Code of Federal Regulations (36 CFR 261.13(h)).

Maintenance Level 2, 3, 4, or 5 roads are already designated for use by highway-legal vehicles. Nothing in the Travel Management Rule requires reconsideration of such past management decisions.

Travel management decisions are generally focused on user-created routes, cross-country motor vehicle use, and use of off-highway vehicles (OHVs) other than over-snow vehicles. An OHV is any motor vehicle designed for, or capable of, cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. Synonymous and less used terms for this type of vehicle are "off-road vehicle (ORV)" or "all-terrain vehicle (ATV)".

An over-snow vehicle is a motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow. The Travel Management Rule exempts over snow vehicles from the designation process. Over-snow vehicle use is subject to restrictions and prohibitions under 36 CFR part 212, subpart C.

The purpose of the Travel Management Rule is to designate a system of roads, trails, and areas for motor vehicle use (other than over-snow vehicle use) and end unmanaged cross-country motor vehicle use. The rule is not intended to require re-evaluation of the entire Forest transportation system.

Jurisdiction

One part of compiling existing travel management direction is to identify jurisdiction for roads and trails on or serving NFS lands. Only NFS roads and trails can be designated for motor vehicle use. NFS lands also include state, county, and municipal roads authorized by legally documented rights-of-way. While the Forest Service may have some authority to take law enforcement actions or to regulate certain uses of such roads to protect NFS lands, they are not NFS roads and are not subject to designation under 36 CFR 212.51. Determining jurisdiction was important to identifying transportation systems in which Federal, State, and local designations and policies are reasonably consistent. As noted in FSEIS Chapter I, no decision will be made for State and County roads, and other roads or road segments not under the jurisdiction of the Forest Service.

Sometimes jurisdiction over a given road or trail is uncertain or disputed (e.g., disputed RS 2477 claims[5]). Generally, roads and trails on NFS lands are considered in the designation process unless authorized by a legally documented right-of-way. Coordination with Federal, State, county, and local public road authorities and law enforcement agencies was necessary for this analysis in evaluating roads or trails when jurisdiction is uncertain. Legal research and title searches are sometimes necessary to establish jurisdiction.

[5] RS 2477 stands for Revised Statute 2477 from the Mining Act of 1866, which states: *"The right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted."* The act granted a public right-of-way across unreserved federal land to guarantee access as land transferred to state or private ownership. Rights-of-way were created and granted under RS 2477 until its repeal in 1976.

The Oregon Revised Statutes (ORS) and California State Vehicle Code (CVC) are the major sources of State law pertaining to traffic engineering and are referred to in both the FSM and FSH. Relevant sections of the ORS and CVC are covered below. The vast majority of the Forest is located in Oregon and the Forest Service Pacific Northwest guidance is written in consideration of the ORS. The following information summarizes current Oregon and California State Laws and applies to all alternatives.

Oregon State Laws Regarding OHV Use

OHV riders must display an OHV permit "decal" when operating on public land (and the land must be specifically designated for OHV use). The permit decal must be permanently affixed to the vehicle and be clearly visible. There are three classes of OHV permits:

Class I Permit

Definition:

- For vehicles 50" wide or less, **and ...**
- Dry weight of 800 pounds or less.
- Have saddle or seat.
- Travels on three or four tires.
- Meet the safety equipment standards for off-road vehicles. (see Oregon Administrative Rules 735-116-0000)

Operating requirements:

- Have a valid driver's license, **or** …
- Youth under age 16 must be supervised by an adult over age 18 who is able to provide immediate assistance and direction to the children, **and**
- Youth and any passengers under age 18 must wear a helmet with the chin strap fastened.
- Operators with a suspended or revoked driver's license may not operate any Class I, II, or III OHV.
- Permit fee. $10.00

Class II Permit

Defined:

- For vehicles more than 50" wide, **or** …
- Dry weight of more than 800 pounds.
- Meet the safety equipment standards for off-road vehicles. (see Oregon Administrative Rules 735-116-0000)

Operating requirements:

- A valid driver's license.
- Check with law enforcement officials in the area you wish to ride for any special requirements.
- Uninsured Class II off-road vehicles should contact Department of Motor Vehicles for more information.
- Permit fee. $10.00

Class III Permit

Defined:

- For vehicles riding on two tires, **and**
- Dry weight of less than 600 pounds.
- Meet the safety equipment standards for off-road vehicles. (see Oregon Administrative Rules 735-116-0000)

Operating requirements:

- Must be at least 7 years of age
- Youth under age 16 must be supervised by an adult over age 18 who is able to provide immediate assistance and direction to the children, **and**
- Youth and any passengers under age 18 must wear a helmet with the chin strap fastened.

The following state rule changes under the **Rider Fit Program** took effect on January 01, 2009:

- A Class I OHV operator under the age of 16, must meet all the following minimum physical size requirements in relationship to the vehicle;
- Brake Reach: With hands placed in the normal operating position and fingers straight out, the first joint (from the tip) of the middle finger will extend beyond the brake lever and clutch, and;
- Leg Length: While sitting and with their feet on the pegs, the knee must be bent at least 45 degrees, and;
- Grip Reach: While sitting upright on the OHV with hands on the handlebars and not leaning forward, there must be a distinct angle between the upper arm and the forearm, and;
- The rider must be able to turn the handle bars from lock to lock[6] while maintaining a grip on the handle bars and maintaining throttle and brake control.
- Disabled riders are allowed to use prosthetic devices or modified or adaptive equipment to achieve rider fit.
- All OHV operators under the age of 16 and their adult supervisors are required to complete a state sponsored Safety Education Course. (This program will be phased in for all ages by 2014.) In addition, all youth under the age of 16 will be required to have hands on training starting 2012.

Individuals are required to display a permit decal when operating an OHV on public land. A helmet is required only if **all** the following conditions are true: (1) under 18 years old, (2) operating a Class I or Class III OHV, and (3) riding on public land.

All off-road vehicles must be equipped with a properly installed Forest Service approved spark arrestor which has not been modified from its original manufacturer's specifications. The spark arrester must meet either the US Department of Agriculture—Forest Service Standard 5100-1a, or the 80 percent efficiency level standard when determined by the appropriate Society of Automotive Engineers (SAE) Recommended Practices J335 or J350.

[6] "Lock to lock" is the terminology used by the State of Oregon to describe the point where the handlebars of a quad stop turning.

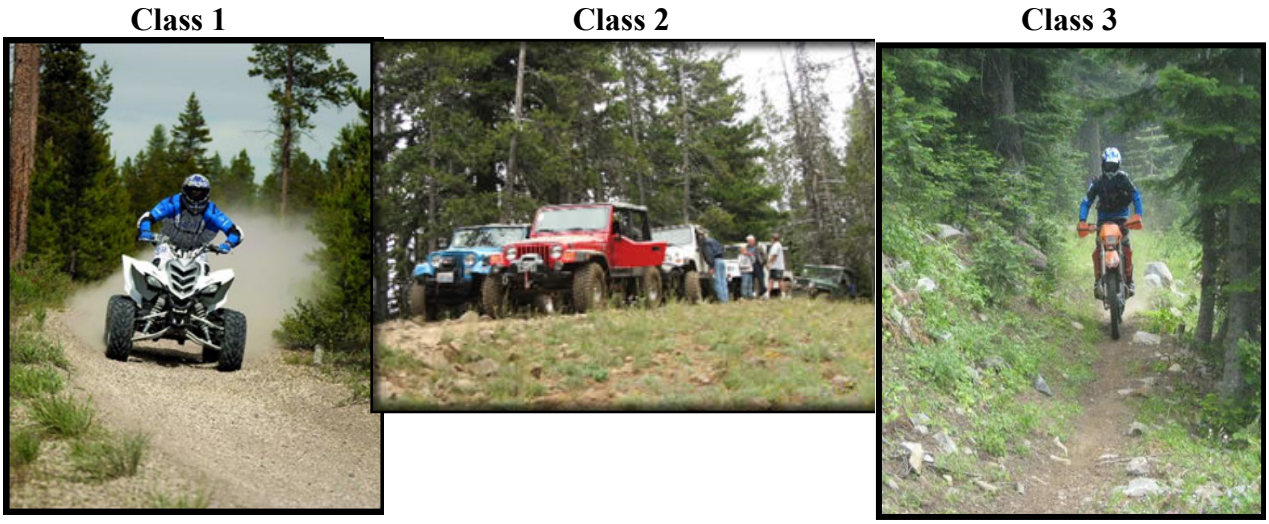
These standards include, among others, the requirements that: (1) The spark arrester shall have an efficiency to retain or destroy at least 80 percent of carbon particles for all flow rates, and (2) the spark arrester has been warranted by its manufacturer as meeting this efficiency requirement for at least 1,000 hours subject to normal use, with maintenance and mounting in accordance with the manufacturer's recommendation. A spark arrester is not required when an off-road vehicle is being operated in an area that has 3 or more inches of snow on the ground.

All vehicles must be equipped with a muffler that conforms to the current noise level and defect standards of the Department of Environmental Quality for vehicles operated off-road. Allowable ambient noise levels vary by year of manufacture, type of OHV, and proximity to "Noise Sensitive Property."[7] Required safety equipment and noise level standards for OHVs is listed in Oregon Administrative Rules (OARs) at 735-116-0000 and 340-035-0005-0030.

Table II- 2. Motorized Trail Classification and Specifications

Class I	Trail specifications for Class I trail types are designed to accommodate 3 to 4 wheel machines that are 50 inches wide or less (typically referred to as "quads"). Tread width varies from about 48 to 60 inches, with clearing widths up to 72 inches wide.
Class II	Trail specifications for Class II trail types are designed to accommodate vehicles that are greater than 50 inches wide – generally these are 4-wheel drive sport utility vehicles, side-by-side utility vehicles, and pickup trucks requiring a wider tread and clearing width than class 1 vehicles.
Class III	Trail specifications for Class III trails are designed to accommodate vehicles on two wheels (motorcycles). The tread width varies from 12 to 30 inches with a clearing width of up to 60 inches wide.

Figure II-1. Examples of OHV Classes



California State Laws Regarding OHV Use

The following excerpts are taken directly from the CVC.

[7] "Noise Sensitive Property" means real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner. OAR Division 35 340-035-0015 (38)

Division 16.5 Off-Highway Vehicles

Vehicle License

CVC 38012. (a) As used in this division, "off-highway motor vehicle subject to identification" means a motor vehicle subject to the provisions of subdivision (a)of Section 38010.

(b) As used in this division, "off-highway motor vehicle" includes, but is not limited to, the following:

(1) Any motorcycle or motor-driver cycle, except for any motorcycle which is eligible for a special transportation identification device issued pursuant to Section 38088. (Motorcycle used in racing events).
(2) Any snowmobile or other vehicle designed to travel over snow or ice, as defined in Section 557.
(3) Any motor vehicle commonly referred to as a sand buggy, dune buggy, or all-terrain vehicle.
(4) Any motor vehicle commonly referred to as a jeep (that is not highway legal).

Identification refers to registration with the Department of Motor Vehicles and evidenced by a green or red sticker–date sensitive.

Vehicle Equipment

CVC 38335 & 38345 – Headlights and taillights when operating from one-half hour after sunset to one-half hour before sunrise

CVC 38355 – Serviceable brakes

CVC 38366 – Spark Arrester

CVC 38370 – Noise Limits

Division 16.5 Chapter 7 OHV Safety, Education and Certificates

CVC 38007. The Off-Highway Motor Vehicle Recreation Division of the Department of Parks and Recreation shall adopt courses of instruction in off-highway motor vehicle safety, operation, and principles of environmental preservation by January 1, 2005. For this purpose the division shall consult with the Department of the California Highway Patrol and other public and private agencies or organizations. The division shall make this course of instruction available directly, through contractual agreement, or through volunteers authorized by the division to conduct a course of instruction.

CVC 38501 (a). An all-terrain vehicle safety training organization, commencing on January 1, 1989, shall issue an all-terrain vehicle safety certificate furnished by the department to any individual who successfully completes a course of instruction in all-terrain vehicle operation and safety as approved and certified by the Off-highway Vehicle Safety Education Committee.

CVC 38502. The department, on and after July 1, 1988, may monitor any all-terrain vehicle safety training organization or any all-terrain vehicle safety instructor without advance notice.

The monitoring may include, but is not limited to, the instruction provided, business practices, and records required by Section 11108.

CVC 38503. No person under the age of 18 years, on and after January 1, 1990, shall operate an all-terrain vehicle on public lands of this state unless the person satisfies one of the following conditions:

(a) The person is taking a prescribed safety training course under the direct supervision of a certified all-terrain vehicle safety instructor.
(b) The person is under the direct supervision of an adult who has in their possession an appropriate safety certificate issued by this state, or issued under the authority of another state.
(c) The person has in possession an appropriate safety certificate issued by this state or issued under the authority of another state.

CVC 38504. No person under 14 years of age, on and after January 1, 1990, shall operate an all-terrain vehicle on public lands of this state unless the person satisfies one of the conditions set forth in Section 38503 and, in addition, is accompanied by and under the direct supervision of a parent or guardian or is accompanied by and under the direct supervision of an adult who is authorized by the parent or guardian.

CVC 38504.1 (a). Neither a parent or guardian of a child who is under 14 years of age, nor an adult who is authorized by the parent or guardian to supervise that child shall grant permission to, or knowingly allow, that child to operate an all-terrain vehicle in a manner that violates Section 38504.

CVC 38504.2. If a person under 14 years of age was not properly supervised or accompanied in accordance with Section 38504, and the parent or guardian of that child or the adult who was authorized by the parent or guardian to supervise or accompany that child is in violation of Section 38504.1, upon conviction pursuant to Section 38504, the court may order that child to attend and complete the all-terrain vehicle safety training course accompanied by the person who violated Section 38504.1. If so ordered, the child under 14 years of age shall provide the court a copy of the all-terrain vehicles safety certificate issued as a result of that completion.

CVC 38505. No person, on and after January 1, 1989, shall operate, ride, or be otherwise propelled on an all-terrain vehicle on public lands unless the person wears a safety helmet meeting requirements established for motorcycles and motorized bicycles, pursuant to Section 27802.

CVC 38305. 38314, 38316(a), 38317. Operators may not drive a motor vehicle in a manner that endangers the safety of other persons or their property.

CVC 38319. No person shall operate, nor shall an owner permit the operation of, an off-highway motor vehicle in a manner likely to cause malicious or unnecessary damage to the land, wildlife, and wildlife habitat or vegetation resources.

Motorized Mixed Use
Motorized mixed use is defined as use of a NFS road for use by both highway-legal and non-highway-legal vehicles at the same time. The RRSNF proposes to continue managing most open NFS roads for motorized mixed use. Determinations to manage for motorized mixed use involve safety, legal, and engineering considerations. Motorized mixed use (open to all vehicles) would be allowed on those roads where a qualified road engineer has assessed the current road condition and determined that mixed use of the road would have low to moderate safety risks.

Under Oregon State Law, paved roads and two-lane gravel roads are generally closed to non-street legal ATVs unless designated open. Gravel roads, one and one-half lanes or less, are generally open to ATVs. The Rogue River-Siskiyou National Forest would allow mixed use as shown on the specific Motorized Vehicle Use Map (MVUM)).

Portions of roads on the Siskiyou Mountains and Wild Rivers Ranger Districts are located in California. According to the California Highway Patrol (Farrow 2007), mixed use is allowed on unpaved Maintenance Level 3 roads "that have been operating as mixed use roadways for years" under Section 38001 of the California Vehicle Code. The code also allows for mixed use on certain paved roads up to three miles in length if one of the following conditions is met:

- **The road is part of an off-highway motor vehicle trail segment; or**
- **An off-highway motor vehicle recreational use area and necessary service facilities; or**
- **Lodging facilities and an off-highway motor vehicle recreational facility.**

The RRSNF would allow mixed use on some non-paved roads in California. Mixed use on paved roads would not be allowed in California.

2. Alternative Development on the RRSNF

The Rogue River-Siskiyou National Forest undertook an extensive effort to validate the location of all NFS roads and trails along with unauthorized routes that showed current or past motor vehicle use, and could be interpreted as travel ways for motor vehicles. Data collection for this effort began in 2006. The Forest held public open house meetings and met with individuals to gather information for the current travel inventory. The baseline inventory information provided by groups and individuals was used to update the Forest roads and trails database. The baseline inventory was originally compiled in 2008 and has been updated throughout this travel management process. The baseline inventory and mapping used in this FSEIS is the most recent and is considered the most accurate. The inventory used for the FSEIS prevails regarding any differences or conflicts with previous inventories.

The No Action Alternative is developed based on this inventory, although, as stated previously, roads or trails that have been closed to motor vehicle use or for which there is a pre-existing decision to close or restrict use were excluded from this alternative. Also, some routes that have re-vegetated from non-use were excluded as well.

For the RRSNF, proposals are composed of basically two actions: prohibition of cross-country wheeled motorized vehicle travel by the public, and changes to the system of motorized NFS roads, trails and areas open to the public (i.e., changing allowed/prohibited vehicle classes on the existing system, changing season of use for vehicles on the existing system, and adding new roads, trails or areas to the system).

Before the Action Alternatives were developed, all existing routes identified during the analysis of the transportation system were checked for compliance with the Forest Plan Standards and Guidelines. Each Standard and Guideline related to motorized use was identified, and criteria for interpreting each Standard and Guideline were developed.

Alternatives were then developed in response to the Significant Issues identified from scoping of the Proposed Action, initiated on August 26, 2008, and all other public comments and updates to the inventory. In addition, specific route segments considered important (based on current and historical use) to the development of an Action Alternative not found to be compliant with Forest Plan Standards and Guidelines were identified and recommended for Forest Plan Amendments. These are identified in the description of the alternatives in the next section.

Development of the Action Alternatives also included the review and evaluation of the current assignment of Maintenance Levels of NFS roads. Changes were proposed if it was appropriate for the development of an alternative, based on its function.

D. CORRECTIONS TO BASELINE INVENTORY AND MAPPING

During the comment period on the 2009 DEIS, a number of corrections were identified to the baseline inventory and base map that reflected the current condition and Alternatives 1 and 2. Some of these corrections were simply changes to the road surface type (paved versus un-paved), some involved a change in the road Maintenance Level, some roads were corrected to show whether they are currently open or closed, and some were closed as a result of recent legislation. These changes were incorporated into the 2009 FEIS.

Additional corrections to the baseline inventory and map were identified between the 2009 FEIS and the 2011 DSEIS. Those corrections were a result of internal review that incorporated changes due to project implementation (outside of this travel management process) since the publishing of the 2009 FEIS, as well as mapping and database errors. An errata sheet was attached to the 2011 DSEIS specifically identifying those changes. The change in miles of roads and trails was reflected in each of the alternatives and was displayed in the DSEIS summary tables and alternative descriptions.

1. Corrections Identified in the DSEIS

The following is a discussion of the primary changes to the baseline inventory and mapping documented in the 2011 DSEIS (minor edits or changes to the maps are not discussed). The total mileage of NFS Roads was decreased by 24.02 miles due to implementation of the Applegate McKee Legacy Roads Decision Notice (watershed restoration) and subsequent decommissioning of 25 roads.

Mapping (GIS) and database errors resulted in the addition of 17.29 miles of roads open to the motorized use, while 5.87 additional miles were closed for resource protection resulting from implementation of the Applegate McKee Legacy Roads Decision Notice. Recognition that the Forest Service did not have easements across private lands resulted in removal of 11.28 miles of road.

Errors and resulting corrections occurred on four trails;

- An unnamed old road used as a "trail" (1.70 miles) just south of Applegate Lake on the Siskiyou District paralleling County Road 859 was removed from the system prior to 2000.
- Trail 1101, the Johnson Creek Trail (2.70 miles) was miss-labeled in the GIS coverage as a motorized trail, but is not accessible for motorized use.
- Trail 1168, the Lower Rogue River Trail (6.70 miles), on the Gold Beach District, from Agness West is under County jurisdiction and is non-motorized.
- Trail 1279 (1.86 miles) on the Gold Beach District was incorrectly left off the map due to a GIS coverage error.

2. Mixed Use Analysis

As discussed in the DSEIS, the use of Forest roads by both highway legal and non-highway legal vehicles is informed by a "mixed use" analysis that is completed by a qualified engineer. During the publication of the 2009 DEIS and 2009 FEIS, the analysis was on-going. For the 2011 DSEIS, it was assumed that mixed use (highway legal and non-highway legal vehicles) would be allowed on all Maintenance Level 2 and 3 roads and some Maintenance Level 4 roads, consistent with State law for both Oregon and California.

Results of this mixed use analysis identified 93 miles of roads or road segments (that would otherwise allow mixed use) where risks are too high to allow for mixed use. For the 2011 DSEIS and this FSEIS, these changes are now reflected as part of the baseline inventory and base map, displaying the current condition, which is the same for all alternatives. This elimination of mixed use on these roads would occur (via change to the RMOs) regardless of this NEPA effort in order to mitigate unsafe conditions.

Additional mixed use analysis completed after publishing the 2009 FEIS identified 25.8 miles of roads or road segments where mixed use risks are high. These roads were not incorporated during the 2009 FEIS because the information was not available at that time. For the 2011 DSEIS and this FSEIS, these additional roads or road segments have been removed from allowable mixed use due to high risk concerns. These changes are incorporated as part of the baseline inventory and base map that displays the current condition and is consistent for all alternatives.

Below is a description of where these additional segments of high mixed use risk are located on the Rogue River-Siskiyou National Forest.

Gold Beach Ranger District

Mixed use of the Hunter Creek Road 3680 would not be allowed from Milepost 6.19 to Milepost 9.20. This is a change from the current condition and is the result of a mixed use analysis report that determined that high safety risks cannot be sufficiently lowered even with mitigation measures. There may be some individuals that access National Forest lands with OHVs over that portion (MP 0.0 to MP 6.19) of the Hunter Creek road on private lands; this section of road is also rated as high safety risk. These individuals would need to transport their OHVs to MP 9.20.

Wild Rivers Ranger District
Motorized mixed use would be prohibited on approximately 22 miles of road where it is currently authorized. The change would affect portions of the following roads: Shan Creek (2706), Onion Mountain (2509), and Crazy Peak (4906). Closing the Shan Creek road to mixed use would shut down a portion of loop opportunities that includes both trails and roads. There are still many miles of opportunities for loop travel in the same area. Closing the Onion Mountain road to mixed use would prevent OHV users traveling up to the Onion Mountain lookout. Closing the Crazy Peak road would block direct access from an extensive OHV system of roads to approximately 5 miles of roads currently accessing the Black Creek drainage and the Siskiyou Wilderness.

Siskiyou Mountains Ranger District
Prohibit motorized mixed use on approximately 0.7 mile of Road 1000 where it is currently authorized. This road extends non-mixed use 0.7 mile from the end of pavement to a safer starting point for OHV traffic and has little effect on the OHV system of roads and trails on the Siskiyou Mountains District.

3. Additional Corrections Identified for the FSEIS

Additional corrections to the baseline inventory and base map have identified between the 2011 DSEIS and this FSEIS. These corrections are a result of continued internal review (and public comment) that has incorporated changes due to legislation (outside of the travel management process), identification of unauthorized routes that were incorrectly analyzed as system routes, identification of routes that were incorrectly analyzed as system trails, and situations where the Forest Service lacked legal access over private lands.

FSEIS Appendix I (Errata Sheet) has been expanded to specifically include and identify these changes The baseline change in miles of roads and trails is reflected in each of the alternatives and is displayed in the FSEIS summary tables, alternative descriptions., and accompanying maps.

The following is a summary discussion of the primary changes to the baseline inventory and mapping documented in this FSEIS (minor edits or changes to the maps are not discussed). The total overall change is a decrease of 24.4 miles of roads and motorized trails. The total mileage of NFS roads was decreased by 16.2 miles, primarily due to the exclusion of mixed use roads within the Copper Salmon Wilderness area.

The total mileage of NFS trails was decreased by 8.2 miles, primarily due to motorized trails that were incorrectly included or were not properly analyzed for inclusion. Small segments of motorized trails were removed based on recognition that the Forest Service did not have easements across private lands. Additional mapping (GIS) and database errors were also identified and are included in the baseline for this FSEIS.

E. ALTERNATIVE 1 - No Action

NEPA regulations at 40 CFR 1502.14 state that "agencies shall: (d) include the alternative of no action." CEQ guidance clarifies that the No Action Alternative be based on no change from current management. In this case, current management is considered to be implementation of previous decisions affecting motorized use on the Rogue River-Siskiyou National Forest. The No Action Alternative is used as a baseline against which to compare other alternatives.

The baseline conditions are described in the FSEIS, Chapter III, Affected Environment and Environmental Consequences.

1. Function of the No Action Alternative

Under this alternative the agency would take no affirmative action (no change from current management or direction). This means continued cross-country travel, continued use of unauthorized routes, and no change to the current Forest system of roads, trails and areas. The No Action Alternative is not a proposal to add all of the unauthorized routes to the current Forest system of roads, trails and areas. It is a proposal to 'do nothing' and maintain the 'status quo'. The 'status quo' would be the combination of all previous decisions by the Forest (including allowing cross country travel, the creation of temporary roads associated with permits or other authorizations; and any previous decisions associated with the system of roads, trails and areas).

It is important to approach the *No Action* Alternative in this manner because it establishes an important benchmark for the assessment of impacts resulting from the existing condition, and largely forms the justification for the need for action since current unacceptable environmental impacts are likely to continue or get worse. This benchmark (the No Action Alternative) will show impact trends based on findings in the motorized route inventory, national trends, trends in Oregon and California, and IDT analysis. The *No Action* Alternative provides a benchmark for contrasting resource impacts and use conflicts with the Action Alternatives.

2. Description of the No Action Alternative

Under the *No Action* Alternative, the existing condition, as reflected in the Forest route inventory and analysis of the transportation system originally conducted in 2008 and updated throughout this process, would continue. These existing routes on the Forest would primarily be used for public wheeled motor vehicle use. Cross-country travel and route proliferation would still occur in isolated areas on the Forest since it is not currently prohibited. Areas for dispersed activities would continue to be used by public wheeled motor vehicles primarily for the purpose of dispersed camping and parking. No changes would be made to the current National Forest transportation system and no cross-country travel prohibition would be put into place.

The following table provides a Forest-wide summary of current conditions[8] for roads, trails and areas:

Table II- 3. Alternative 1 (No Action - Current Condition) Summary

Roads and Trails	Current Condition
Total NFS Roads	5,270 miles
NFS Roads "open" to the public	4,496 miles
Open roads that allow mixed use	3,167 miles
Open roads that prohibit mixed use	1,329 miles
Total NFS Trails	1,190 miles
NFS Trails that allow motorized use	236 miles
Total area open to cross country travel	274,670 acres

[8] As noted, this summary is based on the latest baseline inventory, updated as of August 2014.

Under this alternative, no MVUM would be produced and Subpart B of the Travel Management Rule would not be implemented. The No Action Alternative is not designed to meet the Purpose and Need for action. Wheeled motor vehicle travel by the public would not be limited to designated routes. Unauthorized routes would continue to have no status or authorization as NFS roads or trails. Existing closures and orders would continue.

No NEPA decision would be necessary to continue use of the current Forest system of roads, trails and areas (i.e., OHV and transportation). These decisions were made previously. User created roads, trails and areas are not NFS facilities and they are unauthorized. The agency did not create, manage, or construct them for public use; the public, as a result of cross-country travel, created them.

Temporary roads, trails and areas built to support emergency operations or temporarily authorized in association with contracts, permits or leases are not intended for public use. They are not NFS facilities (e.g., they are unauthorized for public use). Any proposal to add these temporary roads to the NFS would require a NEPA decision. No Forest-wide or route-specific Forest Plan Amendments are included as part of this alternative since no action is being taken.

Included with this document is a map packet containing several large oversized maps that represent each of the alternatives. Map FSEIS – ALT 1 & 2 displays the current conditions for roads and trails that **allow** some form of motorized vehicle use for the five Ranger Districts on the Rogue River-Siskiyou National Forest (Powers, Gold Beach, Wild Rivers, Siskiyou Mountains, and High Cascades).

Chapter III of the FSEIS includes a disclosure of the direct, indirect and cumulative environmental consequences resulting from the agency taking no action to change from current management direction (i.e., continued cross-country travel and use of unauthorized routes by the public). Providing this disclosure allows the existing condition (open) to be compared to the proposed condition (closed) in each Action Alternative as well as the incremental effects of any changes to the existing Forest system of roads, trails and areas (including proposals to add unauthorized routes to the system).

F. ASSUMPTIONS AND ELEMENTS COMMON TO ACTION ALTERNATIVES

This section presents assumptions and elements that are common to Alternatives 2, 3, 4 and 5. These are referred to as the Action Alternatives. These alternatives focus on the allowable uses for wheeled motorized vehicle routes and areas. Action Alternatives are being carried forward in accordance with the Travel Management Rule (36 CFR Part 212). A MVUM would designate where motorized vehicle routes are located as well as which class of vehicle may use the route and the season of use based on the alternative selected.

1. Authorizations

Any activities associated with contract, permit, lease or other written authorization is exempt from designation under the Travel Management Rule (36 CFR 212.51 (a) (8) and are not part of this proposal (i.e., fuelwood permits, motorized Special Use Permits, etc.).

Access for permitted activities (such as livestock operations, maintenance of water developments, utility maintenance, timber management or harvest activities, ski area management, outfitter-and-guide operations, forest product gathering, and special events) on National Forest System land is independent of general public access. Individuals or groups with special permits are allowed to conduct their business according to conditions outlined in their permits. If a permit does not stipulate exemptions to the Forest's travel regulations, the general travel regulations will apply.

Except in Wilderness and other congressionally designated special areas, the following are exempt from prohibitions associated with each Action alternative when granted by the District Ranger or Forest Supervisor:

- Limited administrative use by the Forest Service.
- Use of any fire, military, or law enforcement vehicle for emergency purposes.
- Authorized use of any combat or combat support vehicle for national defense purposes.
- Law enforcement response to violations of law, including pursuit (Note: emergency access and law enforcement pursuit does not necessarily require permission from the Forest Supervisor).
- Use and occupancy of National Forest System lands and resources pursuant to a written authorization issued under Federal law or regulations.

Although administrative use by the Forest Service is exempt from the 2005 Travel Rule, administrative activities would typically be: 1) very minor in amount and duration; 2) would not typically involve motorized use unless determined reasonably necessary; 3) would not occur in Wilderness and other congressionally designated special area without additional approval; and 4) would incorporate appropriate mitigation measures to minimize adverse environmental impacts.

The Forest Service will continue to make changes to NFS roads and trails on an 'as-needed-basis'. It will also continue to make decisions about temporary roads or trails on an 'as-needed-basis' associated with contract, permit, lease or other written authorization.

2. Parking

Parking a motor vehicle on the side of the road, when it is safe to do so without causing damage to NFS resources or facilities, is allowed under all of the Action Alternatives, unless prohibited by State law, a traffic sign, or an order (36 CFR 261.54). NFS roads include all trailheads, parking lots, terminal facilities[9], and turnouts associated with NFS roads.

The "side of the road" is defined as that area within one vehicle length, not to exceed 20 feet, from the edge of the road surface. "Parking" is defined as stopping or standing a vehicle temporarily for the purpose of engaging in activities other than camping. Parking on the side of the road may not damage the land, vegetation, or streams and no vegetation (live or dead) may be cut.

[9] Terminal facilities are defined as a transfer point between the Forest transportation system and forest resources served by the system, or between different transportation modes, including parking facilities, boat ramps, trailheads, log landings, and airfields.

3. Motorized Access for Dispersed Camping

It is well recognized that National Forests have historically provided camping opportunities outside of developed campgrounds. This type of dispersed motorized use has historically occurred adjacent to open roads, adjacent to bodies of water, and at the termini of roads and trails. Under all Action Alternatives, motor vehicle travel would not be allowed off of any designated motor vehicle route, except to access designated, defined or existing[10] dispersed campsite(s) not to exceed 300 feet[11] from centerline either side of the designated route and no closer than 30 feet to a stream, wetland or waterbody.

Many dispersed sites have well-used routes to them. These routes, while not formally designated by the agency, are part of the recreational legacy that the Travel Rule allows discretion through the local unit to maintain for dispersed site access. As such, use of existing established routes within the above-referenced 300 foot corridor, to access existing dispersed campsites would be required. Established routes may be described as existing, commonly used wheel tracks that are not NFS roads. Additional site-specific closures and seasonal restrictions (such as emergency fire closures or where unexpected resource damage is occurring) may be implemented on a case-by-case basis for management, wildlife, and resource protection through authorized forest orders.

Each Action Alternative would allow motorized access off of the road surface for the purpose of dispersed camping except in those areas specifically identified where access would be prohibited. The following aspects are common to all Action Alternatives.

a. Activities Generally Prohibited

- Dispersed motorized camping within Botanical Areas, Research Natural Areas, and all Municipal Watersheds.
- Areas currently closed by a Forest Order (for example, Big Butte Springs Watershed, Ashland Watershed, etc.).
- Dispersed camping or parking within ¼ mile (1,320 feet) of any potable water source or developed campgrounds.
- The use of a motorized vehicle which damages or unreasonably causes resource damage while accessing a dispersed campsite.
- Establishment of new motorized routes to access dispersed campsites.
- Crossing of any streams, wetlands, or water bodies unless on a designated route.
- Off-road motorized travel for game retrieval.

Restrictions on Motorized Access for Dispersed Camping within Riparian Reserve Areas
Given the current list of activities generally prohibited as identified above, a potential for motorized vehicles to encroach on Riparian Reserves and impact Aquatic Conservation Strategy Objectives was identified.

To alleviate this concern, the FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any *existing* site near a

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[10] An "existing dispersed campsite" is an area obviously used by campers that usually contains a primitive fire ring and minimal ground vegetation as the result of motor or foot traffic.

[11] Region 6 Guidelines to implement the Travel Management Rule (36 CFR 212 subpart B (2005)) limited dispersed camping sites to not more than 300 feet either side of a designated route. (September 6, 2006; Revised April 20, 2009)

stream course, wetland, or water body. This change is based on the Water Erosion Prediction Project model (WEPP). Applicable research from timber harvest actions concludes that a suitable riparian buffer will mitigate sediment effects to streams. The assumption used to create a 30-foot setback for motorized camping relies on the fact that camping is generally done on ground with a slope of 5% or less. Since slope is a substantial factor in sediment delivery to streams, the WEPP model found that buffers of 30 feet prevented sediment delivery to adjacent streams.

b. Activities Generally Allowed

- Access to designated gravel bars for the purposes of parking for river related day use access or camping located along the lower Rogue, lower Illinois, Chetco, and Elk Rivers.
- The Rogue River gravel bars include: Smith Orchard, Foster, Miller/Dunkelberger, Quosatana, Lobster Creek, and Hawkins located on the Gold Beach Ranger District.
- The one Illinois River gravel bar is located in the vicinity of Oak Flat Campground located on the Gold Beach Ranger District.
- The Chetco River gravel bars include: Miller, Nook, Redwoods, and South Fork (upper and lower). All of these gravel bars are located on the Gold Beach Ranger District.
- The Elk River gravel bars are unnamed and include five bars located between the river and Road 5325 on the Powers Ranger District.

4. Land Management Plan Amendments

Designations and restrictions on motor vehicle use are fundamentally site-specific decisions, and are not normally made in land management plans (Forest Plans). However, each site-specific motorized use decision must be evaluated to ensure it is consistent with overall management direction and Standards and Guidelines in the applicable Forest Plan. If proposed changes to the Forest transportation system (including the prohibition on cross-country motor vehicle use) would be inconsistent with the applicable land management plan, proposed amendments to the plans must be included with the alternatives so that the final decision would be consistent with the land management plan(s).

The travel management process for the Forest has initially and consistently identified the need for Forest Plan amendments. These non-significant amendments are primarily to make historical and ongoing motorized use legal and in accordance with Forest Plan direction that is currently in error and/or inconsistent between the two affected Forest Plans. Motorized use was ongoing prior to and at the time of Forest planning that created the Land and Resource Management Plans (1989 for the Siskiyou and 1990 for the Rogue River). The underlying need for plan amendments is to correct this error in knowledge and assumptions made at that time, which did not recognize this ongoing use. Further, during initial development, the two Forest Plans were not well coordinated between the adjacent Forests with sometimes conflicting Management Direction or Standards and Guidelines affecting the same route.

While no formal monitoring has occurred regarding existing trails in Botanical Areas, Back Country Non-Motorized Areas and Research Natural Areas, the existing and ongoing motorized use is historically well known. The 2005 Travel Rule requires that "[d]esignations must be consistent with the applicable land management plan. If the responsible official proposes a designation inconsistent with the applicable land management plan, a proposed amendment to the plan must be included . . ." (70 Fed. Red. 68268 (2005))

For the RRSNF, there are two types of changes proposed as Forest Plan Amendments, overall **Forest-wide amendments** to the Forest Plans to implement the Travel Management Rule, and **route-specific amendments** in the form of changes to specific management direction and/or to Standards and Guidelines. Both types of amendments are needed under the various Actions Alternatives and are proposed to allow a decision under these alternatives to be consistent with land management plan direction. This process is being enacted to provide improved motorized use direction, in compliance with current Forest Service policy. This process and its analysis have considered all applicable wheeled motorized use management direction and constraints. Current Land and Resource Management Plans provide direction for portions of the Forest that are open to cross-country motor vehicle use. **Implementation of the Travel Management Rule requires an overall forest-wide amendment to the applicable Forest Plans to provide direction as associated with the 2005 Rule.**

Under the Travel Management Rule, all roads, trails, and cross-country motorized use would be closed unless designated open to specific uses. For the Action Alternatives, new additional text, specific to each respective Forest Plan for the Rogue River-Siskiyou National Forest, would amend current management direction for motorized vehicle use. Since motorized use includes OHV use, **all Action Alternatives propose the deletion of the 1989 and 1990 Off-road Vehicle Management Plans, contained as appendices to the respective Forest Plans, to be replaced with the Motorized Vehicle Use Map**.

The following table portrays the elements of proposed Forest Plan Amendments by alternative. The No Action Alternative (Alternative 1) does not include Forest Plan Amendments and is included in the table for reference. Alternatives 2, 3, 4, and 5 (the Action Alternatives) include Forest Plan Amendments according to the function and description of the alternatives, as described in this chapter. For specific detail regarding the content and wording of proposed Forest Plan Amendments, see FSEIS Appendix B (incorporated by reference).

Table II- 4. Forest Plan Amendment Proposals by Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Rogue River National Forest LRMP					
Forest-wide amendment to implement Travel Rule	NO	YES	YES	YES	YES
Forest-wide amendment to delete ORV Plan - Appendix C	NO	YES	YES	YES	YES
Specific amendments to make motorized use on the Boundary, O'Brien Sturgis Fork and Cook and Green Trails consistent with Forest Plan direction and Standards and Guidelines	NO	YES	YES	NO	YES
Siskiyou National Forest LRMP					
Forest-wide amendment to implement Travel Rule	NO	YES	YES	YES	YES
Forest-wide amendment to delete ORV Plan - Appendix E	NO	YES	YES	YES	YES
Specific amendments to make motorized use on portions of the Boundary, Lawson, Game Lake, Lower Illinois, and Silver Peak Hobson Horn and unnamed connector Trails consistent with Forest Plan Standards and Guidelines	NO	YES	YES	NO	YES
Specific amendment to reconcile the conflict with North Fork Smith Wild and Scenic River Management Plan which allows motorized use and access to Sourdough Camp and Road 4402-206	NO	NO	NO	YES	NO

The FSEIS evaluates the effects of the proposed amendments as related to the objectives, guidelines and other contents of the Forest Plans of the Rogue River and Siskiyou National Forests as required by 36 CFR 219.10 (f). The level of analysis should be sufficient to evaluate effects associated with the site-specific changes associated with a motorized use system. Based on this evaluation (FSEIS Chapter III, section G), the Forest Supervisor will determine whether the proposed amendments significantly change the delivery of goods and services as described in the respective Forest Plans[12].

5. Motorized Vehicle Use Map (MVUM)

In accordance with the Travel Management Rule and following a decision, the Forest would publish a MVUM identifying all Forest roads, trails and areas that are designated open for motor vehicle use by the public. The MVUM would specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. The MVUM would be updated and published annually and/or when changes to the Forest's transportation system are made. Future decisions associated with changes to the MVUM may trigger the need for documentation of additional environmental analysis.

Routes may be authorized under a forthcoming Travel Management decision, but may not appear on the MVUM until suitable or qualified for that use. From time to time, it is anticipated that some routes may become impassable due to unforeseen events such as weather, vegetation conditions or other factors[13]. Users should be aware that route conditions may vary and use appropriate caution. If the current condition is found to be causing resource damage, these routes may be temporarily closed and removed from the MVUM while the appropriate maintenance work is analyzed and completed.

Designations may be revised as needed to meet changing conditions (36 CFR 212.54). Revisions to designations, including revisions to vehicle class and time of year, will be made in accordance with FSM 7712, 7715, and 7716. When a designated route is temporarily closed for more than 1 year, the MVUM would be updated to reflect the closure. When the route is reopened, the MVUM would be updated to reflect the reopening. No additional travel or environmental analysis would be required to support these temporary changes, which do not affect the underlying designation.

G. ALTERNATIVE 2

Alternative 2 would designate the current condition, excluding cross-country travel, with Forest Plan Amendments that would close all roads, trails and cross-country travel unless designated open to be consistent with the Travel Management Rule, and enact site-specific route Plan Amendments to make current use consistent with the Forest Plans.

1. Function of Alternative 2

This alternative would implement actions consistent with the Travel Management Rule with no change to the current system of NFS roads, trails and designated play area.

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[12] FSM 1926.51

[13] .In some cases, authorized routes may not currently have appropriate rights-of-way; these routes would not appear on the MVUM until necessary rights-of-way are secured.

This alternative is similar to the No Action alternative since it represents no change with respect to the existing NFS facilities or "baseline" transportation system. This alternative is designed to assess the consequences of implementing the Travel Management Rule with no changes to the current system of roads, trails, and play areas.

Under Alternative 2, there would be no change from current management or direction, except cross-country travel would not continue, use of unauthorized routes would not be allowed, and there would be no changes to the current NFS of roads, trails and designated play area. Alternative 2 would maintain the 'status quo' and would be the combination of all previous decisions by the Forest (i.e., previous decisions associated with the NFS of roads, trails and designated play areas). This alternative is also designed to be responsive to Scoping comments received in the fall of 2008. Many people expressed concern about the possible loss of motorized opportunities.

2. Description of Alternative 2

Alternative 2 would implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest. Also included would be site-specific level Forest Plan Amendments to make the plans consistent with current and historical motorized use on the portions of the Boundary Trail and portions of the Game Lake, Lawson Creek, Lower Illinois, and Silver Peak Hobson Horn Trails.

These existing routes on the Forest would primarily be used for public wheeled motor vehicle use. Areas for dispersed activities would continue to be used by public wheeled motor vehicles primarily for the purpose of dispersed camping and parking. No changes would be made to the current National Forest Transportation System, except general cross-country travel would be prohibited outside the identified designated play area. Table II-5 summarizes Alternative 2.

Table II- 5. Alternative 2 Summary

Roads and Trails	Current Condition	Alternative 2
Total NFS Roads	5,270 miles	5,270 miles
NFS Roads "open" to the public	4,496 miles	4,496 miles
Open roads that allow mixed use	3,167miles	3,167 miles
Open roads that prohibit mixed use	1,329 miles	1,329 miles
Total NFS Trails	1,190 miles	1,190 miles
NFS Trails that allow motorized use	236 miles	236 miles
Total area open to cross country travel	274,670 acres	15 acres

* The only paved roads on the Forest that currently allow mixed use are those that are part of the Prospect OHV System.

Compared to the Proposed Action (Alternative 3), this alternative would not propose conversion of Maintenance Level 1 roads to motorized trails. There would be no new road or trail closures over the current condition. There would be no new play area and no mixed use on paved roads except for existing use on Prospect OHV system.

Alternative Design Strategy
Based on analysis of the transportation system, the following assumptions were used to design this alternative:

- NFS Maintenance Level 2, 3, 4 and 5 roads or trails currently being used that have no order closing or prohibiting use were included as part of the current condition. Current use may or may not be consistent with Forest Plan direction.

- Any NFS road or trail that is currently being used where the use is illegal or not consistent with State law was not included as part of this alternative.

3. Forest-wide Elements of Alternative 2

All roads and trails would be closed to motorized use unless designated. Specific Forest Plan Amendments would close cross-country use, consistent with the Travel Management Rule, on approximately 274,670 acres.

Under Alternative 2, NFS Maintenance Level 2, 3, 4 and 5 roads, trails and areas that are currently part of the Forest transportation system and are open to wheeled motorized vehicle travel would remain designated for such use. Alternative 2 was designed to take into account past patterns of OHV use on the Forest as well as other public motor vehicle use.

These routes provide all-purpose access for destination travel, driving for pleasure, hunting, fishing, and other recreational activities, such as, travel to dispersed camping locations, specific features or destinations, or unique motorized recreation experiences, while directing OHV use onto routes where there is available mileage and connections to other routes open to OHVs.

At no time may any motorized use take place that would cause unacceptable resource damage. Additional site-specific closures and seasonal restrictions (such as emergency fire closures or where unexpected resource damage is occurring) may be implemented on a case-by-case basis for fire management, wildlife, and resource protection through authorized travel orders. Nothing in this alternative precludes future project-specific environmental analysis from proposing the construction of new system roads and trails or the decommissioning or closing of roads or trails.

Current Land and Resource Management Plans provide direction for portions of the Forest that are open to cross-country motor vehicle use. Under this alternative, amendments to the Rogue River and Siskiyou Land and Resource Management Plans are proposed to provide consistency with the 2005 Travel Management Rule.

The **map associated with Alternative 1** (No Action) **is also applicable to Alternative 2** (FSEIS – ALT 1 & 2, available in the map packet).

Under this alternative, off-road travel for motorized access for dispersed camping would be allowed within 300 feet from centerline of roads designated as open to motorized use. Also see elements and restrictions common to all Action Alternatives (section F, 3) this chapter.

4. District Specific Elements of Alternative 2

a. Powers Ranger District Elements

There would be no changes on the Powers District.

b. Gold Beach Ranger District Elements

An amendment to the Siskiyou Land and Resource Management Plan to make motorized use on portions of the Game Lake Trail (# 1169), the Lawson Creek Trail (#1173), the Lower Illinois River Trail (#1161), the Silver Peak Hobson Horn Trail (#1166), and an unnamed connector trail consistent with Standards and Guidelines for the allocations through which it passes (Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. These trails are located on the Gold Beach Ranger District. Historical and current motorized use of these trails is not consistent with Standards and Guidelines.*

An amendment to the Siskiyou Land and Resource Management Plan is proposed to make motorized use of the Boundary Trail (#1207) consistent with Standards and Guidelines for the allocations in which it passes through (Research Natural Area and Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the former boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area and Backcountry Recreation).*

c. Wild Rivers Ranger District Elements

An amendment to the Siskiyou Land and Resource Management Plan is proposed to make motorized use of the Boundary Trail (#1207) consistent with Standards and Guidelines for the allocations in which it passes through (Research Natural Area). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area).*

d. Siskiyou Mountains Ranger District Elements

An amendment to the Rogue River Land and Resource Management Plan is proposed to make motorized use of the Boundary Trail (#1207) and some connecting trails (O'Brien Trail #900 and Sturgis Fork #903) consistent with Standards and Guidelines for the allocations through which it passes. See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the former boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area, Backcountry Non-Motorized, and Botanical Area).*

e. High Cascades Ranger District Elements

There would be no changes on the High Cascades District. The Prospect OHV system would remain in place and current management practices would continue.

H. ALTERNATIVE 3 - Proposed Action

The Proposed Action (Alternative 3) is based on the Forest's analysis of the transportation system process (baseline inventory was originally compiled in 2008 and updated throughout this travel management process), and focuses on the change from the current condition. It aims to strike a balance for various forms of motorized use by identification of sustainable motorized use opportunities with minimal adverse resource impacts, and implementing the Travel Management Rule.

1. Function of Alternative 3

The Proposed Action would provide for a designated and managed system, implement changes to reduce existing resource damage from motorized use, and reduce social impacts, user conflicts and safety concerns. Other functions of the Proposed Action are to establish a framework that the Forest used to initiate the NEPA process, facilitate meaningful public comment, and serve as a basis for identification of the issues.

2. Description of Alternative 3

Based on the stated Purpose and Need for action and as a result of analysis of the transportation system process, under the Proposed Action (Alternative 3), the Forest proposes to:

- Implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest.
- Implement site-specific level Forest Plan Amendments to make the plans consistent with current and historical motorized use on the portions of the Boundary Trail and portions of the Game Lake, Lawson Creek, Lower Illinois, and Silver Peak Hobson Horn Trails.
- Formally designate approximately 4,482 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,181 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Authorize designation of two new motorized trail segments (Penn Sled & Woodruff connector) to provide loop route opportunities (approximately 1.7 miles).
- Authorize conversion of approximately 12 miles of NFS Maintenance Level 1 roads to motorized trails to maintain a portion of the currently used travel routes for motorized opportunities.

- Designate two play areas where off-road motorized use would be allowed. This includes continued use of the existing Woodruff area near Prospect and the development of an additional area near Willow Lake. Both areas are located on the High Cascades Ranger District and total approximately 25 acres where motorized cross-country travel would be allowed.
- Prohibit all other cross country motorized travel outside of the play areas identified above (i.e. closure of 274,670 acres).
- Prohibit motorized use on 774 miles of NFS Maintenance Level 1 roads.

Under the Proposed Action, most NFS Maintenance Level 2, 3, 4, and 5 roads, trails and areas that are currently part of the Forest Transportation System and are open to wheeled motorized vehicle travel would remain designated for such use. The Proposed Action was designed to take into account past patterns of OHV use on the Forest as well as other public motor vehicle use.

Where possible, routes creating connections between popular use areas were included to provide all-purpose access for destination travel, driving for pleasure, hunting, fishing, and other recreational activities, such as, travel to dispersed camping locations, specific features or destinations, or unique motorized recreation experiences, while directing OHV use onto routes where there is available mileage and connections to other routes open to OHVs.

3. Forest-wide Elements of Alternative 3

Under the Proposed Action, amendments to the Rogue River and Siskiyou Land and Resource Management Plans would provide consistency with the 2005 Travel Management Rule. All roads and trails and areas would be closed to motorized use unless designated as open.

Alternative Design Strategy
Based on analysis of the transportation system, the following assumptions were used to design this alternative:

- All Maintenance Level 2, 3, 4, and 5 NFS roads would remain open to motorized use, except where: the road is known to be naturally closed or impassable, the road is causing unacceptable resource damage either directly or by allowing access to a sensitive area, or closed by Forest Order.

- All trails closed to motorized use by a Forest Order would continue to be closed to motorized use.

- No motorized use would be allowed on Maintenance Level 1 NFS roads unless the road is changed to Maintenance Level 2 (none are proposed) or converted to a trail that allows motorized use.

- For Maintenance Level 1 roads converted to motorized trails, maintenance would include:
  - "Log out" trees from the trail[14].
  - Maintaining drainage structures (culverts, drain dips, water bars, etc.).
  - Maintaining a clearing width of 6-8 feet and clearing height of 8-10 feet. This consists of brush and small tree removal. Low growing ground vegetation (grasses,

[14] Log out is a common trail maintenance term. It means cutting away trees that have fallen across the trail.

herbs, forbs) would not be removed from cut banks, fill slopes, or from the former road bed.

- For motorized trail construction/reconstruction, the following would apply:
  - For Class III motorcycle trails, a solid sustainable tread 18-24 inches wide with a clearing width of approximately 6 feet and a clearing height of 8-10 feet would be created[15].
  - Utilize rolling drain dips, natural features, and a slightly out-sloped tread to divert water off the trail.
  - Locate trail to avoid cutting any trees greater than 8 inches in diameter. Maintain canopy closure.
  - For Class I quad trails, create a tread width that would be approximately 50 inches wide with a clearing width of 6-8 feet.

Under the Proposed Action, approximately 4,482 miles of road and 218 miles of trail would be open to motorized use. Table II-6 below, summarizes the Proposed Action.

Under this alternative, off-road travel for motorized access for dispersed camping would be allowed within 300 feet from centerline of roads designated as open to motorized use. Also see elements and restrictions common to all Action Alternatives (section F, 3) this chapter.

Table II- 6. Alternative 3 (Proposed Action) Summary

Roads and Trails	Current Condition	Proposed Action	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,4829 miles	-14 miles
Open roads that **allow** mixed use	3,167 miles	3,181 miles	+14miles
Open roads that **prohibit** mixed use	1,329 miles	1,315 miles	-14 miles
Total NFS Trails	1,190 miles	1,204 miles	+14 miles
NFS Trails that **allow** motorized use	236 miles	216 miles	-20 miles
New trails authorized		1.7 miles	
Authorize conversion ML1 road to trail		12.0 miles	
Total area open to cross country travel	274,670 acres	25 acres (not including gravel bars)	

The following elements of Alternative 3 (Proposed Action) are identified by each of the Ranger Districts on the Rogue River-Siskiyou National Forest.

In the following discussion, the text references the large map associated with Alternative 3 (FSEIS ALT 3, available in map packet) to provide reference and context.

[15] Tread is the actual travel surface of the trail.

4. District Specific Elements of Alternative 3

a. Powers Ranger District Elements

Designate approximately 6.2 miles of paved road for motorized mixed use on a portion of Road 3348 (Eden Valley Road).

Reason for Change: *Allowing mixed use on a portion of the Eden Valley Road (3348) would provide access to more primitive roads located to the north and south in this popular hunting area (Map FSEIS ALT 3, Box A).*

b. Gold Beach Ranger District Elements

Off-road motorized travel for dispersed camping would generally be allowed up to 300 feet from centerline along all roads designated as open, except where otherwise prohibited (see common to all discussion, section F, 3, this chapter). No off-road motorized travel for dispersed camping would be allowed within ¼ mile of developed recreation sites.

An amendment to the Siskiyou Land and Resource Management Plan to make motorized use on portions of the Game Lake Trail (# 1169), the Lawson Creek Trail (#1173), the Lower Illinois River Trail (#1161), the Silver Peak Hobson Horn Trail (#1166), and an unnamed connector trail consistent with Standards and Guidelines for the allocations through which it passes (Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. These trails are located on the Gold Beach Ranger District. Historical and current motorized use of these trails is not consistent with Standards and Guidelines.*

Prohibit motorized mixed use on approximately 12.6 miles of road where it is currently authorized on portions of Roads 1376010, 1376012, 1376013, 1376015, 1376019, 1376902, 1376903, and 1376908.

Reason for Change: *A large portion of the 1376 road system is located on private land and does not provide loop opportunities except on roads over which the Forest Service has no jurisdiction. (Map FSEIS ALT 3, Box F)*

Prohibit motorized use on approximately 10.1 miles in the lower portions of the Lawson (#1173 – 4.0 miles) and Game Lake (#1169 – 6.1 miles) trails that currently allow motorized use.

Reason for Change: *Both of these trails are currently impassable for motorized users. The Lawson Creek Trail is extremely steep on both sides of the Lawson Creek crossing and is subject to erosion. The lower half the Game Lake Trail is overgrown and in many cases cannot be followed by experienced hikers. This trail also requires a crossing of the Illinois River at its lower end (Map FSEIS ALT 3, Box B).*

Designate approximately 0.5 miles of new motorized trail that would connect to the Woodruff Trail (T.36S., R.13W., section 9).

Reason for Change: *Provide a designated loop opportunity for Class I and Class III motorized vehicles (Map FSEIS ALT 3, Box C).*

Designate approximately 0.2 miles of paved road for motorized mixed use on a portion of Road 3313.

Reason for Change: *The first 0.2 miles of this road is paved and then turns to a non-paved road that allows mixed use. There is a lack of parking where the road changes from paved to non-paved. This would allow a safer terminus to the mixed use portion of Road 3313 (Map FSEIS ALT 3, Box C).*

Authorize conversion of approximately 6.1 miles of roads currently designated as Maintenance Level 1 to motorized trails (portions of Roads 3313103, 3313110, 3313117, and 3680409). These roads are located in the following areas south of the Rogue River: Lawson Creek, Quosatana Creek, Game Lake, and Signal Butte.

Reason for Change: *Provide opportunities for Class I, Class II, and Class III motorized vehicles and provide for loop opportunities (Map FSEIS ALT 3, Box C).*

c. Wild Rivers Ranger District Elements

An amendment to the Siskiyou Land and Resource Management Plan is proposed to make motorized use on the Boundary Trail (#1207) consistent with Standards and Guidelines for the allocations through which it passes (Research Natural Area[16] and Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the former boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area and Backcountry Recreation)*

Authorize conversion of approximately 2.7 miles of roads currently designated as Maintenance Level 1 to motorized trails (portion of Road 4402494).

Reason for Change: *Conversion of Road 4402494 to a trail would offer a side trip for OHV users from the McGrew Trail[17]l to Biscuit Hill (Map FSEIS ALT 3, Box H).*

Prohibit motorized use on approximately 7.6 miles of road where it is currently authorized on portions of Roads 4400445, 4400459, 4400460, and 4400480.

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[16] The area that is the subject of this plan amendment is a recommended Research Natural Area (RNA). Formal designation as an RNA must be approved by the Chief of the Forest Service following preparation of an Establishment Record. (Siskiyou National Forest Land and Resource Management Plan, page IV-81)

[17] Reference to the McGrew "Trail" as a trail can be confusing within the text of the EIS. This route is actually a FS Maintenance Level II road. This route is not in conflict with the Roadless Rule and has been a route (referred to as a trail but actually a road) for many decades.

Reason for Change: *The 4400 road system is a jeep route that is partially located within and near LRMP designated Botanical Areas. Road closures would help prevent motorized users from leaving the road system and entering these sensitive areas (Map FSEIS ALT 3, Box H).*

Prohibit motorized mixed use on approximately 10.8 miles of road where it is currently authorized on portions of Roads 4201029, 4201881, 4300011, 4300910 and 4300920.

Reason for Change: *These roads are also located in the Canyon Creek and Josephine Creek areas. The 4201881 road is partially located within a LRMP designated Botanical Area. No mixed use is proposed in order to prevent OHV use in sensitive wetlands, bogs, and fens as well as impacts to plants within the Botanical Area (Map FSEIS ALT 3, Box G).*

Prohibit motorized use on approximately 6.2 miles of road to public use including portions of Roads 4300011, 4300910, 4300920, 4300925, 4201016, and 4103011. These roads would still be open for permitted or limited administrative use.

The 4300 system is also primarily a jeep route located in the Canyon Creek and Josephine Creek areas. A portion of this system is being proposed for non-motorized use primarily due to water quality concerns associated with numerous creek crossings (Map FSEIS ALT 3, Box G).

The 4201016 and 4103011 are located entirely within the Eight Dollar Mountain Botanical Area. These roads along the Illinois River are proposed for non-motorized use in order to prevent off-road damage to sensitive plants, wetlands, fens, and bogs (Map FSEIS ALT 3, Box G).

Authorize conversion of approximately 0.3 miles of Road 2509640, currently designated as a Maintenance Level 1 road, to a motorized trail.

Reason for the change*: Conversion of Road 2509640 would provide a ridge top connection to the existing Shan Creek Trail on the northeast portion of the District (Map FSEIS ALT 3, Box E).*

Prohibit motorized use on approximately 0.6 miles of Road 2600050.

Reason for the change*: A portion of this road is proposed for closure due to jurisdiction issues with private land (Map FSEIS ALT 3, Box E).*

Prohibit motorized use on approximately 11.3 miles of trail that currently allows motorized use on portions (or entirely) of the following trails: Taylor Creek (#1142), Big Pine Spur (1142A), Onion Way (#1181), Secret Way (#1182), Secret Way Spur (1182A), and Swede Creek (#1135).

Reason for Change: *Taylor Creek, Onion Way, Big Pine Spur, Secret Way Spur, and Secret Way trails are all located in the Briggs Valley area. These are proposed for closure due to issues associated with spotted owl sites and to be consistent with year-round closures on selected adjacent roads. The Swede Creek Trail south of Briggs Valley is proposed for non-motorized use for the same reason as Briggs Valley (Map FSEIS ALT 3, Box E).*

Prohibit motorized use on approximately 1.8 miles of trail that currently allows motorized use on the Silver Lake Trail (#1184).

***Reason for Change**: The Little Silver Lake Trail is proposed for non-motorized use due to very steep slopes and erosive soils (Map FSEIS ALT 3, Box D).*

Prohibit motorized use on approximately 4.1 miles of trail that currently allows motorized use on portions (or entirely) of the following trails: Mt. Elijah (#1206), Bigelow Lake (#1214), Bolan Lake (#1245), and Kings Saddle (#1245A).

***Reason for Change:** The Mt. Elijah, Bigelow Lake, Bolan Lake, and Kings Saddle trails are all located within or adjacent to Botanical Areas. Prohibiting motorized use would reduce the risk to unusual and sensitive plants indigenous to southwestern Oregon (Map FSEIS ALT 3, Box I).*

d. Siskiyou Mountains Ranger District Elements

An amendment to the Rogue River Land and Resource Management Plan is proposed to make motorized use of the Boundary Trail (#1207) and some connecting trails (O'Brien Trail #900 and Sturgis Fork #903) consistent with Standards and Guidelines for the allocations through which it passes. See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

***Reason for Change:** The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the former boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area, Backcountry Non-Motorized, and Botanical Area).*

Prohibit motorized use on approximately 4 miles of the Horse Camp Trail (#958) that currently allows motorized use.

***Reason for Change:** This trail, adjacent to Red Buttes Wilderness, climbs steeply through a Late-Successional Reserve (LSR) to the Siskiyou Crest and the Pacific Crest National Scenic Trail (PCNST). It is proposed for closure in order to minimize impact to soils and wildlife. In addition, the proposal for non-motorized use on this trail would discourage motorized use on the PCNST. Note: motorized use is prohibited along the entire length of the 2,600-mile PCNST (Map FSEIS ALT 3, Box J).*

Designate and relocate approximately 1.2 miles of the Penn Sled Trail (#957) east of Applegate Lake to allow motorized use for Class III vehicles.

***Reason for Change:** The old Penn Sled Trail has not been maintained for a number of years. Construction of this trail would connect two existing motorized trail systems (Mule Mountain and Elliot Ridge) and would avoid private land issues associated with the old trail location (Map FSEIS ALT 3, Box J).*

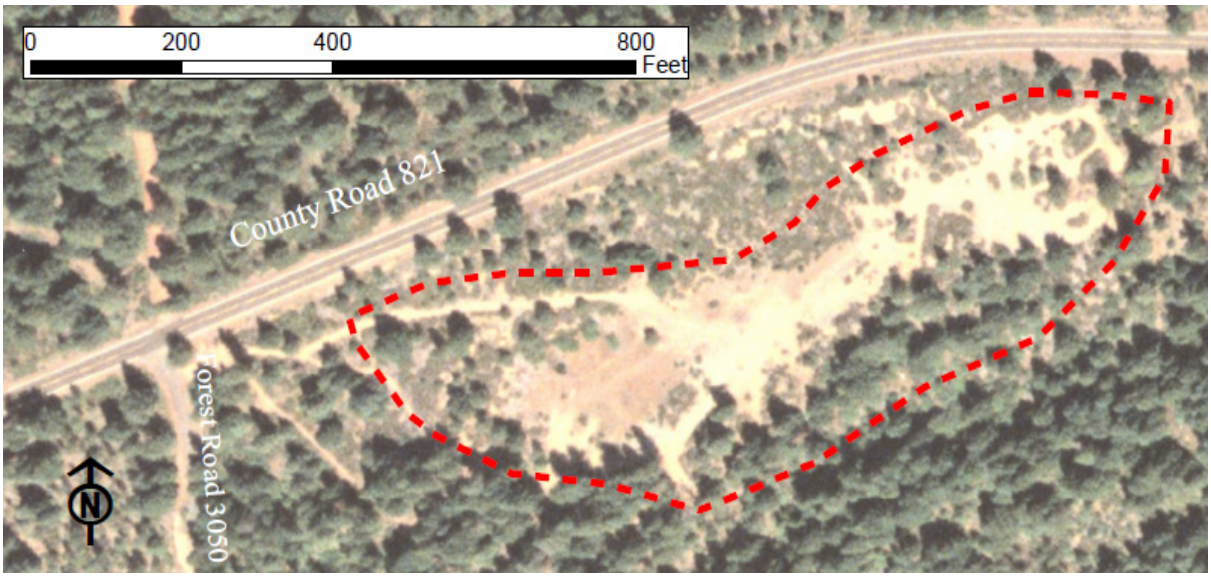
e. High Cascades Ranger District Elements

Off-road motorized travel for dispersed camping would generally be allowed up to 300 feet from centerline along all roads designated as open, except where otherwise prohibited (see common to all discussion, section F, 3, this chapter).

Develop an additional motorized use play area (approximately 10 acres) near the junction of Road 3050 and County Road 821.

Reason for Change: *This proposed play area would provide increased recreation opportunities for motorized users, particularly for less experienced riders (Figure II-2).*

Figure II-2. High Cascades RD, Alternative 3, Proposed Play Area



Designate approximately 31.5 miles of paved road for motorized mixed use on portions of Roads 34, 37, 3705, and 3720 (24.4 miles) and within developed campgrounds (OHV use within campgrounds will be addressed in the Operations, Maintenance, and Safety plans for sites allowing OHV use to access mixed use routes and trails) adjacent to routes that allow mixed use (7.1 miles). These campgrounds include Union Creek, Farewell Bend, Natural Bridge, Woodruff Bridge, Abbott Creek, and Whiskey Springs (not shown on maps).

Reason for Change: *Mixed use on these roads would provide access to more primitive roads located to the north and south for hunting and other recreation activities (Map FSEIS ALT 3, Boxes K and L).*

I. ALTERNATIVE 4

Alternative 4 is designed to addresses the Significant Issues identified through the Scoping and public involvement processes (Chapter I) by increasing restrictions on motorized use while still remaining within a reasonable range. This alternative, in general, is more restrictive on motorized use in exchange for putting more management emphasis on other resource values.

1. Function of Alternative 4

This alternative would provide for a designated and managed system of roads and trails, implement changes to reduce existing resource damage from motorized use, and reduce social impacts such as user conflicts and safety concerns.

This alternative is also designed to be responsive to comments received throughout the public involvement process. Many people were concerned about possible effects to roadless character within Inventoried Roadless Areas, Botanical Areas, serpentine areas (and associated meadows, fens, and bogs), and water quality.

2. Description of Alternative 4

Based on the stated Purpose and Need for action and as a result of the analysis of the transportation system, Alternative 4 proposes to:

- Formally designate approximately 4,449 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,092 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Designate one play area where off-road motorized use would be allowed. This would include continued use of the Woodruff area near Prospect on the High Cascades Ranger District.
- Prohibit motorized public access on approximately 47 miles of Maintenance Level 2 roads currently open in order to minimize or reduce resource damage.
- Prohibit motorized use on approximately 108 miles of trails currently open in order to minimize or reduce resource damage and user conflicts.
- Prohibit motorized use on 774 miles of NFS level 1 roads.
- Prohibit all other cross country motorized travel outside of the Woodruff OHV play area (i.e. closure of 274,670 acres).

3. Forest-wide Elements of Alternative 4

Under Alternative 4, amendments to the Rogue River and Siskiyou Land and Resource Management Plans would provide consistency with the 2005 Travel Management Rule. All roads and trails and areas would be closed to motorized use unless designated as open.

Alternative Design Strategy

Based on analysis of the transportation system, the following assumptions were used to design this alternative:

- Motorized use within Inventoried Roadless Areas, Botanical Areas and serpentine soils (as currently mapped[18]) would be prohibited.

- An exception would be on existing Maintenance Level 2 and higher ("open") roads within Botanical Areas and serpentine areas outside of Inventoried Roadless Areas.

- All Maintenance Level 2, 3, 4, and 5 NFS roads outside of the areas identified above would remain open to motorized use, except where: the road is known to be naturally closed or impassable, the road is causing unacceptable resource damage either directly or by allowing access to a sensitive area, or closed by Forest Order.

[18] A map of serpentine soil areas has been prepared and is used as the basis for this assumption (see FSEIS Chapter III).

- All trails closed to motorized use by a Forest Order would continue to be closed to motorized use.

- No motorized use would be allowed on Maintenance Level 1 NFS roads unless the road is changed to Maintenance Level 2 (none are proposed) or converted to a trail that allows motorized use.

Under Alternative 4, approximately 4,449 miles of road and 128 miles of trail would be open to motorized use. Table II-7 below summarizes Alternative 4.

Table II- 7. Alternative 4 Summary

Roads and Trails	Current Condition	Alternative 4	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,449 miles	-47 miles
Open roads that **allow** mixed use	3,167 miles	3,139 miles	-28 miles
Open roads that **prohibit** mixed use	1,329 miles	1,357 miles	+28 miles
Total NFS Trails	1,190 miles	1,190 miles	0 miles
NFS Trails that **allow** motorized use	236 miles	128 miles	-108 miles
New trails authorized		0 miles	
Authorize conversion of ML1 road to trail		0 miles	
Total area open to cross country travel	274,670 acres	15 acres (not including gravel bars)	

The following elements of Alternative 4 are described by each of the Ranger Districts on the Rogue River-Siskiyou National Forest. Dispersed camping is discussed under the District-specific elements for Alternative 4. Also see elements and restrictions common to all Action Alternatives (section F, 3) this chapter.

In the following discussion, the text references the large map associated with Alternative 4 (FSEIS ALT 4, available in map packet) **to provide reference and context.**

4. District Specific Elements of Alternative 4

a. Powers Ranger District Elements

Prohibit motorized use on the 1-mile Big Tree Trail (#1150) south of Powers near the South Fork Coquille River.

Reason for Change: *Big Tree Trail is located within the Big Tree Botanical Area (Map FSEIS ALT 4, Box A).*

b. Gold Beach Ranger District Elements

Prohibit motorized mixed use on approximately 12.6 miles of road where it is currently authorized on portions of Roads 1376010, 1376012, 1376013, 13760150, 1376019, 1376902, 1376903, and 1376908.

Reason for Change: *A large portion of the 1376 road system is located on private land and does not provide loop opportunities except on roads for which the Forest Service has no jurisdiction (Map FSEIS ALT 4, Box F).*

Prohibit motorized use on approximately 6.0 miles of road where it is currently authorized on portions of Roads 1107350, 1107357, 1107950, 1205245, 1205246, 1205248, 1205249, and 1205321.

Reason for Change: *These roads are within the South Kalmiopsis Inventoried Roadless Area (Map FSEIS ALT 4, Box F).*

Prohibit motorized use on approximately 25.3 miles of trail that include the Game Lake (# 1169) and Lawson Creek (#1173) trail systems, the lower portion of the Illinois River Trail (#1161) and the Nancy Creek trail (#1181, previously not numbered) and the Lower Rogue River Trail (#1168) [19].

Reason for Change: *These trails are proposed for closure in order to minimize or reduce impacts related to soils, water quality, and user conflict. The Lower Rogue River Trail (#1168) is partially located within the Potato Mountain Inventoried Roadless Area. Game Lake, Lawson Creek, Illinois River, and the unnamed trail are located within the North Kalmiopsis Inventoried Roadless Area. A portion of Game Lake is also located within the Sourgame Botanical Area (Map FSEIS ALT 4, Box B).*

Prohibit motorized use on the 17.2-mile Silver Peak-Hobson Horn Trail (#1166) located on both the Gold Beach (8.8 miles) and Wild Rivers (8.4 miles) Ranger Districts and the and the 3-mile Fish Hook Trail (#1180), also located on both Ranger Districts.

Reason for Change: *Portions of the Silver Peak-Hobson Horn and Fish Hook trails are located within the North Kalmiopsis Inventoried Roadless Area (Map FSEIS ALT 4, Box D).*

c. Wild Rivers Ranger District Elements

Under Alternative 4, no off-road motorized travel for dispersed camping would be allowed on the Wild Rivers RD. Only authorized parking would be allowed adjacent to open roads (not to exceed 20 feet) or in previously constructed (existing) landings (also see section F, 3, this chapter).

Prohibit motorized use on approximately 1.8 miles of the Little Silver Lake (#1184) Trail.

Reason for Change: *The Little Silver Lake Trail is proposed for non-motorized use due to very steep slopes and erosive soils (Map FSEIS ALT 4, Box D).*

Prohibit motorized mixed use on approximately 4.8 miles of Road 2512091 (Bald Mountain Road).

[19] There are three "Rogue River" trails on the Forest: the 48-miles Upper Rogue River Trail #1034 on the High Cascades RD; the 42-mile Upper Rogue River Trail # 1160 on the Gold Beach RD and Medford BLM; and the 13-mile Lower Rogue River Trail #1168 on the Gold Beach RD below Agnes.

Reason for Change: *This road borders the Kalmiopsis Wilderness and the Illinois River Trail. Prohibiting mixed use would lessen the likelihood of motorized users entering the Wilderness and gaining access to the trail (Map FSEIS ALT 4, Box D).*

Prohibit motorized use on approximately 0.6 miles of Road 2600050.

Reason for Change: *A portion of this road is proposed for closure due to jurisdiction issues associated with private land (Map FSEIS ALT 4, Box E).*

Prohibit motorized use on approximately 11.3 miles of trail that currently allows motorized use on portions (or entirely) of the following trails: Taylor Creek (#1142), Big Pine Spur (1142A), Onion Way (#1181), Secret Way (#1182), Secret Way Spur (1182A), Briggs Creek (#1132), Red Dog (#1143), Phone (#1153), Dutchy Creek (#1146) Swede Creek (#1135).

Reason for Change: *Taylor Creek, Onion Way, Big Pine Spur, Secret Way Spur, Secret Way, Briggs Creek, Red Dog, Phone, and Dutchy Creek trails are all located in the general vicinity of Briggs Valley. Taylor Creek, Onion Way, Big Pine Spur, Secret Creek, and Swede Creek are proposed for closure due to issues associated with spotted owl sites, to be consistent with year-round closures on selected adjacent roads, and to reduce or minimize impacts in serpentine terrain. Briggs Creek, Red Dog, and Phone are located within the Briggs Inventoried Roadless Area. Dutchy Creek is located in serpentine soils and a portion of the trail is located in the North Kalmiopsis Inventoried Roadless Area (Map FSEIS ALT 4, Box E).*

Prohibit motorized use on approximately 8.3 miles of road including portions of Roads 4300011, 4300910, 4300920, 4300925, 4201016, and 4103011. In addition, prohibit motorized use on approximately 4.4 miles of road including portions of Roads 4103087, 4201844, 4201846, 4201847, 2524015, and 2524048. These roads would still be open for permitted or limited administrative use.

Reason for Change: *The 4300 system is also primarily a jeep route located in the Canyon Creek and Josephine Creek areas. Limiting motorized use on a portion of this system is primarily due to water quality concerns associated with numerous creek crossings (Map FSEIS ALT 4, Box G).*

Roads 4201016 and 4103011 are located entirely within the Eight Dollar Mountain Botanical Area. These roads along the Illinois River are proposed for non-motorized use in order to reduce the risk of off-road damage to sensitive plants, wetlands, fens, and bog (Map FSEIS ALT 4, Box G).

Roads 4103087, 4201844, 4201846, 4201847, 2524015, and 2524048 are all located within either the South Kalmiopsis or Squaw Mountain Inventoried Roadless Areas (Map FSEIS ALT 4, Box G).

Prohibit motorized mixed use on approximately 10.8 miles of road where it is currently authorized on portions of Roads 4201029, 4201881, 4300011, 4300910 and 4300920.

Reason for Change: *These roads are also located in the Canyon Creek and Josephine Creek areas. The 4201881 road is partially located within Days Gulch Botanical Area. No mixed use*

is proposed in order to reduce the risk of OHV use in sensitive wetlands, bogs, and fens as well as impacts to plants within the Botanical Area (Map FSEIS ALT 4, Box G).

Prohibit motorized use on approximately 7.6 miles of road including all or portions of Roads 4400445, 4400459, 4400460, and 4400480.

Reason for Change: *The 4400 road system is a jeep route that is partially located within and near Rough and Ready Flat and Oregon Mountain Botanical Areas. Road closures would help to prevent motorized users from leaving the road system and entering these sensitive areas. In addition, these roads are located within the South Kalmiopsis Inventoried Roadless Area (Map FSEIS ALT 4, Box H).*

Prohibit motorized use on approximately 24.8 miles of road including all or portions of Roads 4402019, 4402112, 4402172, 4402206, 4402259, 4402450, 4402497, 4402530, and 4402550. These roads include the McGrew Trail and associated spurs.

Reason for Change: *The majority of the 4402 road system is located within the South Kalmiopsis Inventoried Roadless Area. Approximately ½ mile of the 4402019 is located within the Oregon Mountain Botanical Area (Map FSEIS ALT 4, Box H).*

Prohibit motorized use on approximately 15.2 miles of trail that currently allows motorized use on the following trails: Boundary Trail (#1207, Elk Creek (#1230), Mt. Elijah(#1206), Bigelow Lake (#1214), Bolan Lake (#1245), and Kings Saddle.

Reason for Change: *The Boundary, Mt. Elijah, and Bigelow Lake trails are located within the Kangaroo Inventoried Roadless Area. Portions of the Boundary and Bigelow Lake Trails are located within two Botanical Areas (Bigelow Lakes and Grayback Mountain). Bolan Lake and Kings Saddle trails are located within or adjacent to the Bolan Lake Botanical Area. Prohibiting motorized use would help reduce the risk to unusual and sensitive plants indigenous to Southwestern Oregon (Map FSEIS ALT 4, Box I).*

d. Siskiyou Mountains Ranger District Elements

In this alternative, off-road motorized travel for dispersed camping would only be allowed up to 300 feet from centerline along certain designated Maintenance Level 2 and 3 roads (see Map II-1, below). Also see common to all discussion, section F, 3, this chapter.

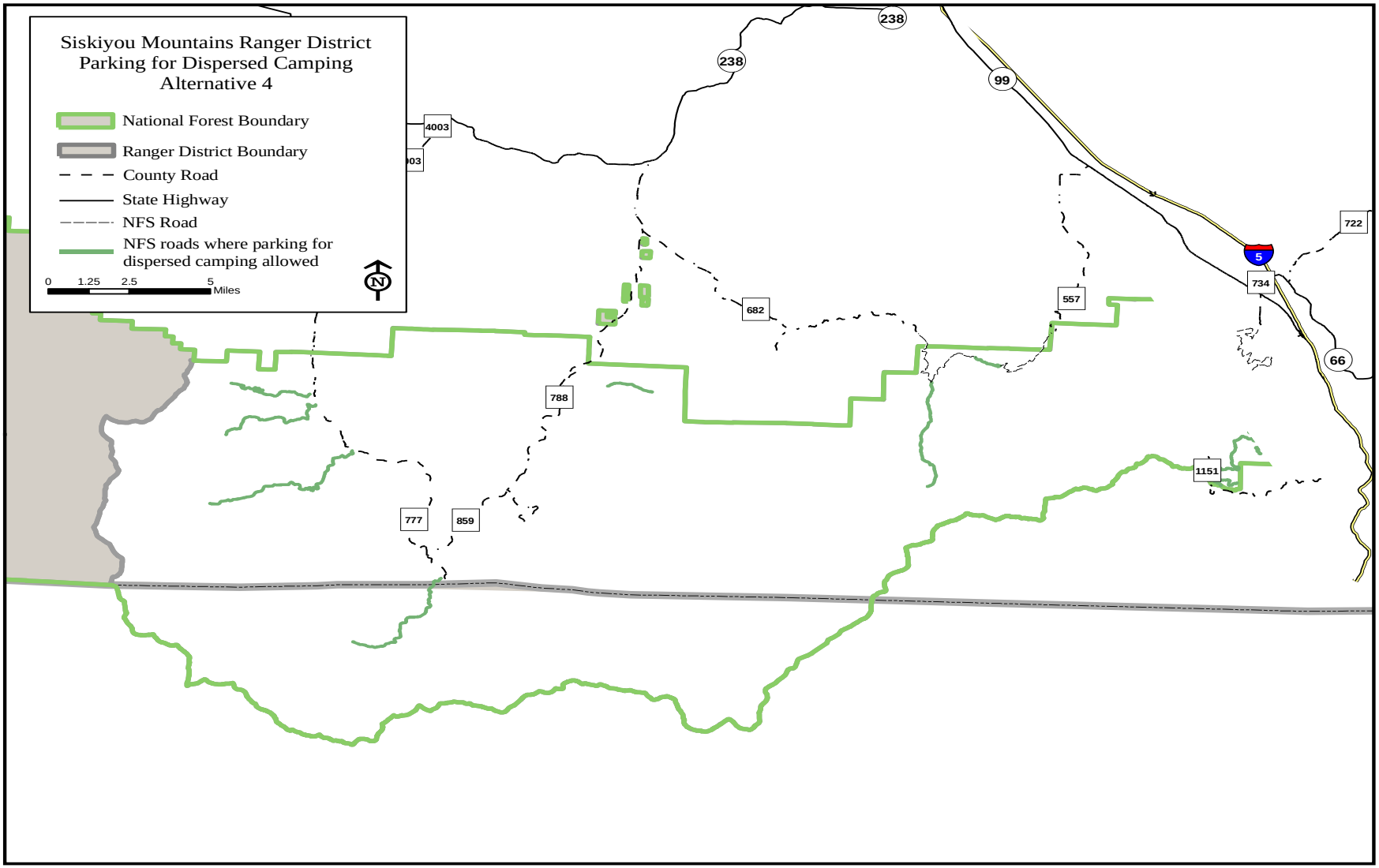
Prohibit motorized use on approximately 3.8 miles of trail that includes the Sturgis Fork (#903) and O'Brien Creek (#900) Trails.

Reason for Change: *These trails are located within the Kangaroo Inventoried Roadless Area and are part of the Boundary complex of trails that include Elk Creek (#1230) and Bigelow Lake (#1214) on the Wild Rivers Ranger District. A portion of the O'Brien Creek trail is located within the Grayback Botanical Areas. Motorized closures would potentially reduce user conflict on these trails (Map FSEIS ALT 4, Box I).*

Prohibit motorized use on approximately 29.1 miles of trail that includes the Horse Camp Trail (#958, Cook and Green Trail (#959), and the Mule Mountain complex of trails: Mule Mountain (#919), Mule Creek (#920), Charley Buck/Baldy Peak (#918), and Little Grayback (#921).

Reason for Change: *The Horse Camp Trail, adjacent to Red Buttes Wilderness, climbs steeply through a Late-Successional Reserve (LSR) to the Siskiyou Crest and the Pacific Crest National Scenic Trail (PCNST). It is proposed for closure in order to minimize impact to soils and wildlife. In addition, the proposal for non-motorized use on this trail would discourage motorized use on the PCNST (Map FSEIS ALT 4, Box J).*

Cook and Green Trail is located within the Cook and Green Botanical Area. Prohibiting motorized use would help reduce the risk to unusual and sensitive plants indigenous to southwestern Oregon. Horse Camp and Cook and Green trails are also located within the Kangaroo Inventoried Roadless Area while the Mule mountain complex is located within the Little Grayback Inventoried Roadless Area (Map FSEIS ALT 4, Box J).



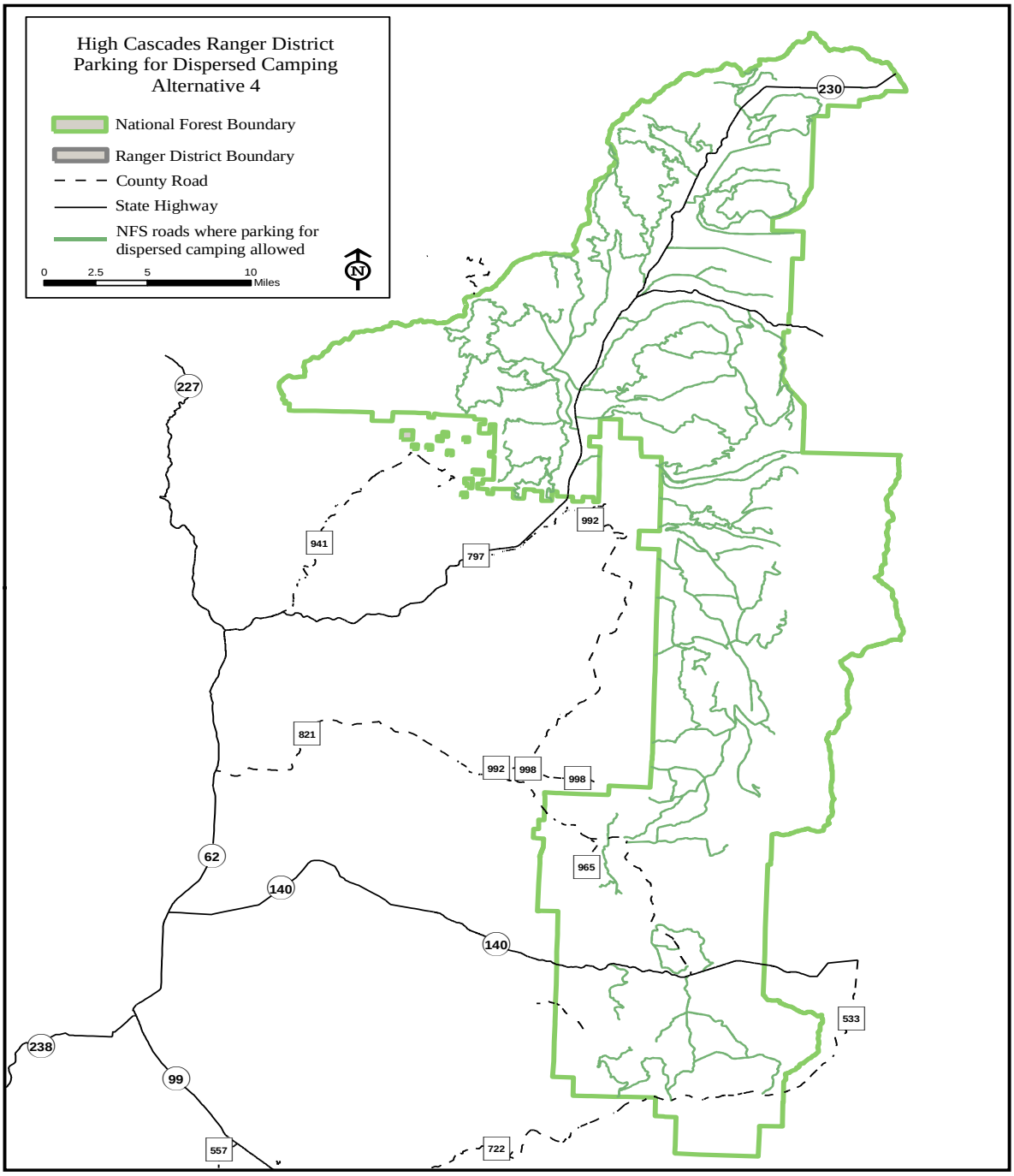
Map II-1. Siskiyou Mountains Ranger District, Parking for dispersed camping, Alternative 4

e. High Cascades Ranger District Elements

There would be no route changes on the High Cascades District. The Prospect OHV system would remain in place and current management practices would continue.

In this alternative, off-road motorized travel for dispersed camping would only be allowed up to 300 feet from centerline along currently identified "Green Dot" roads (see Map II-2 below). Also see common to all discussion, section F, 3, this chapter.

Map II-2. High Cascades RD, Parking for Dispersed Camping, Alternative 4



J. ALTERNATIVE 5 - Preferred Alternative

Alternative 5 is based on the Forest's analysis of the transportation system process and aims to strike a balance for various forms of motorized use by identification of sustainable motorized use opportunities with minimal adverse resource impacts, and implements the Travel Management Rule.

1. Function of Alternative 5

Alternative 5 would provide for a designated and managed system, implement changes to reduce existing resource damage from motorized use, and reduce social impacts such as user conflicts and safety concerns. Alternative 5 was developed as a combination of the Proposed Action (Alternative 3) and Alternative 4, including elements of both alternatives.

2. Description of Alternative 5

Based on the stated Purpose and Need for action and as a result of the analysis of the transportation system process, under Alternative 5, the Forest proposes to:

- Implement Forest-wide Plan Amendments to make the plans consistent with the Travel Management Rule. Two separate Forest Plans guide the Rogue River-Siskiyou National Forest.
- Implement project-level Forest Plan Amendments to make the plans consistent with current and historical motorized use.
- Formally designate approximately 4,482 miles of roads where passenger vehicles would be allowed to travel.
- Formally designate approximately 3,144 miles of road where mixed use would be allowed. Mixed use is defined as designation of a National Forest System (NFS) road for use by both highway-legal and non-highway-legal motor vehicles.
- Authorize designation of one new motorized trail (Penn Sled) to provide loop route opportunities (approximately 1.2 miles).
- Authorize conversion of approximately 9 miles of NFS Maintenance Level 1roads to motorized trails.
- Designate one play area where off-road motorized use would be allowed: the continued use of the Woodruff area near Prospect. This area is located on the High Cascades Ranger District.
- Prohibit motorized use on 774 miles of NFS Maintenance Level 1 roads.
- Prohibit public motorized use on approximately 29 miles of trail currently open in order to minimize or reduce resource damage.
- Prohibit all other cross country motorized travel outside of the play area identified above (i.e. closure of 274,670 acres).

Under Alternative 5, many of roads, trails and areas that are currently part of the Forest Transportation System and are open to wheeled motorized vehicle travel would remain designated for such use. This alternative was designed to take into account past patterns of OHV use on the Forest as well as other public motor vehicle use.

Where possible, routes creating connections between popular use areas were included to provide all-purpose access for destination travel, driving for pleasure, hunting, fishing, and other recreational activities, such as, travel to dispersed camping locations, specific features or destinations, or unique motorized recreation experiences, while directing OHV use onto routes where there is available mileage and connections to other routes open to OHVs.

3. Forest-wide Elements of Alternative 5

Under Alternative 5, amendments to the Rogue River and Siskiyou Land and Resource Management Plans would provide consistency with the 2005 Travel Management Rule. All roads and trails and areas would be closed to motorized use unless designated as open.

Alternative Design Strategy
Based on analysis of the transportation system, the following assumptions were used to design this alternative:

- All Maintenance Level 2, 3, 4, and 5 NFS roads would remain open to motorized use, except where: the road is known to be naturally closed or impassable, the road is causing unacceptable resource damage either directly or by allowing access to a sensitive area, or closed by Forest Order.

- All trails closed to motorized use by a Forest Order would continue to be closed to motorized use.

- No motorized use would be allowed on Maintenance Level 1 NFS roads unless the road is changed to Maintenance Level 2 (none are proposed) or converted to a trail that allows motorized use.

- For Maintenance Level 1 roads converted to motorized trails, maintenance would include:
  - "Log out" trees from the trail
  - Maintaining drainage structures (culverts, drain dips, water bars, etc.).
  - Maintaining a clearing width of 6-8 feet and clearing height of 8-10 feet. This consists of brush and small tree removal. Low growing ground vegetation (grasses, herbs, forbs) would not be removed from cut banks, fill slopes, or from the former road bed.

Under this alternative, approximately 4,481 miles of road and 207 miles of trail would be open to motorized use. Table II-8 below summarizes Alternative 5.

Table II- 8. Alternative 5 Summary

Roads and Trails	Current Condition	Alternative 5	Change
Total NFS Roads	5,270 miles		
NFS Roads "open" to the public	4,496 miles	4,482 miles	-14 miles
Open roads that **allow** mixed use	3,167 miles	3,144 miles	-23 miles
Open roads that **prohibit** mixed use	1,329 miles	1,352 miles	+23 miles
Total NFS Trails	1,190 miles	1,200miles	+10 miles
NFS Trails that **allow** motorized use	236 miles	207miles	-29 miles
New trails authorized		1.2 miles	
Authorized conversion of ML1 road to trail		9 miles	+9 miles
Total area open to cross country travel	274,670 acres	15 acres (not including gravel bars)	

For all Districts, off-road motorized travel for dispersed camping would generally be allowed up to 300 feet from centerline along all roads designated as open, except where otherwise prohibited (see section F, 3, this chapter).

The following elements of Alternative 5 are identified by each of the Ranger Districts on the Rogue River-Siskiyou National Forest.

In the following discussion, the text references the large map associated with Alternative 5 (FSEIS ALT 5, available in map packet) **to provide reference and context.**

4. District Specific Elements of Alternative 5

a. Powers Ranger District Elements

Prohibit motorized use on the 1-mile Big Tree Trail (#1150) south of Powers near the South Fork Coquille River.

Reason for Change: *Big Tree Trail is located within the Big Tree Botanical Area (Map FSEIS ALT 5, Box A).*

b. Gold Beach Ranger District Elements

An amendment to the Siskiyou Land and Resource Management Plan to make motorized use on portions of the Game Lake Trail (# 1169), the Lawson Creek Trail (#1173), the Lower Illinois River Trail (#1161), the Silver Peak Hobson Horn Trail (#1166), and an unnamed connector trail consistent with Standards and Guidelines for the allocations through which it passes (Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. These trails are located on the Gold Beach Ranger District. Historical and current motorized use of these trails is not consistent with Standards and Guidelines.*

Prohibit motorized mixed use on approximately 12.6 miles of road where it is currently authorized on portions of Roads 1376010, 1376011, 1376012, 1376013, 1376014, 1376015, 1376019, 1376902, 1376906, and 1376908.

Reason for Change: *A large portion of the 1376 road system is located on private land and does not provide loop opportunities except on roads over which the Forest Service has no jurisdiction (Map FSEIS ALT 5, Box F).*

Prohibit motorized use on approximately 14.2 miles of trail that include 6.9 miles on the Game Lake Trail (# 1169), 4.1 miles on the Lawson Creek Trail (#1173), and 3.2 miles on a portion of the Illinois River Trail (#1161).

Reason for Change: *These trails are proposed for non-motorized use in order to minimize or reduce impacts related to soils, water quality, and user conflict. Game Lake, Lawson Creek, and the Illinois River Trails are located within the North Kalmiopsis Inventoried Roadless Area. A portion of the Game Lake Trail is also located within the Sourgame Botanical Area. The Lawson Creek Trail is extremely steep on both sides of the Lawson Creek crossing and is subject to erosion. The lower half the Game Lake Trail is overgrown and in many cases cannot be followed by experienced hikers. This trail also requires a crossing of the Illinois River at its lower end (Map FSEIS ALT 5, Box B).*

Authorize conversion of approximately 6.2 miles of roads currently designated as Maintenance Level 1 to motorized trails (portions of Roads 3313103, 3313110, 3313117, and 3680409). These roads are located in the following areas south of the Rogue River: Lawson Creek, Quosatana Creek, Game Lake, and Signal Butte area. An estimated 4.7 miles would be for all three vehicle classes while 1.5 miles would allow for Class I and Class III vehicles.

Reason for Change: *Provide opportunities for Class I, Class II, and Class III motorized vehicles and provide for loop opportunities (Map FSEIS ALT 5, Box C).*

Prohibit motorized use on approximately 0.8 miles of trail (#1164) in the Woodruff Meadow area.

Reason for Change: *This trail travels through a meadow system that includes wet areas. Elimination of motorized use would reduce resource impacts (Map FSEIS ALT 5, Box C).*

Designate approximately 0.2 miles of paved road for motorized mixed use on a portion of Road 3313.

Reason for Change: *The first 0.2 miles of this road is paved and then turns to a non-paved road that allows mixed use. There is a lack of parking where the road changes from paved to non-paved. This would allow a safer terminus to the mixed use portion of Road 3313 (Map FSEIS ALT 5, Box C).*

Designate approximately 500 feet (0.1 mile) of paved road for motorized mixed use on a portion of Road 2308 (Burnt Ridge Road).

Reason for Change: *Allowing mixed use on a portion of e this road would provide a connection between a motorized trail and a road system that allows motorized mixed use (Map FSEIS ALT 5, Box B).*

c. Wild Rivers Ranger District Elements

An amendment to the Siskiyou Land and Resource Management Plan is proposed to make motorized use of the Boundary Trail (#1207) consistent with Standards and Guidelines for the allocations in which it passes through (Research Natural Area and Backcountry Recreation). See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

Reason for Change: *The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Boundary Trail is located on the former boundary of the Rogue River and Siskiyou National Forests. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail (Research Natural Area and Backcountry Recreation).*

Prohibit motorized use on approximately 7.6 miles of road where it is currently authorized on portions of Roads 4400445, 4400459, 4400460, and 4400480.

Reason for Change: *The 4400 road system is a jeep route that is partially located within and near LRMP designated Botanical Areas. Road closures would help prevent motorized users from leaving the road system and entering these sensitive areas (Map FSEIS ALT 5, Box H).*

Prohibit motorized mixed use on approximately 10.8 miles of road where it is currently authorized on portions of Roads 4201029, 4201881, 4300011, 4300910 and 4300920.

Reason for Change: *These roads are also located in the Canyon Creek and Josephine Creek areas. The 4201881 road is partially located within a LRMP designated Botanical Area. No mixed use is proposed in order to prevent OHV use in sensitive wetlands, bogs, and fens as well as impacts to plants within the Botanical Area (Map FSEIS ALT 5, Box G).*

Prohibit motorized use on approximately 6.4 miles of road to public use including portions of Roads 4300011, 4300910, 4300920, 4300925, 4201016, and 4103011.

The 4300 system is also primarily a jeep route located in the Canyon Creek and Josephine Creek areas. A portion of this system is being proposed for non-motorized use primarily due to water quality concerns associated with numerous creek crossings (Map FSEIS ALT 5, Box G).

The 4201016 and 4103011 are located entirely within the Eight Dollar Mountain Botanical Area. These roads along the Illinois River are proposed for non-motorized use in order to prevent off-road damage to sensitive plants, wetlands, fens, and bogs (Map FSEIS ALT 5, Box G).

Authorize conversion of approximately 0.3 miles of Road 2509640, currently designated as a Maintenance Level 1 road, to a motorized trail.

Reason for the change*: Conversion of Road 2509640 would provide a ridge top connection to the existing Shan Creek Trail on the northeast portion of the District (Map FSEIS ALT 5, Box E).*

Prohibit motorized use on approximately 0.6 miles of Road 2600050.

***Reason for the change**: A portion of this road is proposed for closure due to jurisdiction issues with private land (Map FSEIS ALT 5, Box E).*

Prohibit motorized use on approximately 1.9 miles of trail that currently allows motorized use on the Silver Lake Trail (#1184).

***Reason for Change**: The Little Silver Lake Trail is proposed for non-motorized use due to very steep slopes and erosive soils. This trail is also within a Forest Plan allocation that prohibits motorized use (Backcountry Non-motorized) (Map FSEIS ALT 5, Box D).*

Prohibit motorized use on approximately 11.1 miles of trail that currently allows motorized use on portions (or entirely) of the following trails: Taylor Creek (#1142), Big Pine Spur (1142A), Onion Way (#1181), Secret Way (#1182), Secret Way Spur (1182A), and Swede Creek (#1135).

***Reason for Change:** Taylor Creek, Onion Way, Big Pine Spur, Secret Way Spur, and Secret Way trails are all located in the Briggs Valley area. These are proposed for closure due to issues associated with spotted owl sites and to be consistent with year-round closures on selected adjacent roads. The Swede Creek Trail south of Briggs Valley is proposed for non-motorized use for the same reason as Briggs Valley (Map FSEIS ALT 5, Box E).*

Prohibit motorized use on approximately 4.1 miles of trail that currently allows motorized use on portions (or entirely) of the following trails: Mt. Elijah(#1206), Bigelow Lake (#1214), Bolan Lake (#1245), and Kings Saddle (#1245A).

***Reason for Change:** The Mt. Elijah, Bigelow Lake, Bolan Lake, and Kings Saddle trails are all located within or adjacent to Botanical Areas. Prohibiting motorized use would help reduce the risk to unusual and sensitive plants indigenous to southwestern Oregon (Map FSEIS ALT 5, Box I).*

d. Siskiyou Mountains Ranger District Elements

An amendment to the Rogue River Land and Resource Management Plan to make motorized use of the Boundary Trail (#1207) and connecting trails (#900 and #903) consistent with Standards and Guidelines for the allocations through which it passes. See FSEIS Appendix B for actual changes to the wording of the Forest Plan Standards and Guidelines.

***Reason for Change:** The Rogue River-Siskiyou National Forest is guided by two separate Forest Plans. The Forest Plans are inconsistent and provide conflicting guidance at this location as associated with the Boundary Trail.*

Prohibit motorized use on approximately 3.8 miles of the Horse Camp Trail (#958) that currently allows motorized use.

***Reason for Change:** This trail, adjacent to Red Buttes Wilderness, climbs steeply through a Late-Successional Reserve (LSR) to the Siskiyou Crest and the Pacific Crest National Scenic Trail (PCNST). It is proposed for closure in order to minimize impact to soils and wildlife. In addition, the proposal for non-motorized use on this trail would discourage motorized use on the PCNST. Note: motorized use is prohibited along the entire length of the 2,600-mile PCNST (Map FSEIS ALT 5, Box J).*

Designate and relocate approximately 1.2 miles of the Penn Sled Trail (#957) east of Applegate Lake to allow motorized use for Class III vehicles.

Reason for Change: *The old Penn Sled Trail has not been maintained for a number of years. Construction of this trail would connect two existing motorized trail systems (Mule Mountain and Elliot Ridge) and would avoid private land issues associated with the old trail location (Map FSEIS ALT 5, Box J).*

e. High Cascades Ranger District Elements

There would be no changes on the High Cascades Ranger District under this alternative

K. MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES

This section discusses mitigation measures to insure that applicable management objectives are met for each of the Action Alternatives. Upon a final decision as documented in a Record of Decision, selected measures would become a requirement.

The Forest Service is required by the Council on Environmental Quality (CEQ) Regulations for implementing the procedural provisions of NEPA to identify all relevant, reasonable mitigation measures that could improve the project. Mitigation, as defined in the CEQ Regulations (40 CFR 1508.20) includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.
- Rectifying the impact by repairing, rehabilitating or restoring the affected environment.

Proposed mitigation measures and standard operating procedures designed to avoid or minimize adverse effects (or implement positive impacts) for the Action Alternatives are identified by resource topic area. While some recommendations are specific, many are stated as general concepts. Therefore, site-specific information would be incorporated into the project design and implementation as mitigation measures.

Mitigation measures identified herein are specific to the implementation of actions considered within this FSEIS. Standards and Guidelines and mitigation measures identified in the Land and Resource Management Plans as amended by the Northwest Forest Plan are also incorporated by reference as required measures.

The effectiveness and feasibility of the mitigation measures are assessed based upon the following rating systems identified in Table II-9. These ratings are applied to all mitigation measures, except the Standard Operating Procedures identified in the next section. Each measure identifies the code for effectiveness and feasibility at the end of the statement or paragraph. Ratings were determined by professional resource specialists based on current scientific research and/or professional experience or judgment.

Table II- 9. Effectiveness and Feasibility of Mitigation Measures, Effectiveness (E), Feasibility (F)

	Mitigation Measures Effectiveness (E), Feasibility (F)
E1	Unknown or experimental; logic or practice estimated to be less than 75%; little or no experience in applying this measure.
E2	Practice is moderately effective (75 to 90%). Often done in this situation; usually reduces impacts; logic indicates practice is highly effective but there is minimal literature or research.
E3	Practice is highly effective (greater than 90%). Almost always reduces impacts, almost always done in this situation; literature and research can be applied.

F1	Unknown or experimental; little or no experience in applying this measure; less than 75% certainty for implementation. May be technically difficult or very costly. May be legally or socially difficult.
F2	Technically probable; greater than 75% certainty for implementation as planned; costs moderate to high in comparison to other options. Legally or socially acceptable with reservations.
F3	Almost certain to be implemented as planned; technically easy; costs low in comparison to other options. Legally or socially expected.

1. Public Safety

- Roads and trails must meet minimum road or trail standards as defined by the Forest Service Handbook FSH section 7700 for roads, or the Forest Service Standard Specifications for Constructions of Trails (EM-7720-102). **(E3, F3)**

- A sign plan will be implemented to adequately sign trail and road intersections and mixed use roads. **(E3, F3)**

- For all roads where a mixed-use analysis determines that safety risks are high, mitigation measures that will reduce these risks to moderate or lower will be implemented before the road is open for mixed-use traffic. Some of the mitigation measures for a particular road recommended in the "Mixed Use Analysis Reports" may include:

  - Closing the road to mixed-use during commercial haul, road maintenance, and other activities that will significantly increase traffic volumes or involve heavy construction equipment. **(E3, F3)**
  - On the High Cascades District signing on roads that are part of the Prospect OHV trail system would include notification of this activity and would include a recommended 20 mph speed limit sign. **(E3, F3)**
  - Installation of "Open Range" signage. **(E3, F3)**

- Installation of signing to warn highway traffic about the presence of non-highway-legal vehicles, using a standard warning sign, (in a diamond shape, with reflective yellow background and black graphics and letters) with an all-terrain vehicle graphic (RL-170) and a yellow supplemental placard with the wording "SHARE THE ROAD" (W16-1) may be used. An additional placard with the wording "NEXT XX MILES" (W16-3a) or "BEYOND THIS POINT" (W16-3) may also be added. A rectangular yellow sign with black graphics and lettering showing a passenger car graphic and an appropriate non-highway-legal vehicle graphic and the wording "SHARE THE ROAD" (FW8-7) may also be used. See EM-7100-15. **(E3, F3)**

2. Hydrology and Riparian Reserves

- Incorporate all applicable Best Management Practices (BMPs, USDA Forest Service, 1988 and 2012) as identified in Appendix D to ensure water quality protection from routine activities related to National Forest System Roads and Trails. (E3,F3)

- Design new trails to avoid springs, seeps, and wetlands. **(E3, F3)**

- Design new trails to avoid stream channel crossings where possible. If stream channel crossings are necessary to maintain the connectivity of the trail network, design trails to cross the stream channels perpendicular to the drainage to minimize the potential for sediment delivery. **(E3, F2)**

3. Erosion and Sedimentation

- Stream crossing construction or reconstruction will not occur during the wet season (October 15 to June 15) when the potential for soil erosion and water quality degradation exists. This restriction could be waived by the Responsible Official under dry conditions and with a specific erosion control plan (e.g., rocking, waterbarring, seeding, mulching, barricading). **(E3, F3)**

- Minimize vegetation clearing to the maximum extent possible to maintain stream bank stability, while maintaining the safety of riders. **(E3, F3)**

4. Fish and Aquatic Species

- For any trail construction/reconstruction all State and Federal requirements for maintaining water quality will be met. Work requirements include the following: **(E3, F3)**

    - Mechanized equipment will be inspected and cleaned before moving onto the project site in order to remove 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 will be removed from the site and disposed of in accordance with DEQ regulations. Areas that have been saturated with toxic materials will be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ.
    - Equipment refueling will be conducted within a confined area outside Riparian Reserves.
    - Use spill containment booms or other equipment as required by DEQ.

- Equipment containing toxic fluids will not be stored in or near (within 300 ft.) of a stream channel.

5. Terrestrial Wildlife

a. Spotted Owl Restrictions

- Work activities that produce loud noises above ambient levels will not occur within specified distances of any documented or generated owl site (Table II-10) during the critical early nesting period, March 1 and June 30, or until two weeks after the fledging period. This seasonal restriction may be waived if protocol surveys have determined the activity center is not occupied, owls are non-nesting, or owls failed in their nesting attempt. **(E3, F3)**

- The distances listed below may be shortened (with USFWS Level 1 Team concurrence) if substantial topographical breaks or blast blankets (or other devices) would muffle sound between the work location and nest sites. **(E3, F3)**

- The District Ranger or Forest Biologist has the option to extend the restricted season until September 30 during activities, based on site-specific knowledge (such as a late or 2nd nesting attempt). Design measures can be waived if site-specific biological evaluation by the biologist indicates seasonal protection is unwarranted. **(E3, F3)**

- Delay any project activities located within the nest patch until September 30 unless the biologist determines young are not present, or until two weeks after the fledging period. **(E3, F3)**

Table II- 10. Spotted Owl Restriction Distances

Activity	Zone of Restricted Activity
Heavy Equipment (including non-blasting quarry operations)	105 feet (35 yards)
Chain saws	195 feet (60 yards)
Motorized vehicle use	195 feet (60 yards)
Impact pile driver, jackhammer, rock drill	195 feet (60 yards)
Small helicopter or plane	360 feet (120 yards)
Type 1 or Type 2 helicopter	0.25 miles*
Blasting; 2 pounds of explosive or less	360 feet (120 yards)
Blasting; more than 2 pounds of explosives	1 mile

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

Above-ambient noises further than these Table II-10 distances from spotted owls are expected to have either negligible effects or no effect to spotted owls. The types of reactions spotted owls could have to noise that are considered to have a negligible impact includes flapping of wings, turning the head towards the noise, hiding, assuming a defensive stance, etc. (USFWS 2003).

b. Marbled Murrelet Restrictions

Table II- 11. Murrelet Restriction Distances

Activity	Zone of Restricted Activity
Heavy Equipment (including non-blasting quarry operations)	300 feet (100 yards)
Chain saws	300 feet (100 yards)
Motorized vehicle use	300 feet (100 yards)
Impact pile driver, jackhammer, rock drill	300 feet (100 yards)
Small helicopter or plane	360 feet (120 yards)
Type 1 or Type 2 helicopter	0.25 miles*
Blasting; 2 pounds of explosive or less	360 feet (120 yards)
Blasting; more than 2 pounds of explosives	1 mile

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

Table II- 12. Disturbance Criteria for the Protection of Marbled Murrelet

	Marbled Murrelet Disturbance and Protection Measures
Disturbance	For **Survey Areas A and B work activities** (such as tree felling, yarding, road and other construction activities, hauling on roads not generally used by the public, muffled blasting) which produce noises above ambient levels **will not occur within specified distances (see Table II-11) of any occupied stand or unsurveyed suitable habitat between April 1 – August 5**. **For the period between August 6 – September 15, work activities will be confined to between 2 hours after sunrise to 2 hours before sunset**.
Disturbance	**Blasting** (open air/unmuffled) – **No blasting activities 1 April through 15 September within 1.0 mile of occupied stands or unsurveyed suitable habitat.** This distance may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the blast and nest sites or less than 2 lbs. of explosives are used If so, then use described distance.
Disturbance	**Recommended** Delay project implementation until after September 15 where possible.
Disturbance	**Recommended** Between 1 April and 15 September, concentrate disturbance activities spatially and temporally as much as possible (e.g., get in and get out, in as small an area as possible; avoid spreading the impacts over time and space).

6. Invasive Non-native Species

a. Invasive Plants

In managing its transportation system, the Forest will adhere to Standards 1 through 23 incorporated into our Forest's Land and Resource Management Plans by the October 2005 Regional Forester's Record of Decision for Preventing and Managing Invasive Plants. **(E3, F3)**

- The Forest will follow the "required" practices outlined in *Best Management Practices For Noxious Weed Prevention and Management, Port-Orford-cedar Root Disease Prevention and Management, Sudden Oak Death Prevention and Management--Interim Direction for the ROR/SIS National Forests--February 15, 2002*. **(E3, F3)**

- Include approved FS noxious weed clauses in any contracts and/or special use permits issued by the Forest that implement provisions of the Travel Management Plan. **(E3, F2)**

- Develop site-specific prevention measures if noxious weed occurrences are discovered prior to, or during implementation of the Travel Management Plan, and project activities have potential to increase the abundance or extent of noxious weed occurrences, or increase the risk of off-site transport of propagules. **(E3, F3)**

- Mitigation specific to the proposed new OHV play area near Willow Lake:

  - Conduct a more extensive noxious weed inventory in and around the proposed play area;
  - Attempt to eradicate the *Sulphur cinquefoil* and perhaps other noxious weeds for a minimum of two years before ground-disturbing activities at the proposed new play area.
  - Since there would presumably be a soil seedbank, design the play area's amenities to avoid as much as possible the exact places where noxious weeds were previously located.
  - Restrict use of the play area to the dry season May-October.
  - Conduct annual monitoring, and weed treatments if noxious weeds are found within the play area. **(E3, F3)**

- If conversion of Maintenance Level 1 Roads (e.g., Road 4402494 Cedar Springs to Biscuit Hill) requires actual construction or ground disturbance beyond the first 100 meters, conduct a noxious weed survey concurrent with the botanical field reconnaissance already specified in a botanical mitigation measure. If noxious weeds are present, re-route or re-design trail, and/or treat weeds before ground-disturbing activities occur and develop site-specific mitigation to minimize or avoid spreading noxious weed seeds beyond their current extent in the soil seedbank. **(E3, F2)**

- New trail routes proposed (i.e., the 0.5 mile of new motorized connector trail to Woodruff meadow on Gold Beach Ranger District, located in T36S, R13W, section 9 and approximately 1.2 miles of the Penn Sled Trail on Siskiyou Mountains RD): Conduct a noxious weed survey concurrent with the botanical field reconnaissance specified for this location in a botanical mitigation measure (see subsection 7, below). If noxious weeds are present, re-route or re-design trail, and/or treat weeds before ground-disturbing activities occur and develop site-specific mitigation to minimize or avoid spreading noxious weed seeds beyond their current extent in the soil seedbank. **(E3, F2)**

b. Invasive Pathogens

- Comply with Federal and State regulations regarding *P. ramorum*, the pathogen that causes Sudden Oak Death (SOD). Soil from infested sites shall not be transported outside the currently designated quarantine area[20] unless subjected to approved and officially verified sterilization treatment. Movement of restricted or regulated plant materials to locations outside the quarantine area shall comply with current regulations. **(E3, F2)**

- Public Information: Increase public awareness of Port-Orford-cedar root disease (caused by *Phytophthora lateralis*) and the need to control it by using informational signs on or at trailheads, gates, and other closures, and holding coordination meetings with adjacent industrial and small woodland landowners. **(E3, F2)**

[20] A map of the latest SOD Quarantine Area (as of December 2013) is contained in Chapter III, section E, 8 of this FSEIS.

- Road Management Measures: Implement proactive disease-prevention measures: road design features include pavement over other surfacing, surfacing over no surfacing, removal of low water crossings, drainage structures to divert water to areas unfavorable to the pathogen, and waste disposal. **(E3, F2)**

- Wash boots, tools, vehicles, and equipment prior to entering in un-infested project areas, when leaving infested areas to enter in un-infested areas, and when leaving project areas to minimize the transportation of infested soil to un-infested areas. **(E3, F2)**

- Project areas should be compartmentalized by road system in areas with mixed ownership (Federal and private). A road system with infested areas and non-infested areas will be considered infested. Washing areas should be placed at optimum locations for minimizing spread, such as at entry/exit points of the road system with Federal control. Washing should take place as close as possible to infested sites. Wash water will be from un-infested water sources or treated with Clorox® bleach. Wash water should not drain into watercourses or into areas with uninfected POC. **(E3, F3)**

Note: Roadside sanitation is not included as a mitigation measure in this document because vegetation altering practices may require reinitiation of formal consultation with the Fish and Wildlife Service pursuant to the programmatic consultation completed on February 17, 2004, to implement the Record of Decision for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest 2004. The management practices listed above are within the reasonable range of cost-effective mitigation measures available to reduce *Phytophthora lateralis* spread.

7. Protection of Special Status Plant Species

- If conversion of Maintenance Level 1 Road 4402494 (Cedar Springs to Biscuit Hill) requires construction or ground disturbance beyond the first 100 meters, conduct botanical field reconnaissance in the spring or early summer for *Arabis macdonaldiana,* FS Sensitive plants, and Survey and Manage (S&M) Category A and C species along the proposed route before project is implemented. If *Arabis macdonaldiana* is found, re-route or re-design to avoid individuals. If FS Sensitive plants or S&M species are found, re-route or re-design if needed to maintain viability of local population, but no need to avoid every individual. **(E3,F3)**

- New trail routes proposed (i.e., the 0.5 mile of new motorized connector trail to Woodruff meadow on Gold Beach Ranger District, located in T36S, R13W, sec 9 and approximately 1.2 miles of the Penn Sled Trail on Siskiyou Mountains RD): Conduct botanical field reconnaissance during appropriate season to determine if the FS vascular plant *Trillium angustifolium*, other FS sensitive species, or Survey and Manage Category A and C species are in this immediate vicinity. Complete the survey before construction begins, with re-routing or re-design if needed to maintain the viability of local population of the Trillium, other FS sensitive species, or S&M species found. **(E3,F3)**

8. Soils - Site Productivity

- New trail routes will require a field soil review during layout and design to verify soils and to re-route or re-design trail to avoid excessive soil impacts if needed. **(E3, F3)**

- Seasonal closures of motorized trails and roads will be enacted where driving during wet weather would cause or is causing excessive damage and erosion of road surfaces. **(E3, F3)**

9. Naturally Occurring Asbestos

Measures can be taken to reduce exposure to Naturally Occurring Asbestos (NOA). In general, the longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem.

In particular, measures to reduce exposure require user education and users practicing these measures. However, the Forest Service cannot regulate but only recommend use of these strategies. As part of the overall educational effort, the Rogue River-Siskiyou NF will provide an NOA informational web page and NOA visitor pamphlet/brochure available at ranger stations. Specifically, National Forest visitors wishing to reduce their potential exposure to NOA should consult the NOA map provided on the web page or at ranger stations identifying known areas of ultramafic and serpentine rock more likely to contain NOA.

The Forest will use this web page to provide general public information concerning NOA, associated health risks, additional web links for related information, and strategies to reduce exposure. Any new information on risks to human health will be incorporated into the educational materials.

Current strategies to reduce risk of exposure include the following, and have been developed based on guidance from various federal and state agencies including the U.S. Environmental Protection Agency (2008) and U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (2005):

(E3, F3)

- Be aware of windy conditions and avoid dusty conditions to reduce exposure.
- Limit dust generating activities, such as riding off road vehicles, riding bicycles, running or hiking, riding horses or moving livestock, etc.
- Avoid handling or disturbing loose asbestos-containing rock types.
- Drive slowly over unpaved roads, with windows and vents closed, to minimize dust generation (California Air Resources Board recommends that vehicle speeds not exceed 15 miles per hour on unpaved roads where asbestos is present).
- Avoid or minimize the tracking of dust into vehicles.
- Do not use compressed air for cleaning your vehicles after your visit. Use a wet rag to clean the interior.
- When there are proposed changes to routes that would increase disturbance on areas overlying potential NOA geology and soils, such as creation of new trails or changing administratively closed roads to motorized trails, then site-specific analysis which would include testing the ground surface material will be done to determine if the ground surface poses a health risk due to presence of asbestiform fibers prior to the change being implemented and reflected on the MVUM. Results of testing would be incorporated into NOA forest information available to the public.

L. IMPLEMENTATION STRATEGY

The Forest Service developed the following strategies to be used as part of all of the Action Alternatives to improve implementation of the designated route system for motorized use:

- Produce a primary Motor Vehicle Use Map (MVUM) following National Forest Service standards that indicates which routes are designated open to the public by type of vehicle per route and season open for use. This map would also identify areas where cross-country travel for dispersed camping would be allowed. This MVUM would be made available to the public free-of charge. There may be some changes as implementation occurs on the ground. Authorized use, use restrictions, and operating conditions would be revised in future decisions as needed to meet changing conditions or management strategies (adaptive management).

- Provide clear, consistent, and adequate signage that identifies routes designated open by type of vehicle per route and season open for use corresponding to the public MVUM and local travel map. Insure road and trail number identifiers are maintained as designated in the MVUM. Only as necessary, signing of dead-end routes leading to/stopping at rivers, streams, meadows, and other sensitive resources will be a priority to help protect resources from public wheeled motor vehicle damage.

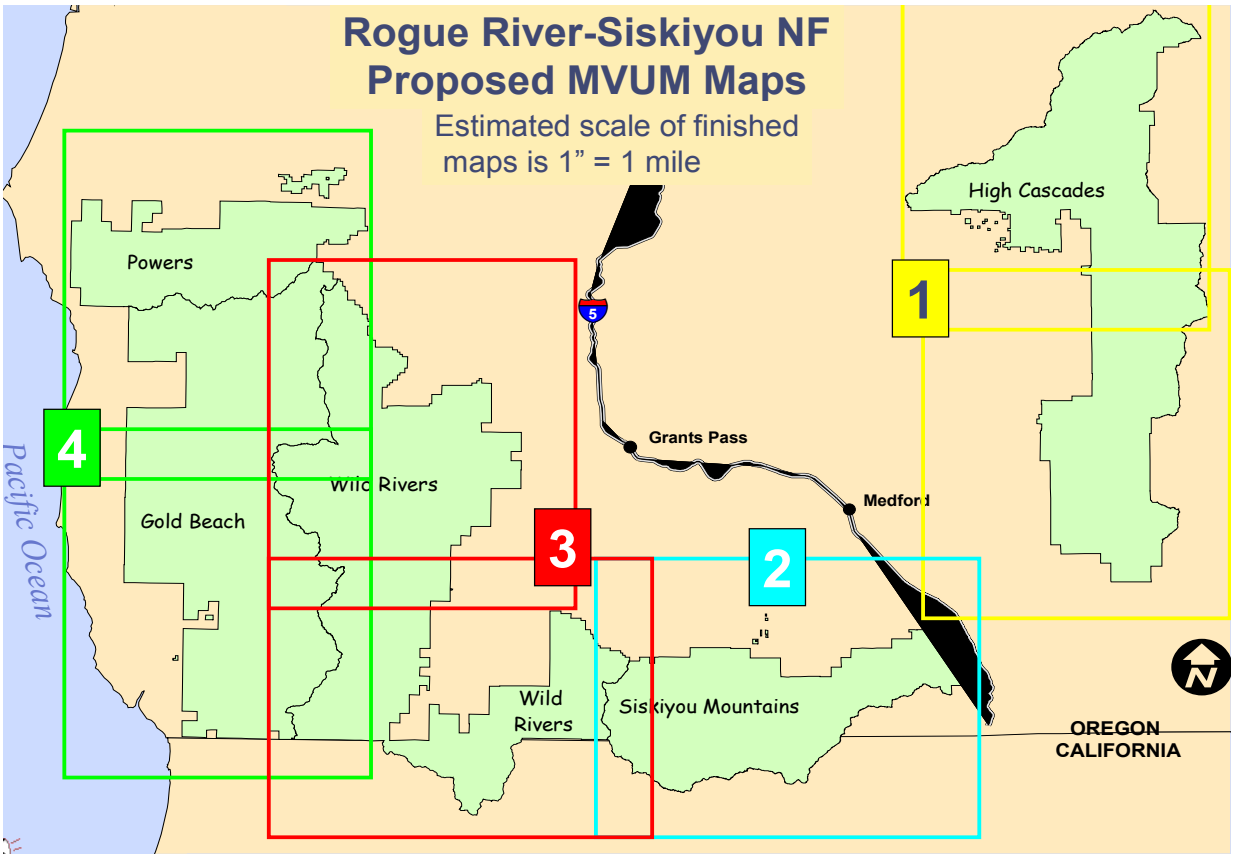
- Development of a public education strategy that may include public meetings, workshops, and other forums to educate forest users about the designated route system, to assist the public with reading the public MVUM, to educate Forest users about the potentially adverse effects of their activities, and to discuss how the public can help with implementation of the designated system by volunteering for maintenance activities, enforcement of the rules, and education of other forest users.

- Development of a public volunteer strategy that may include identifying opportunities for the public to help implement, enforce, maintain, and fund the designated route system is desirable.

MVUM Publication

A key consideration in route and area use designation for the Motor Vehicle Use Map is geographic scale. Early in the process, the RRSNF decided to conduct analysis under NEPA with one process and one interdisciplinary team planning effort for the entire Forest. Specific analysis has focused on the areas represented by the four Motorized Vehicle Use Maps reflecting designated routes and areas that would be published at the district scale. These four areas are shown on Map II-3 below.

Map II-3. MVUM Publication Areas and Scale



M. MONITORING COMMON TO ACTION ALTERNATIVES

Monitoring is important for tracking the implementation of a project; ensuring projects are implemented as planned, as well as to measure success in meeting the stated project goals, objectives, and required mitigation. The 2005 Motorized Travel Management Rule states that "the responsible official shall monitor the effects of motor vehicle use. . . .consistent with the applicable land management plan" (36 CFR 212.57).

Monitoring of authorized activities is required and would be carried out according to a Monitoring Plan. A draft Monitoring Plan Framework is included in this sub-section. However, a Monitoring Plan will be incorporated by reference and made an attachment to the Motorized Vehicle Use Record of Decision. This will allow it to be developed specifically to the alternative and the components and methodology it may contain, and be specific to the area(s) where actions are being authorized. Other resource topics and questions would likely be developed for the forthcoming Monitoring Plan.

Monitoring includes a full spectrum of techniques and methods should be used to evaluate the results obtained from monitoring. Evaluation techniques include, but are not limited to:

- Site-specific observations by on-site resource specialists.
- Field assistance trips by other technical specialists.
- On-going accomplishment reporting processes.
- Formal management reviews on a scheduled basis.
- Discussions with other agencies and various public users.
- Interdisciplinary team reviews of monitoring results.
- Involvement with existing research activities.
- Review and analysis of records documenting monitoring results.
- Review of current applicable research.

Monitoring Framework

Authorized use of designated roads and trails will continue to be monitored. Current monitoring includes surveys of road and trail conditions by road engineers and recreation specialists on a regular basis. Monitoring includes an evaluation of consistency with the Rogue River and Siskiyou National Forest Land and Resource Management Plans and compliance with travel management decisions, and required mitigation measures.

Authorized actions would be monitored during and following implementation to ensure authorized actions and Required Mitigation Measures are implemented as specified under the decision. This aspect of monitoring is referred to as **implementation** monitoring. The progress and findings of implementation monitoring would be documented as it occurs. Monitoring would be required on a sampling of authorized actions for certain elements to evaluate the **effectiveness** in achieving the specifically desired outcomes and conditions.

Monitoring would be used to identify potential effects on the following, with the objective of minimizing: (1) damage to soil, watershed, vegetation, and other forest resources; (2) harassment of wildlife and significant disruption of wildlife habitats; (3) conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands; and (4) conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands (36 CFR 212.55).

Designations may be revised as needed to meet changing conditions (36 CFR 212.54). Revisions to designations, including revisions to vehicle class and time of year, will be made in accordance with FSM 7712, 7715, and 7716. When a designated route is temporarily closed for more than 1 year, the MVUM would be updated to reflect the closure. When the route is reopened, the MVUM would be updated to reflect the reopening. No additional travel or environmental analysis would be required to support these temporary changes, which do not affect the underlying designation.

N. ALTERNATIVES AND ELEMENTS CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the Purpose and Need.

Some of these alternatives may have been outside the scope of the Purpose and Need, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm. Therefore, a number of alternatives or alternative elements were considered, but dismissed from detailed consideration for reasons summarized below.

Many comments and suggestions were received during the Scoping process, throughout the analysis of the transportation system, and during the comment period on the original DEIS, and the 2011 DSEIS. All suggestions and ideas throughout the entire process were considered and discussed during the development of alternatives to the agency's Proposed Action.

1. Alternatives Related to Route Designation

Alternatives, elements and ideas that are related to route or area designation that were considered but not analyzed in detail include:

Prohibit OHV use on the Forest. Only public highway-licensed wheeled motor vehicles would be permitted on existing NFS roads. The public proposed this alternative during Scoping to eliminate the environmental and social impacts from off highway vehicles. The stated Purpose and Need is: "The *purpose* for action is to enact Subpart B of the Travel Management Rule. Motorized use is a popular use and is an important form of recreation for many individuals, families, and groups. A designated and managed system is *needed* to provide this use. Increased demand for motorized use, lack of designated areas/routes, and the inconsistent direction contained in the Forest Plans, has led to resource damage and social impacts, user conflicts, and safety concerns." Prohibiting OHV use on the Forest fails to meet the Purpose and Need for this project and was therefore eliminated from detailed study.

Limit OHV, truck, and automobile use to NFS roads. Do not allow these vehicles on trails or going cross-country. The public proposed this alternative during Scoping and the DEIS comment period to restrict where larger motor vehicles travel. Some individuals felt that these larger vehicles widen the trails designed and managed for motorcycles, thereby degrading the recreation experience. Others felt that these larger vehicles cause damage to trails and should be restricted to roads that are able to sustain the impacts from their use. As noted above, part of the Purpose and Need is: "Motorized use is a popular use and is an important form of recreation for many individuals, families, and groups. A designated and managed system is *needed* to provide this use." Motorized trails provide a diversity of opportunities for different types of wheeled motor vehicles. Some trails are single-track only, and it is appropriate to designate such routes for motorcycle use only. However, other trails have been designed for, or have been historically used by, various other wheeled motor vehicles such as 4WDs and OHVs.

Limiting wheeled motor vehicles other than motorcycles to NFS roads only, would fail to provide a diversity of road/trail opportunities, or a balance of experiences for the various wheeled motor vehicle classes, as well as inconsistencies with current trail designs and historical uses. Limiting OHV, truck, and automobile use to NFS roads would fail to meet the Purpose and Need for this project and was therefore considered but eliminated from detailed study.

Designate all NFS and unauthorized routes that are determined to be compliant with Forest Plan Standards and Guidelines. Alternative 2 allows use on all existing motorized NFS routes and would prohibit use of the unauthorized routes on the RRSNF. Developing another alternative that includes all NFS and unauthorized routes that are determined to be compliant with LRMP standards and guidelines was considered.
After reviewing the public input from the public meetings, interested groups, and interested individuals, an assessment of unauthorized roads or trail was conducted by each Ranger District to determine which routes would be carried forward to the Proposed Action.

Individual routes were evaluated against screening criteria designed to highlight whether a proposed route was a desired recreation opportunity, would result in unmanageable impacts to resources, had impacts to private land or access, or was consistent with existing plans. Designating all unauthorized routes determined to be consistent with Standards and Guidelines would fail to address these concerns, as well as fail to meet the Purpose and Need for this project to better manage public wheeled motor vehicle travel and address the National Travel Management Rule of 2005 and its associated criteria (see Purpose and Need statement above). Therefore, this alternative was considered but eliminated from detailed study.

Consider Actions to Construct, Reconstruct and Conduct Maintenance on Roads and Trails. Comments were received that raised issues and concerns relevant to conditions on specific roads and trails (i.e., facility issues). For example a concern about erosion and sedimentation of streams is primarily a facility issue, not a "use" issue. Actions that would repair current conditions are not necessarily part of the proposals under this FSEIS to designate where motorized use would be permitted. There may be more impacts from construction, reconstruction and maintenance of roads and trails, than by use, which is mostly already occurring. The Forest Service intends to address actions to construct, reconstruct and conduct maintenance on roads and trails through future site-specific analysis, consistent with applicable NEPA procedures, once a decision is made through this designation process on the types of uses that are to be managed for on each specific route.

This decision is needed first so that the agency knows the use or uses to be designed for in future proposals for road and trail construction, reconstruction, or maintenance. The scope of this analysis was limited to those actions described in Chapter I and proposed in Chapter II. Therefore, these actions were considered but eliminated from detailed study.

There is a need for a safe place for OHV use in Brookings area; how about a play area?
A motorized play area in the Brookings area was considered by the planning team but no suitable location was identified by the public or the team. Therefore, this alternative was considered but was eliminated from detailed study.

Consider a comprehensive authorized trail use plan for all types of trail uses e.g., mountain bike, equestrian, hiking. A comprehensive trail use plan for all types of uses is not within the scope of the project; this project is for motorized uses for roads, trails and areas as directed by the 2005 Travel Management Rule. There is no policy or direction or Federal funding to conduct this type of analysis. Therefore, this idea was eliminated from detailed study.

Designate all single-track trails for motorcycle use
This idea was considered but some existing single-track trails are not designed or conducive to motorized use. This would also affect (change) diversity for all types of uses, in favor of motorized use exclusively. This would not address the stated Purpose and Need. Therefore, this alternative was eliminated from detailed study.

Provide winter OHV opportunities in lower elevation areas not critical to big game winter range. This idea for an alternative was considered, however no low elevation routes outside of winter range were identified on the RRSNF to provide this opportunity.

Put gate on Road 5502-020; motorized trail use may conflict with private landowner goals.
The 5502-020 Road remains open in all alternatives except at the crossing of Bald Mountain Creek where a bridge was removed in 2008 for safety reasons. There are no plans to replace this bridge in the near future due to lack of funds. However, private property owners can still access the 5502-020 road by alternate routes from the east and west. Therefore, this suggestion was considered but eliminated from detailed study.

Need a one mile buffer for noise adjacent to Wilderness, Wild and Scenic Rivers, etc.
While some public may consider sounds from motorized vehicles offensive, there is no requirement for a buffer to these land designations/allocations. To do so would also conflict with Land Management Plan direction and national Forest Service policy. Therefore, this idea was considered but eliminated from detailed study.

Consider a "citizens alternative" or a pro-motorized use alternative.
Several types of alternative packages were received during scoping that identified with these and similar themes. The RRSNF has chosen not to represent these alternatives as received because there would simply be too much change, confusion, debate and duplication with numerous alternatives and themes. For the FSEIS, the RRSNF has chosen to focus on a limited number of alternatives, representing an adequate range for consideration.

Consider expansion of the Green Dot system.
This suggestion was received based on the success of this system for managing access within big game winter range during hunting season. It was considered, but found to be duplicative of the Travel Management Rule. It only varies in the way that roads are designated as open. The MVUM as associated with the Travel Rule will effectively replace the green dot system and is similar in many ways. The Forest Service is obligated to enact the Travel Rule. Therefore, this idea was considered but eliminated from detailed study.

Under the current condition, routes lacking documentation (before NEPA) should be analyzed as new unauthorized roads. The assumptions regarding the current condition are stated in Chapter II. Under the Travel Rule, there is no requirement to analyze existing routes and uses as new routes, with consideration as new NEPA. It would further not be practical and was considered but eliminated from detailed study.

Do not close potential access on specific roads for South Coast Lumber.
Specific routes (Road 1376, 1503050, and 3300090), were identified as a concern for closing or precluding future use under this process (and should remain open). A road not showing on map and potentially not appearing on the MVUM does not mean they are being closed or decommissioned at this time. Under the Action Alternatives, opportunities for future use as a road are not being precluded. The conversion of an existing road as a motorized trail does not preclude its future use as a road. This concern was therefore considered but eliminated from detailed study.

Consider an alternative with specific routes associated with Boundary Trail.
As noted above, specific alternative packages were considered. Specific connector routes associated with Boundary Trail have been considered; the specific package as presented during Scoping was considered but eliminated from detailed study.

Consider trail connecting Roads 3680 and 1703.
Comments to the DEIS suggested consideration of a loop trail connecting Roads 3680 and 1703 (T37, R13, S 8 & 17). It was suggested that this would provide a logical loop, fire access and would help to avoid conflicts with cars and trucks. This connection would only lessen conflicts with cars and trucks on approximately 2 miles of road. Furthermore, it would not connect with any other trails in the area. It was therefore eliminated from detailed study with this process because it would not sufficiently reduce mixed use conflicts or maintain existing motorized use opportunities.

Consider replacing Frog Lake Bridge (3313100) with OHV/foot traffic bridge.
Comments to the DEIS suggested consideration of replacement of the Frog Lake Bridge with an OHV/foot traffic bridge, missing since the Biscuit Fire. This opportunity was not identified or considered during Travel Analysis process because the purpose of the Travel Management Plan is designating routes for motorized travel and not intended to exclusively propose construction of new facilities for public use. Here, the focus is on designating routes where use will be authorized. If funds are available in the future, subsequent NEPA will be conducted to authorize facilities/improvements for public use. It was therefore eliminated from detailed study with this process.

Moving Kalmiopsis Wilderness boundary would open more use from Agness to Selma.
Currently the northern edge of the Illinois River Trail defines the northern boundary of the Kalmiopsis Wilderness. Comments to the DEIS suggested that if that boundary were moved about three feet to the southern edge of the trail, then the trail could be left open all the way through from Agness to Selma – for motorcycles (Sept 15th through May 15th). Wilderness boundaries are established by Congress. Increases or decreases in Wilderness acreage (or moving boundaries), is not within the jurisdiction of the Forest Service, is outside the scope of this analysis and was therefore eliminated from detailed study with this process.

Mt. Elijah Trail: connect to Sucker Creek drainage via Road 098 or 092.
Comments to the DEIS suggested that it is important and common sense to have connectors to prevent dead ends and mandatory uphill climbs to get back to the point of trail entry. Commenters suggested consideration of the Mt. Elijah Trail with a connection to Sucker Creek drainage via Road 098 or 092. This opportunity was not identified or considered during Travel Analysis process because it would not maintain existing uses consistent with the Travel

Management Plan's purpose and need. It was therefore eliminated from detailed study with this process. This connection remains as a future opportunity for consideration, outside of this process.

Opportunity to connect Road 610 to the Bear Camp Road.
Comments to the DEIS suggested consideration of an opportunity to connect Road 610 to Bear Camp Road. The 610 Road (Maintenance Level 1) branches off the 650 Road and extends to about the center of section 18. Construction of a new motorized trail in this vicinity would not appreciably improve motorized opportunities in this area as the connection only leads to dead end roads in the immediate vicinity that connect to Bear Camp Road. It was therefore eliminated from detailed study with this process.

Road 4402112 should terminate at junction with 019; possible parking and trailhead location. Comments to the DEIS suggested Road 4402112 should only be open to motorized use form its beginning at 4402 to the "fire safe zone" at the junction with 4402019. The "fire safe zone" would be a good parking area and trailhead for campers, hunters, hikers and horseback riders. Forest Service analysis between the Draft and Final EIS (2009) identified that there is already a well-established trailhead beyond the junction of the 4402112 and the 019 Roads. There would be no reason to incur the costs associated with moving this trailhead to the junction suggested. It was therefore eliminated from detailed study with this process.

Consider connecting Road 310 with Road 3318 to create a loop access.
Comments to the DEIS suggested that the Lawson Creek Road 310 remain open to ATV Class I and Motorcycle Class III use. In addition, a connection of Road 310 with Road 3318 (Wildhorse Road) was suggested, thereby creating a loop access. This opportunity was not identified or considered during Travel Analysis process because it would not maintain existing uses consistent with the Travel Management Plan's purpose and need. It was therefore eliminated from detailed study with this process. This connection remains as a future opportunity for consideration, outside of this process.

Consider permanent closure of Road 990 (T35S, R11W, section 5) to motorized use.
Comments to the DEIS suggested that of Road 990 be permanently closed (now gated at the top) with no motorized use allowed. While a closure would provide a fine recreational hiking experience to Shasta Costa Creek, it would exclude motorized users without justification pursuant to implementation of the Travel Rule. It was therefore eliminated from detailed study with this process because this proposal does not meet the purpose and need for action identified within the Travel Management Plan. This proposed closure remains as a future opportunity for consideration, if there is a need to exclude motorized use due to user conflicts or environmental damage.

Consider a closer connector trail, East Fork Sucker Creek.
Comments to the DSEIS suggested that an additional route be considered. The comment suggest that although a little used trail, the East Fork Sucker Creek Trail comes off the Boundary Trail and ends on Road 472 (on documented older maps, FS Road 4041-A) but on the TMP packet supplied maps, this Forest Service Road is numbered 472). This trail is an old established connector, although needing clearing at present.

This route was carefully examined in the field; it was found to be not maintained and is not used currently. It contains steep sections, as well as potential riparian issues in the lower drainage

portion if it were to be authorized for motorized use. It was therefore eliminated from detailed study with this process at this time.

2. Ideas Related to Management of Motorized Use

The following are suggested ways that the current system may be managed and as such, were not considered as alternatives. In other words, these suggestions are not related to the question of whether a NFS road, trail, or area is designated open. Many decisions currently in place provide for the application of seasonal closures as needed for resource protection.

Establish Noise Restrictions on Motorized Vehicles.
Comments were received recommending that the Forest Service establish noise restrictions on motorized vehicles. The Forest Service did not study this idea in detail because noise is regulated by State of Oregon Standards (see Noise issue in FSEIS Chapter III) on public lands. While the Forest Service has the authority to enforce noise standards set by other Federal (typically EPA or OSHA) agencies and by the state under 36 CFR 261.13, accurate field-testing of noise from OHVs has been problematic for many enforcement entities.

The agency also has the authority to set specific limitations through special order 36 CFR 261.55 (j). While field-testing equipment is available, ambient noise can create erroneous readings, as can other environmental factors. Field tests have been successfully challenged in court, limiting the effectiveness of this enforcement tool. Therefore, this idea was considered but eliminated from detailed study.

Consider a permit system, with combination to a locked gate for authorized users.
At the scale of the overall National Forest, this consideration was not found to be practical nor manageable, and would not be in the public interest. It could well create additional problems with administration of a system like this. Therefore, this alternative control method was considered but eliminated from detailed study. This method is used and would continue to be used for specially authorized access on certain routes, typically under special permit.

Consider creation of trails which require a permit; this would control type of vehicles, numbers of vehicles and time of year that access would be available for some of the more sensitive areas. This idea has merit and a permit system could be implemented in the future as appropriate on both existing trails and any new trails that may be created in the future. No route specific permitting proposals were identified by either the public or the planning team with the exception of the Boundary Trail. Motorized use on this trail is relatively infrequent and since resource damage from that use is minimal, it was decided to not implement a permit system on that trail at this time.

Consider a contribution to noxious weed abatement with vehicle registration.
While this may be possible or actually implemented in some states, vehicle registration or fee collection is not the responsibility of the Forest Service. Therefore this motorized use management idea is not within the decision space for this project and its analysis. It was therefore eliminated from detailed study.

The Prospect OHV system should be open earlier in the year and/or have a longer season.
This is based on conflicts associated the ability to use the existing trails during times that conflict with big game winter range and calving concerns. This suggestion for management of the existing OHV system is not being considered with this process.

It would not be in alignment with the purpose and need to enact the Travel Rule. This idea will be forwarded to the District Ranger of the High Cascades district for consideration under a future and separate analysis.

Separate Motorized and Non-Motorized Uses in Time (e.g., alternating days or weeks).
A number of public comments were received suggesting that the Forest Service consider the concept of alternating use periods to address social problems (i.e., "user conflict") between motorized and non-motorized users on popular trails rather than prohibiting motorized use altogether. For example, a trail could be managed as open to motorcycles on alternating days, alternating weeks, or even by the time of day. These suggestions are not related to the question of whether a NFS road, trail, or area is designated open were not considered with this analysis. At the scale of the National Forest, this consideration was not found to be practical nor manageable, and could well create additional problems with administration. Therefore, this alternative control method was considered but eliminated from detailed study.

Consider a seasonal closure to OHVs (for example in winter: Jan 1 to May 1).
This suggestion was offered as a way to prevent resource damage associated with wet conditions. Where potential resource issues exist, appropriate management measures are already in place. This consideration exclusive to OHV use was not found to be practical nor manageable, and could well create additional problems with administration. Many decisions currently in place provide for the application of seasonal closures as needed for resource protection. It was therefore eliminated from detailed study.

Provide reward for photographic documentation of off-road violations.
Comments on the DEIS suggested that this plan should also include reward for photographic documentation of off-road violation, so that citations may remain a substantial deterrent. This Forest is bound (as are all forests) by national policy and direction for implementation of the Travel Management Rule and implementation of the MVUM. There is no provision for reward of photographic documentation of off-road violations. Therefore this idea is not within the decision space for this project and its analysis. It was therefore eliminated from detailed study.

Consider FS law enforcement patrols at parking areas and staff Guard Stations.
Comments to the DEIS suggested Forest Service law enforcement officers should frequently patrol roads and should designate parking areas to guard against vehicle vandalism. Further, it would be good to establish and staff guard stations to provide information, safety, and law enforcement. Trends in violations related to the Travel Management Rule can be analyzed and appropriate action(s) taken, if needed. Appropriate action(s) may involve one or more techniques or adaptive strategies. It is probably impractical and too costly to establish guard stations specifically to enforce travel management. This suggestion was therefore eliminated from detailed study with this process.

Consider "zone" routes and ORV staging areas away from campgrounds.
Comments during Scoping and to the DEIS suggested consideration of a strategy to reduce use conflicts to "zone" routes and to site ORV staging areas away from campgrounds. There are a number of motorized trails that start at campgrounds on the Prospect OHV system. The scoping comment focused on the Oak Flat Campground which is located on the lower portion of the Illinois River, and suggested that use would increase here with publication of the MVUM. The Forest considered formal creation of staging areas early in this process; however felt that there were already a large number of informal staging areas associated with large turnouts, landings,

and rock pits. Specific to Oak Flat, an increase in use associated with the MVUM and the potential of increased noise and exhaust cannot be predicted. This idea was therefore eliminated from detailed study with this process.

Consider limiting motorcycle size; smaller ones don't cause damage.
Comments to the DEIS suggested consideration of limiting the size of motorcycles. An assumption is that smaller bikes are capable of providing the riding experience yet they don't have enough power to tear up a lot of ground. The Forest has not considered limiting the size of motorcycles. In general, motorcycles used on single track trails are far lighter and smaller than those used on roads. In addition, riding style and rider skill and ability is a more substantial factor in "tearing up the ground" than the size of the motorcycle. This motorized use management idea is not within the decision space for this project and its analysis and was therefore eliminated from detailed study.

Consider seasonal use restriction in Mule Mountain Area (Big Game Winter Range).
Comments to the DEIS from Oregon Department of Fish and Wildlife recommended that trail systems within designated Big Game Winter range have seasonal restrictions from Nov 1 - May 1. Specifically, the Mule Mountain area is identified as very important deer winter range and has been the focus of large prescribed burn habitat improvement projects. Enacting seasonal restrictions for motorized use (vehicle access) within Big Game Winter Range (Rogue River Land Management allocation MA-14) is already an option, as stated in Forest Plan Standards and Guidelines for recreation at LRMP page 4-165:

> *6. Control vehicle access in big game winter range as needed between November 1 and April 30 to prevent biological stress.*

This use restriction can be implemented by the responsible official (District Ranger) at any time, regardless of the motorized vehicle use process. It was therefore eliminated from detailed study with this process. This restriction remains as a future opportunity for consideration. If this restriction is enacted, it would be shown on the MVUM.

Physical signs are needed at approved dispersed campsites in Riparian Reserves.
Comment to the SDEIS asked that physical signs at *every* approved dispersed campsite within Riparian Reserves be considered. At the scale of the National Forest, given the number of sites, this consideration was not found to be practical nor manageable, would be costly and would not be in the public interest. It could well create additional problems with administration. Motorized use on these sites is relatively infrequent and resource damage from that use is minimal.

As stated in this chapter, section L (Implementation strategy); regarding signage, "Only as necessary, signing of dead-end routes leading to/stopping at rivers, streams, meadows, and other sensitive resources will be a priority to help protect resources from public wheeled motor vehicle damage." Therefore, this alternative control method was considered but eliminated from detailed study.

O. COMPARISON OF ALTERNATIVES

This section compares the alternatives considered in detail, based on information presented in this chapter, as well as environmental consequences presented in Chapter III. Table II-13 summarizes the alternatives; Table II-14 contains a comparison of some of the indicators relevant to the Significant Issues for the environmental consequences, and Table II-15 contains a comparison of the alternatives for the environmental consequences regarding Other Issues.

1. Description of the Alternatives Considered in Detail

The following table summarizes the alternatives.

Table II- 13. Alternative Comparison

Roads and Trails	Current Condition (Alternative 1)	Alternative 2	Proposed Action (Alternative 3)	Alternative 4	(Preferred) Alternative 5
Total NFS Roads	5,270 miles	5,270 miles	5,270 miles	5,270 miles	5,270 miles
NFS Roads "**open**" to the public	4,496 miles	4,496 miles	4,482 miles	4,449 miles	4,481 miles
Open roads that **allow** mixed use	3,167 miles	3,167 miles	3,167 miles	3,092 miles	3,129 miles
Open roads that **prohibit** mixed use	1,329 miles	1,329 miles	1,315 miles	1,357 miles	1,352 miles
Total NFS Trails	1,190 miles	1,190 miles	1,200 miles	1,190 miles	1,197 miles
NFS Trails that **allow** motorized use	236 miles	236 miles	216 miles	128 miles	207 miles
New trails authorized	0 miles	0 miles	1.7 miles	0 miles	1.2 miles
Conversion of ML 1 road to motorized trail	0 miles	0 miles	12 miles	0 miles	9 miles
Total area open to motorized **cross country travel**	274,670 acres	15 acres and designated gravel bars	25 acres and designated gravel bars	15 acres and designated gravel bars	15 acres and designated gravel bars

2. Comparison of Alternatives Considered in Detail in Terms of Significant and Other Issues

Table II- 14. Comparison of Alternatives - Significant Issues

Significant Issues	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Water Quality and Erosion	Miles of open roads closed to public use	No change	No change	14 miles	47 miles	15 miles
	Miles of motorized trails closed to motorized use	No change	No change	19 miles	106 miles	29 miles
Botanical Areas, Research Natural Areas and Special Plant Habitats	Acres of cross-country travel allowed within BAs or RNAs	274,670 acres	0 acres	0 acres	0 acres	0 acres
	Miles of motorized trails closed to motorized use within BAs or RNAs	No change	No change	4 miles	11 miles	6 miles
Public Safety	Change in traffic density on open roads and trails	No change	No change	Slight increase	Slight increase	Slight increase
	Miles of road where mixed use is allowed	3,167 miles	3,167 miles	3,167 miles	3,092 miles	3,129 miles
Motorized Opportunities	Change in miles of roads and trails open to the public	No change	No change	-14 miles	-47 miles	-15 miles
	Miles of open roads	4,496 miles	4,496 miles	4,482 miles	4,449 miles	4,481 miles
	Miles of motorized trails	236 miles	236 miles	218 miles	130 miles	207 miles
Roadless Character within Inventoried Roadless Areas	Miles of motorized trails within IRAs	94 miles	94 miles	72 miles	0 miles	64 miles
	Miles of open roads within IRAs	48 miles	48 miles	34 miles	0 miles	34 miles
	Acres of cross-country travel allowed within IRAs	30,170 acres	30,170 acres	0 acres	0 acres	0 acres

Table II- 15. Comparison of Alternatives - Other Issues

Other Issues	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Soils – Site Productivity	Areas where cross-country travel would be allowed	No change to the current condition. Cross-country travel allowed on 274,670 acres	Would prohibit cross-country travel except for 15 acres at Prospect OHV System; north end of High Cascades Ranger District	Would prohibit cross-country travel except for 15 acres at Prospect OHV System; and new 10 acre play area on High Cascades Ranger District	Would prohibit cross-country travel except for 15 acres at Prospect OHV System; north end of High Cascades Ranger District	
Aquatic Conservation Strategy	Consistency with Riparian Reserve Standards and Guidelines and ACS Objectives	N/A	All Action Alternatives would be compliant with Riparian Reserve Standards and Guidelines for Recreation Management and consistent with the 9 Aquatic Conservation Strategy Objectives at the site scale and all watershed scales			
Air Quality – Vehicle Emissions	Change in the current level of vehicle emissions	No change	Alternatives 2, 3, 4, or 5 would result in an insignificant change in vehicle emissions			
Air Quality – Dust and Asbestos	Change in the current level of dust and asbestos	No change	Alternatives 2, 3, 4, or 5 would decrease disturbance due to closure of cross-country travel and removal of selected travel routes per alternative			
Fire Risk	Change in the risk of human-caused fires	No change	Slightly reduces risk by eliminating cross-country travel			
Listed Plants (S&M etc.)	Effect to listed plant species	No change	Effects would be reduced by closure of cross-country travel.	Though actions may impact individuals, actions are not likely to adversely affect Threatened species or critical habitat (NLAA). Other species (FS Sensitive, etc.) are MIIH – may impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide. Elimination of cross country travel reduces effects over Alternative 2		
Invasive Non-native Plants	Potential change in spread of invasive non-native plants	No change	Closure of cross-country travel would reduce potential for spread	Would reduce the potential for spread by limiting motorized use on some trails and roads	Would reduce the potential more than Alternative 3 for spread by limiting motorized use on more trails and roads	Would reduce the potential for spread by limiting motorized use on some trails and roads, similar to Alternative 3
Invasive Pathogens	Risk of spread; compliance with current direction	Current high risk sites would remain due to cross-country travel	There would be reduction in high risk for *Phytophthora lateralis* (PL) due to elimination of cross country travel. All alternatives would comply with State and Federal laws regarding *Phytophthora ramorum.*			
Terrestrial Wildlife Listed Species	Determination for listed species	N/A	Effects to the northern spotted owl and marbled murrelet due to disturbance could occur under all action alternatives and would result in a "may effect, not likely to adversely affect (NLAA)" determination. Consultation completed with USFWS with concurrence.			

Other Issues	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Management Indicator Species	Harassment to big game (deer and elk) within winter range areas	No change	Potential decrease due to elimination of cross-country travel	Harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public		
	Effects to other MIS	No change	None of the action alternatives would result in substantial direct or indirect adverse effects to other Management Indicator Species			
Other Rare or Uncommon Species	Effects to other rare or uncommon species	No change	Reduced potential due to closure of cross-country travel	Reduced potential due to closure of cross-country travel and due to potential disturbance from noise associated with passenger vehicle and OHV traffic, alternatives may impact but not adversely impact these species		
Fisheries and Aquatic Species	Determination for listed species	N/A	None of the Action Alternatives would result in measurable direct or indirect effects to fisheries resources at the watershed or subwatershed scale			
Visuals	Attainment of visual quality objectives	No change	No change is expected from cross-country travel closure	The reduction of roads and trails would not substantially affect or change the attainment of visual quality objectives		
Sound Level	Change in use conflicts related to sound	No change	Potential decrease due to closure of cross-country travel	Slight decrease in potential use conflicts related to sound	Moderate decrease in potential use conflicts related to sound	Slight decrease in potential use conflicts related to sound
Mining Access	Effect to access for prospecting, locating, or developing mineral resources.	Selection of any alternative would not affect access that is reasonably incident to mining. However, alternatives that are more restrictive on vehicle travel would result in a higher degree of administration to determine if access is reasonably incident and necessary for the stage of mineral activity				
Enforcement	Change in ability to enforce compliance with Federal law	No change	Amendments to the Forest Plans and publication of the Motor Vehicle Use Map would increase the ability to cite those who cause resource damage			
Cultural Resources	Increase in risk to heritage sites	No change	The reduction of cross-country travel would further limit access to existing and yet undiscovered sites			
Climate Change	All alternatives were identified to have minor cause-effect relationships to greenhouse gas emissions or the carbon cycle, and determined to be of such a minor scale at the global or even regional scale, that direct effects would be meaningless to a reasoned choice among alternatives					
Designated and Eligible Wild and Scenic Rivers	Protect or enhance outstandingly remarkable values (ORVs)	No Change	Potential for enhancement of ORVs due to closure of cross-country travel	Alternatives 3, 4, and 5 would have a slight potential to enhance ORVs by eliminating cross-country travel		
				Slightest potential for enhancement to ORVs from reduction in motorized roads and trails	Most potential for enhancement to ORVs from reduction in motorized roads and trails	Potential for enhancement to ORVs from reduction in motorized roads/trails

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CHAPTER III - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes consequences and environmental effects linked with implementing the alternatives considered and analyzed in detail. The following sections portray affected environments and outcomes for each alternative in terms of attainment of Purpose and Need, and predicted physical, biological, economic, and social direct, indirect and cumulative effects on the environment, in regard to the Significant Issues and Other Issues identified in Chapter I.

A. CHANGES BETWEEN 2011 DSEIS AND 2015 FSEIS

For the FSEIS, all supplemental information has been incorporated into standard text (without boxes). Changes were made to the entire FSEIS to clarify issues, expand on analysis, and provide additions, changes, updates and corrections that are responsive to issues and comments brought forth from the DSEIS comment period. In addition, issues, updates and corrections identified internally requiring modifications are also included. **This FSEIS prevails regarding any differences or conflicts with the DSEIS.**

In this chapter, the Attainment of Purpose and Need section was revised for clarity and to address all elements of the 2011 revised DSEIS Purpose and Need statement.

Reference is now made to new National Best Management Practices (BMPs) for Water Quality Management (April 2012). These are now used in concert with the General Water Quality Best Management Practices, Pacific Northwest Region, November 1988.

Based on public comments, edits for clarification were made to Roadless Character and IRA section to clarify management direction under 2001 Roadless Rule.

Edits were made to Aquatic Conservation Strategy section for clarification.

In botanical sections, text was revised regarding Survey and Manage litigation and use of the 2001 Survey and Manage ROD.

In December 2012, the US Fish and Wildlife Service changed the Endangered Species Act listing of McDonald's rockcress, to apply only in Mendocino County, California. *Arabis macdonaldiana* in Del Norte, Siskiyou, and Curry County. Text was revised to consider this a Forest Service Sensitive species, not a Federally-listed species.

Since the DSEIS was released, a vascular plant species new to science was described. It is the daisy *Erigeron stanselliae* which so far is only known in the Signal Buttes/McKinley Mine area, and near Flycatcher Springs. Although *Erigeron stanselliae* is not currently a Forest Service Sensitive species, it is likely to be given that status the next time the Region 6 Sensitive species list is updated.

Comments to the DSEIS suggested that other Sensitive plant species known to occur in the Signal Buttes area that could be likely impacted by motorized vehicle use include: *Mondardella purpurea*; *Carex*

scabriuscula (C. gigas) Siskiyou Sedge; and *Poa piperi*. Text was edited to clarify that the Monardella and the Poa are no longer Forest Service Sensitive species. The Forest Service has no record of *Monardella purpurea* in the Signal Buttes area.

Clarified and updated the current conditions for *Phytophthora ramorum,* the cause of Sudden Oak Death (SOD). Section now includes a map of the latest SOD quarantine area and text was updated to include the status of SOD treatments on National Forest lands.

Edits were made to Terrestrial Wildlife Listed Species section for minor updates and clarification.

Changes were made to the Fisheries and Aquatic Species section. These edits were primarily made to reflect the revised Aquatic Biota Biological Evaluation and Specialists Report (FSEIS June 2014), contained as FSEIS Appendix G. These changes reflect the latest federal species listing, as well as the Pacific Northwest Regional Forester's Sensitive Species List updated December 2011.

Clarification was included for the three "E" Strategy in the Enforcement section.

Edits were made to the outline structure and content of Wild and Scenic Rivers Section, over the text contained in the DSEIS.

B. INTRODUCTION

In presenting consequence discussions, the following terms are used to describe relevant spatial and temporal effects:

Short-term effects *address environmental consequences, which could occur at the time or and/or that arise within two-years of motorized use designation.*

Long-term effects *address environmental consequences, which are delayed, periodic, and/or arise more than two-years after motorized use designation.*

Direct effects *refer to consequences caused by the activities or events themselves, occurring concurrently and in the same location.*

Indirect effects *include consequences, occurring later in time or farther removed in distance from the point of contact, but are still reasonably foreseeable.*

Cumulative effects *address incremental environmental consequences resultant of multiple, past, present, and reasonably foreseeable future actions, regardless of land ownership, or which agency, or person initiated the action (40 CFR 1508.7).*

This analysis of environmental effects for each alternative is based on the recognition of Federal laws, National policies, regional Standards and Guidelines, and compliance with the Rogue River and Siskiyou National Forest LRMPs, as amended by the Northwest Forest Plan, as well as other plan amendments (Chapter I). The Forest Service Interdisciplinary Team has conducted analyses and has disclosed environmental consequences for all alternatives considered in detail.

1. Analysis Framework

The baseline for the affected environments and environmental consequences described in the sections below is the existing condition as described in Alternative 1 (No Action). In general, this baseline includes existing National Forest System (NFS) roads and trails identified in the Forest route inventory, combined with isolated cross-country motor vehicle travel, existing seasonal closures, restrictions on wheeled over-the-snow travel, and no specific prohibitions on the use of public wheeled motor vehicles for parking and dispersed camping.

For the RRSNF, this project and its analysis has focused on the change from the current condition.

The depiction of effects varies, based on the context in which they are analyzed. Therefore, pertinent, environmental consequences are presented in context of multiple scales, over various time frames. For the purpose of this Final Supplemental EIS, the analysis was focused at the scale of the entire Rogue River-Siskiyou National Forest and specifically where actions are proposed with resulting direct consequences. These areas are unique to the Action Alternatives and vary according to the area where potential actions would occur.

a. Data

The primary data source used for this analysis was existing Geographic Information System (GIS) data collected from past field surveys and inventories. The RRSNF has numerous GIS layers that contributed to conducting an effective analysis, such as: spotted owl activity centers, hydrologic watersheds, travel routes, vegetation, sensitive plant occurrences, Botanical Areas, and recorded cultural resource sites.

The second data source used for this analysis was collected in the field by the Forest resource specialists for this project. Field assessments on specific routes of concern were conducted by project specialists.

b. Assumptions for Analysis

For this analysis, the following assumptions apply to all analysis as documented in all sections below:

- The existing level of use of NFS roads and trails is part of the current condition. Maintaining the current level of use does not constitute a measurable change to the current condition and therefore does not constitute a new effect. This also applies to roads which are designated as Maintenance Level (ML) 1, which a barrier device has not yet been installed or access around the barrier can occur with certain motorized vehicles without damage to Forest Service property, lands, wildlife, or vegetation, thus appearing open to motorized use and currently receiving such use.

- A NFS road is managed as a road and a NFS trail is managed as a trail and for this analysis, both are managed as part of the Forest infrastructure. Though species of plants or animals may occupy roads or trails, their presence does not convert the management of that road or trail to habitat management. Effects analysis acknowledges the presence of those species and thus effects on those species when any road or trail is put to its intended use.

- Public education and enforcement of regulations are assumed to be effective and would generally limit public travel to designated routes. Though illegal use at some level is expected to continue,

unless site-specific documented information is available, the exact location and extent cannot be predicted.

- Reduction in the amount of available motorized trail may concentrate use on other trails that remain open to motorized use. However, because there is little information on the amount of use, it is assumed that additional use would not reach a threshold that would result in adverse resource effects.

- If adverse resource effects occur, they will be mitigated through additional trail maintenance or seasonal closures.

- Routes with fixed barriers are closed and are expected to re-vegetate. The effects analysis assumes re-vegetation over time. Differences in time frame and ultimate composition of that re-vegetation may vary based on soil types and site conditions (aspect, rainfall, elevation, etc.).

- NFS roads and trails were originally constructed to an appropriate standard for the intended use based on an engineering design and are assumed to be in an acceptable condition, unless information is documented to the contrary.

- NFS roads and trails designated for public wheeled motor vehicle use are and will continue to be maintained (brushing, ditch cleaning, etc.) as needed. Effects analysis assumes this ongoing maintenance.

- Hazard trees will be treated on NFS roads designated as open for motorized vehicle use. Hazard trees will not be treated on trails (only at trailheads).

- Unauthorized or user-created routes may not be in an acceptable condition, unless information is documented to the contrary. This is based on the fact that unauthorized routes were generally created without engineering design.

- Routes that are not considered part of the National Forest System of roads are not considered part of the baseline conditions.

- The alternatives differ in terms of the miles of routes open to public motor vehicle travel; there is no difference in the number of miles of routes that currently exist.

- Cross-country (or off-road) travel is currently allowed on approximately 274,670 acres of the Rogue River-Siskiyou National Forest (Chapter II). Throughout Chapter III, an approximation of 275,000 acres is used (rounded from 274,670). Of those acres, the majority are not utilized due to topography and heavy vegetation. Based on analysis of the current condition, it is estimated that approximately 5% (13,750 acres) actually receive cross-country use.

Routes may be authorized under a forthcoming Travel Management decision, but may not appear on the MVUM until suitable or qualified for that use. From time to time, it is anticipated that some routes may become impassable due to unforeseen events such as weather, vegetation conditions or other factors. Users should be aware that route conditions may vary and use appropriate caution.

If the current condition of an authorized route is found to be causing resource damage, these routes may be temporarily closed and removed from the MVUM while the appropriate maintenance work is analyzed and completed.

c. Cumulative Effects Assumptions

The cumulative effects analysis area is described under each resource, and in most cases includes the entire Rogue River-Siskiyou National Forest, including private and other public lands that lie within the Forest boundary.

Past activities are considered part of the existing condition. To understand the contribution of past actions to the cumulative effects of the Proposed Action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment, and might contribute to future cumulative effects.

Cumulative effects analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions would be impractical to compile and costly to obtain at the scale of the entire Forest. Current conditions have been impacted by many actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the Proposed Action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each action over the last century that has contributed to current conditions.

By looking at current conditions, the residual effects of past human actions and natural events can be recognized, regardless of which particular action or event contributed those effects. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, "agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." The cumulative effects analysis in this EIS is also consistent with Forest Service National Environmental Policy Act (NEPA) Regulations (36 CFR 220.4(f)) (July 24, 2008), which state, in part:

> "CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions. Once the agency has identified those present effects of past actions that warrant consideration, the agency assesses the extent that the effects of the proposal for agency action or its alternatives will add to, modify, or mitigate those effects. The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonably foreseeable future actions) on the affected environment. With respect to past actions, during the scoping process and subsequent preparation of the analysis, the agency must determine what information regarding past actions is useful and relevant to the required analysis of cumulative effects. Cataloging past actions and specific information about the direct and indirect effects of their design and implementation could in some contexts be useful to predict the cumulative effects of the proposal. The CEQ regulations, however, do not require agencies to catalogue or exhaustively list and analyze all individual past actions. Simply because information about past actions may be available or obtained with reasonable effort does not mean that it is relevant and necessary to inform decision making." (40 CFR 1508.7)

The direct and indirect physical and biological effects of prohibiting motorized access off designated routes, limiting access to dispersed camping, and changing the mixed use on existing designated routes are generally beneficial. Therefore, there would be no adverse cumulative effects of implementing these proposed actions on any of the physical or biological resources. The combined physical and biological effects of other past, present, or reasonably foreseeable future actions that also affect motorized access may reduce the level of benefits realized to the physical and biological resources from the proposed actions in this FSEIS. The cumulative actions that were primarily considered include vegetation management actions that may create conditions more conducive to motorized access, road management activities, mining and range management access, proposed motorized trail projects, recreation projects and access, timber harvest and vegetation treatments, reforestation, restoration projects, road and right-of-way management, state and county easements, special uses, and road construction and decommissioning.

Vegetative conditions created by wildfires – although not federal or foreseeable actions under the National Environmental Policy Act – were also considered because wildfire areas can also create vegetative conditions that may be more conducive to motorized access compared to untreated. However, for the most part, the actual degree to which other past, present, or reasonably future actions would reduce the potential benefits of the proposed actions cannot be analyzed in a meaningful way due to the small-scale localized nature of these actions when compared to the proposed actions, or because of the uncertain nature of the predicted time and actual impacts of these activities.

Ongoing programs and permitted activities are so numerous and ubiquitous across the forest that accumulating extensive site-specific data on activities is neither reasonable nor warranted in order to understand the potential cumulative effects of the actions considered in this EIS.

The primary potential adverse cumulative effects of these proposed actions, when considered with other past, present, and reasonably foreseeable future action are the reduction or elimination of certain kinds of motorized recreational or access opportunities on an extended area across the Pacific NW Region. The greatest potential cumulative effect is the loss of general motorized access off of designated routes (roads and trails) or outside of designated areas (cross-country travel), given the local, regional, and national application of the Travel Management Rule.

There appears to be a trend for limiting motorized access to designated routes on public lands (proposed actions and decisions for implementing the Travel Management Rule on the Willamette, Umpqua, Klamath, Six Rivers, and Fremont-Winema Forests); as well as private forest and ranchlands and county lands in the local area. Given the national scope of the Travel Management Rule, there is a potentially significant adverse effect to off-road motorized access and recreation across the Pacific Northwest region. The degree to which the Rogue River-Siskiyou National Forest is likely to contribute to this cumulative effect cannot be reasonably predicted. However, the development of proposed motorized trail systems may somewhat offset this adverse effect by providing additional designated motorized trail opportunities. This adverse effect may be considerably lessened when combined with the designated motorized road and trail systems on public lands in the northern California and southwest Oregon area. There are potential cumulative effects to people's motorized access for dispersed camping as well, although not likely to be as widespread as the effects of limitations on motorized access off designated routes and outside of designated areas.

C. ATTAINMENT OF PURPOSE AND NEED

This section is designed to take a closer look at the overall attainment of the Purpose and Need and discuss and compare the Action Alternatives in relation to the No Action Alternative. While components of Purpose and Need are related to the Significant Issues, either directly or indirectly, this section is not designed to assess consequences (effects) in terms of Significant Issues. It is designed to assess the overall attainment of the stated Purpose and Need.

As introduced in Chapter I, the content of the Purpose and Need statement is:

The ***purpose*** for action is to implement Subpart B of the Travel Management Rule. Motorized use is popular and an important form of recreation for many individuals, families, and groups. A designated and managed system is required by the Travel Management Rule to provide this use. Increased demand for motorized use, lack of designated areas/routes, has led to resource damage and social impacts, user conflicts, and safety concerns. In order to meet these objectives the following changes are ***needed***:

- **eliminate general cross-country travel** by prohibiting all motorized access off existing, previously designated routes, and outside existing, previously designated areas where such use is not currently prohibited or otherwise restricted by past actions;
- **improve public safety**, by implementing Forest Service Regional policy to determine the suitability of continuing to allow for motorized "mixed" use (e.g. analyze those roads which currently allow for motorized "mixed" use under State Law);
- **amend the Rogue River and Siskiyou National Forest Plans** to restrict motorized access to designated routes consistent with the Travel Management Rule and to provide consistent direction for conflicting plan allocations that will allow historical use of travel routes where appropriate;
- make minor, limited changes to the National Forest Transportation System to **preserve a diversity of unique motorized recreation opportunities** (4X4 vehicles, motorcycles, ATVs, passenger vehicles, etc.) because implementation of Subpart B of the Travel Management Rule will reduce motorized recreation opportunities relative to current levels; and
- establish conditions or **provisions to allow motorized access for dispersed camping** that are consistent with Subpart B of the Travel Management Rule.

1. Implement Subpart B of the Travel Management Rule

As stated above, the overall *purpose* for action is to implement Subpart B of the Travel Management Rule. This subsection evaluates the stated *purpos*e.

a. Alternative 1 – No Action

This alternative would not result in the publication of a Motorized Vehicle Use Map (MVUM) and thus, Subpart B of the Travel Management Rule would not be implemented. The No Action Alternative is not designed to meet the *Purpose and Need* for action.

Under the *No Action* Alternative, the existing condition, as reflected in the Forest route inventory and analysis of the transportation system completed August 2008 and updated throughout this process, would continue. The No Action Alternative is a proposal to 'do nothing' and maintain the 'status quo'. The 'status quo' would be the combination of all previous decisions by the Forest (allowing cross country travel, the creation of temporary roads associated with permits or other authorizations; and any previous decisions associated with the system of roads, trails and areas).

Because this alternative is not designed to meet the stated *purpose* for action, it also is not designed and does not obtain the stated *needs* through any change. As such, the No Action alternative will not be discussed further in terms of attainment of *needs*.

b. Action Alternatives

All Action Alternatives (i.e., Alternatives 2, 3, 4, and 5) would lead to the publication of a MVUM which would implement the Travel Management Rule. This would be accomplished via Forest-wide Plan Amendments that allow the MVUM to be the basis of allowable motorized use for roads, trails and areas, and to authorize the issuance of citations for use not in accordance with the MVUM. The Action Alternatives vary in terms of their attainment of the stated *needs*, as discussed below.

2. Needs for Change

a. Eliminate General Cross-country Travel

Current Land and Resource Management Plans provide direction for portions of the Forest that are open to cross-country motorized vehicle use. Implementation of Subpart B of the Travel Management Rule requires an overall forest-wide amendment to the applicable Forest Plans to provide direction as associated with the 2005 Travel Management Rule.

For the Action Alternatives, all roads, trails, and cross-country motorized use would be closed unless designated open to specific uses. Since motorized use includes OHV use, all Action Alternatives propose the deletion of the 1989 and 1990 Off-road Vehicle Management Plans, contained as appendices to the respective Forest Plans, to be replaced with the Motorized Vehicle Use Map. Details of these amendments are contained in FSEIS Appendix B (incorporated by reference).

b. Improve Public Safety

All Action Alternatives are designed to implement Forest Service Regional policy would improve public safety. It is expected that, as part of a forthcoming decision, the Forest would continue to maintain a program of inspecting the transportation system on a regular basis and identifying safety issues needing correction. It is also expected that the Forest would continue to fund and maintain any transportation system in order to correct safety issues in a reasonable amount of time.

Under all Action Alternatives it is expected that public safety in general would increase due to Oregon's new OHV safety laws that are being phased in at the current time. These new laws require youth supervision and safety education for all riders. See Chapter II; subsection C, 1 for a more detailed discussion of the new requirements. In addition, mitigation planned for those "high risk" roads in conjunction with prohibiting mixed use on roads where mitigation would not be effective, would also increase public safety.

Identification of motorized routes would not change the Forest's public safety priority and the effects to user safety are similar for all Action Alternatives. Three factors influence the safety of the road and trail system: 1) the condition of the facilities, 2) the mixture of uses on a particular facility (mixed use), and 3) user behavior. Safety is enhanced if Forest roads and trails are routinely maintained and unexpected damage or unsafe conditions are identified and corrected in a reasonable amount of time.

c. Amend National Forest Plans

Forest-wide Plan Amendments to the Rogue River and Siskiyou National Forest Land and Resource Management Plans proposed under the Action Alternatives would allow the MVUM to be the basis to display the allowable motorized use for roads, trails and areas, and to authorize the issuance of citations for use not in accordance with the MVUM. Details of these amendments are contained in FSEIS Appendix B (incorporated by reference).

Alternatives 2, 3 and 5 would also implement specific Plan Amendments as necessary, to provide for clear and consistent direction in the Forest Plans. These site-specific amendments are associated with the Lawson Creek, Game Lake, Lower Illinois, Silver Peak Hobson Horn Trails, Cook and Green Trail, and with the Boundary Trail and associated connecting trails. These amendments are needed for Alternatives 2, 3, and 5, to allow the Forest Plans to provide consistent direction so that this trail would continue to be authorized for motorized use.

Alternative 4 does not provide for motorized use on the Lawson Creek, Game Lake, Lower Illinois, Silver Peak Hobson Horn, or Boundary Trails and therefore does not need these specific amendments. However, Alternative 4 includes a proposed Plan Amendment to reconcile the conflict with North Fork Smith Wild and Scenic River Management Plan which allows motorized use and access to Sourdough Camp and Road 4402-206.

d. Preserve a Diversity of Motorized Recreation Opportunities

To varying degrees, all Action Alternatives provide for a managed system of motorized use and preserve a diversity of motorized recreation opportunities. The Action Alternatives provide for a more succinct and easily understood system for motorized use than does the No Action Alternative.

The degree that the Action Alternatives provide for motorized use varies by alternative and is the subject of the Motorized Opportunities Significant Issue, discussed in the next section.

Generally, for the purpose of perspective, Alternatives 1 and 2 generally provide about the same extent of motorized use as the current situation, Alternative 3 is the Proposed Action, and provides a more managed and slightly reduced system, and Alternative 4 provides a more managed and more reduced system over Alternative 3. Alternative 5 (designed as a blend) provides a slightly reduced system compared with Alternative 3, but provides more motorized opportunities than Alternative 4.

e. Establish Provisions for Motorized Access for Dispersed Camping

Consistent with Subpart B of the Travel Management Rule, each Action Alternative provides identification of roads that would allow motorized access off of the road surface for the purpose of dispersed camping. These provisions are detailed in FSEIS Chapter II, section F, 3. Activities that are generally prohibited and activities that are generally allowed are detailed.

Alternative 4 provides for additional provisions for Siskiyou Mountains Ranger District. In this alternative, off-road motorized travel for dispersed camping would only be allowed up to 300 feet from centerline along certain designated Maintenance Level 2 and 3 roads (see Map II-1, FSEIS Chapter II).

In addition, in Alternative 4, off-road motorized travel for dispersed camping would only be allowed on the High Cascades Ranger District up to 300 feet from centerline along currently identified "green dot" roads (see Map II-, FSEIS Chapter II).

The FSEIS has incorporated additional provisions for motorized access to dispersed camping within Riparian Reserve areas, to ensure attainment of Aquatic Conservation Strategy Objectives. This includes an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any *existing* site near a stream course, wetland, or water body (FSEIS Chapter II, section F, 3).

D. ENVIRONMENT AND CONSEQUENCES ASSOCIATED WITH SIGNIFICANT ISSUES

Significant Issues were used to design specific elements of the alternatives and proposals, mitigation measures, and/or facilitate the display of important (and/or variable) environmental consequences. NEPA requires Federal agencies to focus analysis and documentation on the Significant Issues related to an action.

These issues (presented in Chapter I) have been determined to be significant because of the extent of their geographic distribution, the context of associated consequences, the duration of the effects, or the intensity of interest or resource conflict. Under the No Action Alternative, there would be no change from the current conditions (unless otherwise noted).

1. Water Quality and Erosion

Effects of Motorized Vehicle Use on Water Quality and Erosion

The effect of motorized use of roads and trails on hydrologic systems is usually analyzed both at the site-scale and at the watershed scale in order to evaluate direct impacts of the road or trail alignment (site-scale) and the indirect and cumulative watershed effects. This Significant Issue analyzes the effects of motorized vehicle use on water quality and erosion.

FSEIS Appendix D documents more detail on the 5th and 6th field watersheds that have been analyzed. These subwatersheds are analyzed because they represent those watersheds where actions are being proposed to occur that would potentially affect (either adversely or beneficially) current conditions. FSEIS Appendix D (incorporated by reference) includes watershed characteristics, risks for adverse cumulative effects, Key Watershed and water quality listing status, and Riparian Reserve status for proposed actions.

a. Background and Analysis Framework

Water quality in Oregon is managed in compliance with Section 303(d) of the 1972 Federal Clean Water Act by the Oregon Department of Environmental Quality (DEQ) and the US Environmental Protection Agency (EPA). DEQ is responsible for designating streams and water bodies that require effluent limitations, and, for developing Total Maximum Daily Load (TMDL) allocations that will ensure water quality standards are met. The most recent listing of impaired waters is available on a DEQ website as "Oregon's 2004/2006 Integrated Report Database" (www.deq.state.or.us/wq/assessment/rpt0406).

Most of the Rogue River-Siskiyou National Forest is within the Rogue River Basin. This 5,156 square mile drainage extends 215 miles westward from the crest of the High Cascades near Crater Lake to the Pacific Ocean at the town of Gold Beach. The basin includes the major valleys of southwestern Oregon such as the Rogue River Valley, Applegate Valley, and Illinois Valley and includes a small area of northern California. There are no listed streams in the basin on the California side. The Rogue River-Siskiyou NF contains portions of two other smaller basins: the South Coast and Coquille River Basins, located immediately south and north of the Rogue River Basin. DEQ has completed TMDL allocations for the Rogue River Basin and for selected watersheds as shown below. The Coquille Subbasin has a completed TMDL that covers most of the Rogue River-Siskiyou NF occurring in that subbasin.

Table III- 1. Basin, Subbasin or Watershed Listed Pollutants

BASIN, SUB-BASIN or WATERSHED, date approved by EPA	Pollutant Addressed
Rogue River Basin, 2008	Temperature, Bacteria
Middle Rogue Subbasin, Bear Creek Watershed, 2007	Temperature, Bacteria, Sedimentation
Middle Rogue Subbasin, Bear Creek Watershed, 1992	pH, Aquatic Weeds and Algae, Dissolved Oxygen
Illinois Subbasin, Upper Sucker Creek Watershed, 1999	Temperature
Lower Rogue Subbasin, Lobster Creek Watershed, 2002	Temperature
Applegate Subbasin, 2004	Temperature, Biological Criteria, Sedimentation
South Coast Basin, Coquille Subbasin, Upper South Fork Coquille Watershed, 2001	Temperature

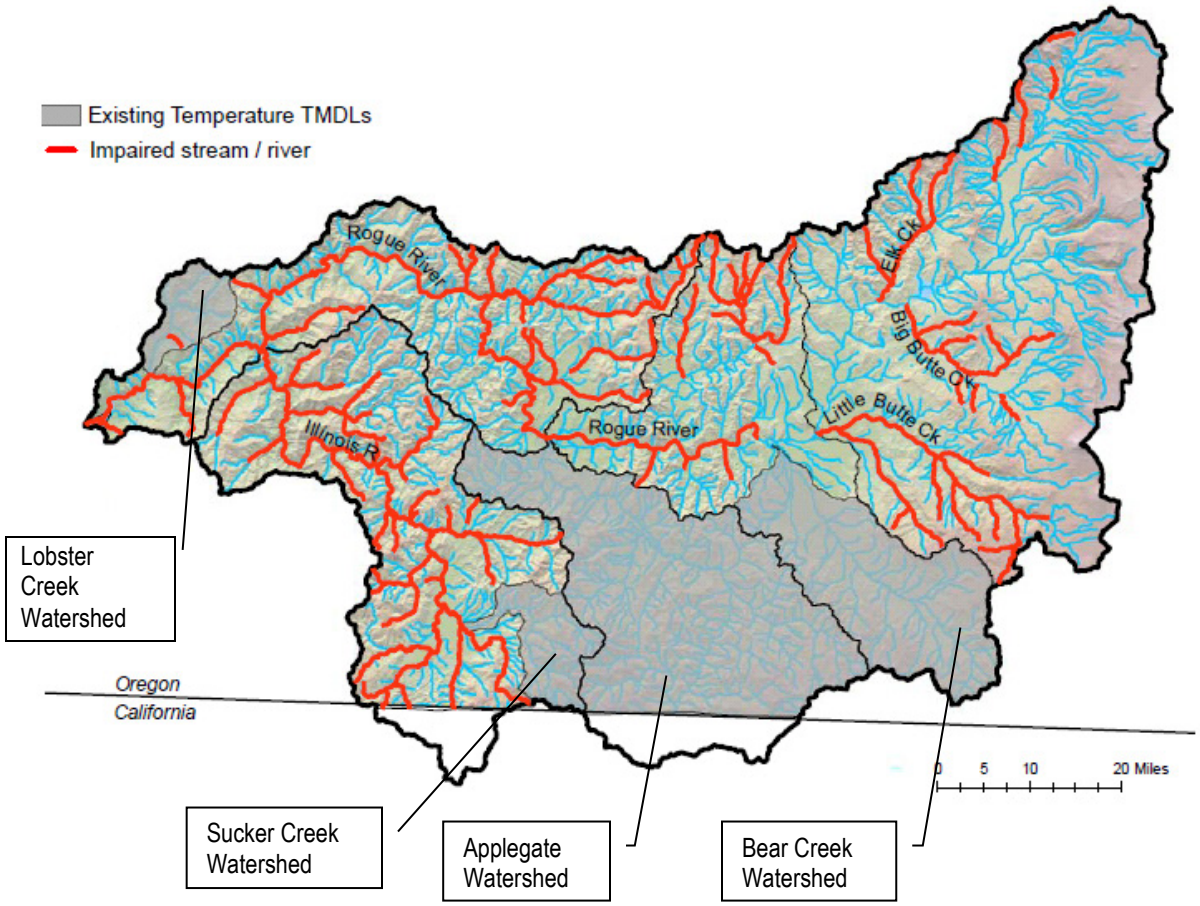
In order to implement the State's waste load allocations, federal land management agencies develop Water Quality Management Plans (WQMP) in cooperation with DEQ. Plans have been developed for many areas of the Rogue River-Siskiyou National Forest that contain or may affect listed streams or water bodies.

Water temperature exceeding state standards is the water quality parameter of greatest concern on the Forest as a whole. The map below shows the distribution of streams listed for temperature in the Rogue Basin. All Water Quality Management Plans on the Rogue River-Siskiyou National Forest address water temperature in terms of stream shading provided by forest canopy. Shade prevents surface water heating as a result of solar exposure, and is especially critical during the summer when stream flows are at their lowest levels, day length is the longest, and air temperatures are high.

TMDLs may address pollutants for very specific locations. In Table III-1, the biological criteria (macroinvertebrate populations) and sedimentation issues for the Applegate Subbasin are specific to Beaver Creek.

Those for the Bear Creek Watershed are associated with Reeder Reservoir, the City of Ashland's domestic water supply source. Bacteria (*Eschericea coli*), is a primary indicator of contamination resulting from waste water treatment plants or inadequate septic systems associated with human populations. The Rogue River Basin TMDL focuses on bacteria resulting from these "point sources" and does not address non-point contributions from animal sources or transient human use that occur on the National Forest.

Map III-1. Rogue River Basin 303(d) Listed Streams for Temperature



Land management activities such as grazing, timber harvest, and road construction and maintenance are considered "non-point sources" of pollutants and physical changes that can reduce water quality. The Forest Service and DEQ maintain a Memorandum of Understanding that recognizes the use of standardized "Best Management Practices" (BMPs; USDA Forest Service, 2012[21] and 1988) for a variety of common land management activities. Consistent use of BMPs ensures that water quality is protected from routine activities on NFS lands. All applicable BMPs contained within the Memorandum of Understanding related to road systems, watershed management and management of off-road vehicles are incorporated herein by reference.

The Northwest Forest Plan provides stream buffers as part of its Aquatic Conservation Strategy (ACS). Buffers are designed to protect all aquatic resources, including high levels of shade provided by mature forests. On the Rogue River-Siskiyou NF, studies have shown that effective stream shading is provided by mature forest canopy growing within 60 feet of the stream (Park 1993).

[21] Reference is now made to new National Best Management Practices (BMPs) for Water Quality Management (April 2012). The purpose of the National BMP Program is to provide a standard set of core BMPs and a consistent means to track and document the use and effectiveness for BMPs on NFS lands. These are now used in concert with the General Water Quality Best Management Practices, Pacific Northwest Region, November 1988.

For this reason, forest management activities generally avoid surface disturbance that would reduce effective shade to perennial streams. Surface disturbance is generally prohibited within riparian buffers unless it would benefit or maintain riparian function/resource.

Site specific elements of the alternatives have been evaluated at the site scale based on their disturbance of the Riparian Reserve. Riparian Reserve buffers are defined as the distance equal to one site potential tree height to either side of the stream channel for perennial and ephemeral channels. For fish-bearing streams this distance is doubled.

On the Siskiyou side of the Forest, a distance of 175 feet is used for site potential tree height; on the Rogue River side, a distance of 156 feet is used. For this analysis site scale indicators for sensitive aquatic resources are the distance a road or trail is located within the Riparian Reserve, and the number of stream crossings.

Cumulative watershed effects (CWE) include changes in water flow, timing and duration (especially elevated peak flows), and, elevated temperatures. These effects generally appear at larger scales and are expressed in terms of risk thresholds of watershed disturbance. For this analysis, CWE have been evaluated at the subwatershed, or 6th field hydrologic unit level. Risk Indicators considered are increased road density in miles/square mile and current level of CWE risk. This information has been developed through GIS analysis of the alternatives.

The Northwest Forest Plan (1994) requires public lands in the Pacific Northwest to conduct and document watershed analyses prior to conducting timber management activities. Watershed analyses have been completed for all areas of the Rogue River-Siskiyou National Forest and are listed in FSEIS Appendix D. These documents describe existing watershed condition, the level of deviation from known historical conditions, as well as the human and natural disturbance mechanisms operating within the watershed. Although these documents do not make land management decisions, they provide recommendations for management at the watershed scale that are designed to meet the goals and objectives of the Northwest Forest Plan. Information from the Forest's watershed analyses was used to provide current CWE condition, road density data, stream temperature information, and site specific descriptions.

Alternatives contain proposals that close, authorize or change the vehicle use on specific roads or trails. Some of these proposals are administrative in nature, or result in little surface disturbance/change in surface disturbance within riparian reserves; therefore presenting no effect to water quality or erosion. The following assumptions recognize these situations (see section B, 1at the beginning of this chapter for a general list of assumptions):

- Proposals to make existing LRMPs consistent with known existing travel uses are administrative in nature and present no change from the existing condition. There is no effect to aquatic resources as a result of this action.

- None of the **Action Alternatives** propose road removal, restoration, or decommissioning, except by naturally occurring revegetation. Although roads would be closed to public motorized travel, they would continue to be Forest System roads that are available for administrative use (typically timber harvest). For this reason, road density at the watershed scale would remain the same as a result of closing these roads to public motorized travel.

- Proposals to eliminate or designate mixed use on existing roads would present no change to current hydrologic conditions. As long as the road is designed to carry cars and trucks, the addition or elimination of off highway vehicles has no effect on the road's hydrologic impact.

- Proposals to convert Maintenance Level 1 roads to motorized trails that are accepted as part of the final decision will meet Forest Service manual/handbook trail requirements. Once this step is accomplished, the trail would be included in the MVUM and designated open for use.

- Motorized access to dispersed camping prohibits development of new routes, avoids use near potable water sources and municipal watersheds, and prohibits crossing of any stream, wetland, or water body (unless on a designated route). The FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any *existing* site near a stream course, wetland, or water body (see Chapter II, section F, 3, a). Given these resource protections, access to motorized camping described in this document would have no detrimental impact to aquatic resources or water quality.

- Ongoing monitoring would identify any roads or trails presenting a potential sediment source. Mitigation of impacts due to road alignment, slope instability, or poor drainage would occur through the Forest's standard road maintenance schedule.

b. Effects Mechanisms

Motorized vehicle use generally requires a road or travelway for vehicle passage. In the case of cross country travel, a rough travelway is developed as a direct result of repetitive use. Roads and trails disrupt natural runoff and water flow by capturing and concentrating both surface and subsurface drainage. Concentrated water flows typically increase both erosion and deposition since they are able to move larger quantities and particle sizes of sediment. As road density in the watershed increases, so does the magnitude of the effect. Ultimately, in mountainous areas, elevated runoff with its increased sediment load will increase channel width and reduce channel depth at some point downstream, causing increased bank erosion, generating even more sediment. Stream temperature naturally increases as water flows downstream into wider channels that have more solar exposure. Accelerated erosion and deposition can add to heat gain by increasing the water surface exposed to direct sun through channel widening (bank erosion/loss of shading vegetation) and channel filling (deposition of sediment). Roads and trails in proximity to perennial streams can increase water temperature more directly by removal of the vegetation that shades the water.

Rates of erosion due to roads and trails have been extensively studied and documented in published literature (Coe and MacDonald, 2001). Exposure of native material on the travelway, cut banks, and fill slopes associated with roads and trails provides a continuous source of loose material that can be moved to streams by road drainage. Vehicle use of roads and trails generally increases surface erosion through substrate displacement, rutting, and dust generation. Roads and trails are often surfaced with rock or pavement and drainage is managed by ditches and culverts to reduce weathering and deterioration of the road as well as to reduce accelerated erosion and deposition in streams.

Water Temperature
Roads and trails may affect water temperature directly by removing forest canopy that provides shade and thermal buffering to perennial steams and water bodies. At larger watershed scales, dense networks of roads and trails can alter natural drainage pathways, sediment loads, and flow volumes to the point that stream channels respond with morphological changes in channel form and flow characteristics. These changes typically occur downstream in lower gradient channels and include widening and shallowing of the channel, loss of sinuosity, and loss of shading vegetation along the banks. These changes typically result in elevated water temperatures. Elevated water temperatures are common during the summer low-flow stream conditions and are the result of a variety of natural and human-caused factors.

Sediment
Numerous researchers have established that roads are the primary source of fine sediment delivered to streams in otherwise relatively undisturbed watersheds, such as forests and rangelands. In addition, research has concluded that fine sediment from roads can result in adverse effects to streams and aquatic habitat (MacDonald and Stednick 2003; Gucinski et al. 2001; Dissmeyer 2000; Meehan 1991). Road related sedimentation is a result of road-induced hydrologic changes. The hydrology of road networks has important implications for both road surface sediment production (Coe and McDonald 2001) and mass-wasting (Montgomery 1994; Veldhuisen and Russell, 1999; Wemple et al., 2001).

Erosion of the road travelway, cutbanks, ditches, and fill slopes results in increased sediment loading to streams. Roads also present a relatively impermeable surface to rain and snow (Luce, 1997) resulting in additional runoff that increases erosion and sediment delivery to streams. Roads and trails on steep slopes intercept infiltrated water that would otherwise flow more gradually through subsurface soils and weathered rock.

Intercepted subsurface slope flow is converted to concentrated surface flow that will contribute to erosion and sediment transport, as well as to increased peak flows for any storm event or snow melt (Ziegler et al. 1997). Studies have shown that interception of subsurface stormflow is responsible for over 90% of the runoff from roads in the Pacific Northwest (LaMarche and Lettenmaier, 2001; Wemple and Jones, 2003). Roads with deep road cuts and roads constructed on shallow soils are especially prone to intercepting subsurface stormflow. Road cuts that do not expose the entire soil profile and roads constructed on benches are less likely to intercept subsurface stormflow (Wemple and Jones, 2003).

Although landslides and earthflows are natural features on the Rogue River-Siskiyou NF, mass wasting may be triggered by poor road drainage on unstable slopes. Road generated failures are a common result of saturated and overtopped road fills resulting from culvert and drainage ditch failures.

Change in Flow Timing, Volume, or Duration
Overland flow occurs whenever rainfall intensity exceeds the infiltration capacity of the soil. In humid, forested landscapes rainfall intensity rarely exceeds infiltration capacity, and overland flow occurs infrequently (except where heavily compacted). In contrast, road surfaces are highly compacted, have high bulk densities, and have little or no pore space (Luce 1997). Although roads occupy a very small percentage of most watersheds, they can be responsible for the majority of overland flow in forested basins. Road surfaces can also produce runoff in the majority of storm events (Ziegler et al., 1997).

Hillslope runoff processes in the Pacific Northwest are dominated by subsurface stormflow. Subsurface stormflow occurs when permeable soil overlies relatively impermeable bedrock. Since roads are typically cut into the soil profile, and sometimes into underlying decomposed and solid bedrock, roads are capable of intercepting, concentrating, and rerouting subsurface stormflow from upslope contributing areas.

Studies have shown that interception of subsurface stormflow is responsible for over 90% of the runoff from roads in the Pacific Northwest (LaMarche and Lettenmaier, 2001; Wemple and Jones, 2003). Roads with deep road cuts and roads constructed on shallow soils are especially prone to intercepting subsurface stormflow. Road cuts that do not expose the entire soil profile and roads constructed on benches are less likely to intercept subsurface stormflow (Wemple and Jones, 2003).

Published research has not established consistent numerical criteria for determining when roads are likely to contribute sediment to streams and other aquatic features such that the water quality of those features is adversely affected. Direct, quantitative, cause-and-effect links between roads and trails and aquatic conditions have been difficult to document (Gucinski et al., 2001). As a result of these limitations, the analysis of the alternatives in this section is a relative risk assessment of the likelihood of adverse effects to water quality and from erosion on the RRSNF.

c. Direct and Indirect Effects of Alternatives

Alternative 1-No Action

Under **Alternative 1 – No Action**, the current motorized route system would remain on the landscape and vehicle use designations would not change. This would allow existing cross country motorized use to continue on approximately 275,000 acres including Maintenance Level 1 roads. Currently the levels of this use are not well inventoried or quantified, but are estimated to be low where vegetation is dense and the terrain is remote, steep and rugged.

Much of the Powers and Gold Beach Ranger Districts are dominated by the coastal ranges which fit this description. The inland districts of Wild Rivers and Siskiyou Mountains are less vegetated both in the understory and forest canopy. Steep and rugged slopes are still dominant; however travel corridors in the form of stream valleys and ridgelines are open and typically accessible. Alpine areas on these districts are also susceptible to cross country travel since they are poorly vegetated and often have more gentle topography that follows ridgelines and glacial deposits.

The most accessible Ranger District on the Forest is the High Cascades. Much of this district is relatively flat or gently sloping with a sparse understory. Off road vehicle use is already a widespread and popular recreational activity on the High Cascades Ranger District; however, it is also a recognized use of NFS lands on all of the Forest's ranger districts.

Timber harvest road networks provide vehicle access to most of the Forest. Most of this network is in use; however, Maintenance Level 1 roads present a substantial opportunity for public vehicle travel where use and maintenance are infrequent. It is reasonably foreseeable that OHV use will continue and expand along with human populations in southwestern Oregon. It is also reasonable to assume that off highway vehicle technology will improve the ability of these vehicles to handle more challenging terrain. Under the No Action alternative, it is likely that, over time, cross country travel would increasingly contribute to increasing cumulative watershed impacts as "user trails" developed and proliferated.

Since the Forest does not maintain Maintenance Level 1 roads except when reopened for administrative use, continued utilization of these roads under an open cross country travel policy would allow impacts to develop that are unlikely to be monitored or detected for extended periods. Impacts would be a consequence of effects mechanisms already described. It would be speculative to attempt to quantify the location, magnitude, and duration of these future effects.

The No Action Alternative causes the highest effect to water quality standards developed under the Clean Water Act. Land management that allows cross country motorized vehicle use without evaluation of site specific environmental consequences could result in resource damage on Maintenance Level 1 roads and, resource damage as a result of trail development in Riparian Reserves. Although cross country vehicle use is currently restricted to that which avoids resource damage, it cannot be enforced until the damage has occurred and is identified. This approach would be reactive rather than proactive. Review of existing TMDL and BMP documentation indicate that vehicle use and road/trail networks require a planned approach to avoid degradation of water quality.

Alternative 2

This alternative was developed to meet the minimum requirements of Subpart B of the Travel Management Rule (36 CFR Part 212), with minimal alterations to the current motorized use on the Forest. This alternative would prevent the development of increasing networks of user-created routes within areas open to cross-country travel (approximately 275,000 acres). Inconsistencies of unregulated cross country vehicle use with current water quality protection practices are discussed under the No Action alternative. Alternative 2 removes these inconsistencies by implementing the Travel Management Rule; the cross country travel closure would be consistent with current water quality laws, direction, and management practices.

Alternative 2 would make Forest LRMPs consistent with known existing motorized trail use. Since these trails currently exist, environmental consequences for water quality and erosion/sedimentation would remain the same as for the No Action Alternative.

The following discussion presents effects by specific Ranger Districts, with a focus on the action elements as associated with **Alternative 3** (Proposed Action), **Alternative 4**, and **Alternative 5**. Hydrologic indicators and information associated with each road or trail segment is provided in Table D-1 located in FSEIS Appendix D.

Powers Ranger District

There are no specific elements for the Powers Ranger District under **Alternative 3**.

Under **Alternatives 4 and 5**, motorized use on the 1-mile Big Tree Trail (#1150) near the South Fork Coquille River would be prohibited. This trail is mainly outside the Riparian Reserve, has a gentle gradient, and has no stream crossings. The trail serves a botanical and day use area, and would be primarily used by hikers. Trail-generated sediment levels would be small and localized to the immediate area of the trail. Therefore, this action would have little or no effect. In addition, prohibiting motorized use would not substantially reduce trail generated sediment because of trail location and continued use by non-motorized users.

Close trails to motorized use

Alternatives 3, 4, and 5 propose the following actions:

Lawson Creek Trail #1173
This trail has few ephemeral stream crossings since the trail drops directly down the canyon slope to cross Lawson Creek, a perennial, fish-bearing stream with critical fish habitat in a Key Watershed. Lawson Creek is also listed for temperature. The trail gradient averages 16-18% at elevations that are rain-dominated and experience unusually high rainfall intensities. Trail related erosion would be expected to be high under these climate conditions. Motorized use of portions of this trail segment would be prohibited under Alternatives 3, 4, and 5 leaving mainly pedestrian use (the trail is too steep for typical equestrian use). Motorized use does not currently occur on this trail segment because of steep slopes and vegetation that has grown into the trail. Eliminating motorized use for this trail is consistent with current use, management direction and Best Management Practices. This action would have little or no effect since motorized use is already low or non-existent.

Game Lake Trail #1169
This trail segment extends from the Illinois River southward along the sub-watershed divide. Although the trail has multiple ephemeral stream crossings, they are at or near the point of initiation of these channels. The slope position of this trail is benign in that it follows the contour, does not intercept more than one perennial stream, and is located very near the sub-watershed divide. Trail-generated sediment would be limited to the immediate area of the trail and would be small in quantity. Sediment would not be expected to reach Horse Sign Creek beyond natural levels of erosion, nor would sediment reach critical habitat at the Illinois River. Elimination of motorized use on this trail segment would not be expected to have any detectable environmental effect since use of the trail by motorized vehicles is already low or non-existent.

Under **Alternative 4** additional segments of Trail #1169 and 1173 that form a loop are proposed for closure to motorized use. Total additional mileage would be 4.13 miles. The trail segment follows the sub-watershed divide and descends into the Lawson Creek sub-watershed to a mid-slope position. Six first and second order ephemeral channel crossings occur in the Lawson Creek sub-watershed. The trail traverses slopes that are generally less than 30%.

Closure to motorized use would be consistent with the management direction for this Key Watershed and with ACS objectives to protect stream channel integrity and vegetation; however, the trail does not appear to traverse exceptionally sensitive areas. It is possible that problem spots detected at the ground level (if any) could be acceptably mitigated. Closure of the route could eliminate small and localized sediment sources from ephemeral channel crossings. Sediment from these sources is likely to be trapped within the same downstream tributary prior to reaching Lawson Creek, which is approximately two miles distant.

Alternative 4 proposes the following additional trail closures:

Nancy Creek Trail, Illinois River Trail #1161
These trails form a loop and extend north and south along the Illinois River. Alternative 4 proposes to prohibit motorized use on these trails. This is an area of sensitive aquatic resources because the Illinois River is listed for temperature and the area is within Key Watersheds.

The Nancy Creek segment climbs to the sub-watershed divide and has only two ephemeral stream crossings. The rest of the trail follows the Illinois River and Indigo Creek, generally on contour, crossing about a dozen ephemeral tributaries within 1,500 feet or less of either Indigo Creek or the Illinois River. The route includes a crossing on Indigo Creek.

Prohibition of motorized use on this trail network is consistent with management objectives that protect water quality and aquatic resources; however, the primary threat of sedimentation is from the crossings. Elimination of motorized use would reduce sediment generated by bank erosion on crossings. Only one crossing (at Indigo Creek) is within 1,000 feet of critical fish habitat; small portions of the trail are within the Illinois River Riparian Reserve. Most of the crossing locations would generate localized sediment that would be within the range of the sediment load naturally accumulated by steep, ephemeral tributaries. Crossing of perennial streams are more problematic since bank erosion contributes sediment directly into flowing water and degrades riparian vegetation and possibly water quality. However, these effects can be mitigated by BMPs (see FSEIS Appendix D for list of applicable BMPs) instead of prohibiting motorized use over eleven miles of existing trail.

Red Flat Trail

This trail connects two existing roads and runs along a minor drainage divide on gradients of 20-50%. It crosses no Riparian Reserve, but, because of its moderately steep gradient, is likely to capture and channel water/sediment onto the 3680 road below. Elimination of motorized use on this trail would be consistent with BMPs that control road drainage and sediment sources that could cause culvert failures. The trail is likely to be a localized sediment source, but even with elimination of motorized use, channeling of water and sediment would continue. Sediment is likely to be handled by maintenance of the 3680 Road and would not be discharged into nearby Hunter Creek, which is 303(d) listed for temperature.

Mineral Hill Trail #1103

This trail segment is located on a sub-watershed divide and crosses no Riparian Reserve; there is little risk of road related sediment entering a stream course. Elimination of motorized use would have no effect on aquatic resources or water quality.

Hobson Horn Trail #1166

This trail closely follows the watershed divide, has no perennial stream crossings, and crosses mainly first order ephemeral streams. The risk of trail-generated sediment reaching a perennial stream is very low. Elimination of motorized use on this trail is unlikely to have any detectable environmental effect on water quality or Riparian Reserves.

Trail #1180 Fish Hook Peak area

This trail is on the watershed divide and outside of Riparian Reserve. The risk of trail-generated sediment reaching a perennial stream is very low. Elimination of motorized use on this trail is unlikely to have any detectable environmental effect on water quality or Riparian Reserves.

Convert Maintenance Level 1 roads to motorized trails

Alternative 3 proposes the following action:

Game Lake area, Road 3680409
Forest Road 3680409 follows the divide between Lawson Creek and Collier Creek watersheds. This road has a very low potential for erosion due to its position along the divide and corresponding isolation from riparian area or to streams. Conversion of Forest Road 3680409 under Alternative 3 to a motorized trail would have a very low potential for erosion due to its position along the divide and corresponding isolation from Riparian Reserves.

Alternatives 3 and 5 include the following actions:

Kimball Hill area, Road 3313110 and 3313117
Alternative 3 converts existing road to motorized trail and proposes trail construction to make a connection to the 1164 Trail. About 0.8 mile of the existing road is within an ephemeral Riparian Reserve buffer and overlaps the channel. Alternative 3 would aggravate existing vehicle use in a Riparian Reserve by providing a connector that would facilitate additional use. This proposed concentration of motorized use would cause adverse impacts to ACS objectives designed to protect the integrity of stream channels and aquatic vegetation. Long term use could result in degradation of the ephemeral channel to a gullied and de-vegetated condition. This would expose the substrate to intense rainfall typical of the coastal ranges and generate sediment capable of travelling downstream to Quosatana Creek, roughly 0.5 mile away.

This scenario is an indirect and potentially long-term impact that is avoided by modifications included in Alternative 5. The section of Maintenance Level 1 road within the Riparian Reserve would be closed to motorized use (except administrative), and the connecting trail would not be constructed. Alternative 5 would include conversion of Maintenance Level 1 roads to a motorized trail that are near the ridgeline and have only one ephemeral stream crossing. Under Alternative 5, no sediment would escape the immediate area to reach perennial streams.

New trail construction

Alternative 3: new trail authorization; Woodruff Trail (0.50 mile)

This action would occur within the Rogue River watershed, west of Quosatana Creek. This action would create a source of sediment within the Quosatana Creek drainage, with potential to impact water quality within a tributary to Quosatana Creek. Alternative 3 would aggravate existing vehicle use in a Riparian Reserve by providing a connector that would facilitate additional use. This proposed concentration of motorized use could cause adverse impacts to ACS objectives designed to protect the integrity of stream channels and aquatic vegetation.

Wild Rivers Ranger District

Close roads to motorized use

Alternatives 3, 4, and 5 propose the following actions:

Botanical Area roads near Eight Dollar Mountain, 4201016 and roads near Josephine Creek; 4300910, 4300920, 4300925, 4300011

Road 4201016 would be closed to public use under Alternatives 3, 4, and 5. It is within a Botanical Area containing sensitive vegetation associated with wetlands, fens, and bogs. Portions of the road are within the Riparian Reserve of the Illinois River and cross small tributaries near their confluence with the Illinois River. These provide a direct route for road generated sediment to a river which is listed for temperature.

Reduction of stray OHV use in the Botanical Area would directly benefit wetland areas therein. These areas contain shallow water and easily disturbed saturated soils. Even small amounts of OHV use degrade this aquatic resource by churning up wetland soil and destroying fragile plants. Closure of the road would be consistent with ACS goals to protect wetlands.

Some indirect benefit may occur to water quality by closure of the 4201016 and 4300910 network of roads since traffic levels would be reduced, resulting in reduced wear and tear to the travelway that contributes to road generated sediment. The road itself would remain in its current condition since it is a Maintenance Level 2 road subject to frequent administrative and permitted traffic (including mineral exploration/development) and maintenance. The road's larger hydrologic impacts would remain since it would continue to intercept and concentrate water on unvegetated, unpaved travelways, cutbanks, and ditches. It is unlikely that any measurable direct beneficial effect to water quality in the Illinois River would result from closing the road to public traffic alone.

Roads affecting wetlands/Botanical Areas: Roads 4300910, 4300920 and -011, 4201029, 4201881
All of these roads are in the Josephine/Canyon Creek area. They travel through areas of isolated wetlands, bogs, and fens that can be damaged by OHV use. Reduction of stray OHV use in these areas would directly benefit wetland areas therein. These areas contain shallow water and easily disturbed saturated soils. Even small amounts of OHV use degrade this aquatic resource by churning up wetland soil and destroying fragile plants. Closure of the road would be consistent with ACS goals to protect wetlands.

Roads 4400445, 4400460, 4400480, 4400485
This road network follows sub-watershed divides throughout its length with very small overlap in Riparian Reserve. Closure to public motorized use of this network would have no impact on riparian resources or water quality.

Forest Road 2600050
This road would remain as a Maintenance Level 2 road, subject to frequent administrative and permitted use and maintenance. The current hydrologic impacts from these roads would remain on the landscape. Closure to public use alone, is not expected to result in effects to water quality within the Silver Creek watershed.

Alternative 4 proposes the following additional road closures:

Roads 4201844, 4201846, 4201847, and 4103087, 2524048
Closure of these roads would have no impact on riparian resources or water quality since they include only a minor portion of one ephemeral stream buffer.

Roads 4402019, 4402112, 4402450, 4402172, 4402206, 4402259A, 4402550
This road network would be closed to public motorized use under Alternative 4. The network closely follows sub-watershed divides and secondary ridgelines, managing to avoid Riparian Reserves throughout all but the western end of the network. These roads are distant from both Coho critical habitat and listed streams except at the west end. Closure of this road network would have little, if any, effect on aquatic resources or water quality.

Close trails to motorized use

Alternatives 3, 4, and 5 propose the following actions:

Taylor Creek Trail #1142, Big Pine Spur Trail #1142A, Trail #1157, Onion Way Trail #1281, Secret Way Trail/Spur #1282/A
This trail system generally follows minor ridgelines and crosses the heads of six ephemeral streams. Alternatives 3, 4, and 5 propose prohibiting motorized use although it presents a low risk for sediment/erosion to perennial streams from vehicle traffic.

Swede Creek #1135 Trail
This trail crosses Swede Creek and three ephemeral channels at the location of an inventoried landslide. Prohibiting motorized use of this trail would be consistent with protection of unstable slopes and riparian areas sensitive to disturbance.

Bolan Lake Trail #1245, Kings Saddle Trail #1245a, and Mt. Elijah Trail #1206
Bolan Lake, Kings Saddle, and Mt. Elijah trails would have a localized beneficial effect resulting from a reduction in the small amount of erosion generated by motorized use. No long or short-term effects at the subwatershed scale would be detectable. Closure of the trails would have an indirect beneficial effect on wetland integrity by preventing damage associated with vehicle use on saturated soils. This closure would be consistent with ACS objectives for wetland areas. Due to these trails' location on ridgelines, the motorized closure would have no effect on water quality in distant listed streams.

Alternative 4 proposes the following additional trail closures:

Hobson Horn Trail #1166
Refer to the Gold Beach District analysis above for effects concerning proposed closure of this trail segment to motorized use.

Trails #1132 Briggs Creek, 1135 Swede, 1143 Red Dog
These trails closely follow Briggs Creek and Red Dog Creek. Out of 11.5 miles of trail 10 miles is within the Riparian Reserve of these channels. These trails cross 20 ephemeral channels and 10 perennial streams. The ephemeral crossings are all near the confluence of a tributary with a perennial channel. The trail presents a continuous threat of sediment displaced by vehicle use entering a perennial stream. In addition, Trail #1143 travels through inventoried landslides along Red Dog Creek. Prohibiting motorized use would be consistent with ACS goals and objectives for protecting Riparian Reserves and channel integrity and vegetation. BMPs would also be served by removing vehicle travel from an area with unstable slopes. Water quality protection would be promoted since vehicle traffic would not be causing erosion within the Riparian Reserve of Briggs Creek.

Trail #1146 Dutchy Creek and #1132 Briggs/Chance Creek areas
These trails parallel Dutchy and Chance Creeks, and are outside of the Riparian Reserve of these streams except where they connect to Road 2600050. Motorized use would be prohibited on the trails; the road would be closed except for administrative use. This network affects a small number of ephemeral stream crossings except near the confluence of Silver and Chance Creeks. Trail #1146 hugs Chance Creek for about a third of a mile.

Elk Creek Trail #1230 and Boundary Trail #1207, 903, 907
Trail #1230 follows an ephemeral channel within the Riparian Reserve for more than half its length. Prohibiting motorized use would be consistent with ACS goals for protecting streambank integrity. The Boundary Trail follows the sub-watershed divide closely, traversing the Riparian Reserve of first and second order ephemeral channels on two spurs (O'Brien Creek and Sturgis Fork Carberry Creek). Prohibiting motorized use on these spurs would be consistent with ACS goals for protecting streambank integrity. Given the trail's position on or near major ridgelines for most of its length, prohibiting motorized use would have no effect on water quality in perennial channels.

Convert Maintenance Level 1 road to motorized trail

Alternative 3 proposes conversion of, Road 4402494 to a motorized trail. This trail would follow a ridgeline and does not cross Riparian Reserve. Conversion of the road to a motorized trail would have no impact on riparian resources or water quality.

Siskiyou Mountains Ranger District

Close trails to motorized use

Alternatives 3, 4, and 5 propose the following action:

Horse Camp Trail #958
This trail crosses four ephemeral channels and is within the Riparian Reserve of both Echo Creek and Cook and Green Creek. Closure to motorized use would be consistent with ACS goals for protecting Riparian Reserves. Closure is unlikely to affect water quality since the area is covered by snow much of the year and channels are dry when use occurs.

Alternative 4 proposes the following additional trail closures:

Cook and Green Trail #959
This trail closely follows the main stem of Cook and Green Creek within the Riparian Reserve buffer, crossing 20 closely spaced ephemeral channels near their confluence with the main channel. The drainage density along Cook and Green Creek is unusually high. The Middle Fork Applegate River Watershed Analysis states that Cook and Green Creek is "a very active downcutting stream which has steepened slopes creating an extremely steep topography." Processes associated with steep slopes, such as rockfall, creep, and ravel, are very active. Closure to motorized use would be consistent with ACS objectives for streambank protection. However, because the trail would remain and receive non-motorized use, closure to motorized use would not be expected to have a detectable impact on water quality.

Little Grayback Trail #921
Motorized use would be prohibited on this trail under Alternative 4. This trail is half a mile or less from the sub-watershed divide and intercepts well-spaced first order ephemeral channels. Exclusion of motorized use would not be expected to have detectable effects to water quality. Channel integrity may be locally compromised at crossings, but could be alleviated through use of BMPs (see FSEIS Appendix D for list of applicable BMPs) for and trail maintenance.

New trail construction

Alternatives 3 and 5: new motorized trail construction and realignment of #927 Penn Sled Trail
The existing Penn Sled trail alignment would remain. Few hydrologic issues are associated with the current alignment. The trail is in a low precipitation area where there are no State-listed streams. The trail's contribution to sediment in Squaw Creek is likely to be undetectable. Under Alternatives 3 and 5, a new motorized trail segment would be constructed. The new alignment does not cross Riparian Reserve and would be expected to have no impact on water quality.

High Cascades Ranger District

Under **Alternative 3**, a proposed new play area is located within the Big Butte Springs municipal watershed in Jackson County. The Medford Water Commission has supplied water from this basin since 1927 to the city of Medford as well as a number of other towns and water districts surrounding Medford. Water obtained from the municipal watershed is of exceptionally high quality, requiring minimal treatment.

The existing sand pit proposed for the play area is located in the high hazard zone, and is identified as a potential entry point for pollution through infiltration as described in the Big Butte Springs Geohydrologic Report. The high hazard zone is an area in which surface water drains directly into the groundwater system and those areas associated with the infiltration and transmittal of precipitation into the groundwater system. A core hole (CH8) drilled across the highway from the sand pit documents deposits of alluvial material of about 10 feet overlying andesite volcanic flow deposits of 178 feet deep. Currently, the sand pit is informally used as an OHV play area, but has not been developed or sanctioned by the Forest Service for this use. **Alternatives 1, 2, 4, and 5** do not propose the development of this new play area on the High Cascades Ranger District.

Because allowing mixed used on portions of paved roads (under **Alternative 3**) would designate portions of a paved road for mixed use, there would likely be no effect. Any change would be undetectable. The proposed activity would merely redefine the type of vehicle that is permitted to drive on portions of Forest Roads 34, 37, 3705, and 3720. **Alternatives 1, 2, 4, and 5** do not propose the designation of mixed use on paved roads on the High Cascades Ranger District.

d. Cumulative Effects

At the 6th field sub-watershed scale, the risk for adverse cumulative effects would not change as a result of limiting public access or converting roads to motorized trails under any of the alternatives in the FSEIS. The reasons for this conclusion include:

- The Action Alternatives involve only minor amounts of new ground-disturbing activities and there would be no creation of new impervious areas. On the watershed scale, these changes would be immeasurable.

- Under all Action Alternatives, the closure of roads does not involve the physical removal of those roads and rehabilitation of the ground surface that those roads occupied.

- At the 6th field sub-watershed scale, the acres of roads that would be closed to the public under all of the Action Alternatives - even assuming complete re-vegetation of the roads at some point in the future - is not enough to change the risk of adverse cumulative effects.

The elimination of cross-country travel in Alternatives 2, 3, 4, and 5 would improve sub-watershed conditions in those areas where cross-country travel is occurring and thus reduce the risk for adverse cumulative effects.

Other actions and activities that have the potential to have cumulative effects to the hydrologic resource include fuel treatments and fire, range management, minerals management, recreation, timber harvest and vegetation treatments, road and right-of-way management, special uses and state and county easements.

Fuels reduction projects and prescribed fire are on-going across the Forest. Project designs to protect water resources greatly minimize or avoid direct effects, and they are typically short-term. Adverse effects on water resources from motorized use activities would remain at current levels with Alternative 1 and, in large part Alternative 2. There is a potential decrease with Alternatives 2, 3, 4, and 5 through elimination of cross-country travel and establishment of designated routes. Therefore, there are no foreseeable adverse cumulative effects.

Livestock grazing is a use that is managed under special use guidelines. The actions proposed in this project would not alter the grazing pattern or management of the livestock, and would therefore not include adverse cumulative effects.

Mining activities typically cause disturbance to the soil resource through the removal and/or displacement of vegetation and soil, and long-term commitments for access. Adverse cumulative effects to water resources from future minerals development have the potential to increase at the Forest-level in all alternatives. However at this scale, these effects would be immeasurable. Alternative 4 would offset any adverse effects the most through the beneficial consequences of eliminating motorized trails through botanical areas and areas with serpentine soils, in addition to the elimination of cross-country travel.

The greatest recreational effects to water resources are typically tied to activities involving roads, trails, campgrounds, and dispersed sites. These are areas that result in varying levels of hydrologic impacts from those activities. Varying levels of hydrologic impacts can also occur from motorized recreation activities off-roads and trails. Additional effects would be offset by the elimination of motorized trails through botanical areas and areas with serpentine soils in Alternative 4.

Cumulative effects would also potentially be offset by eliminating off-road parking for dispersed camping and day use beyond 300 feet from designated roads in Alternatives 2, 3, 4, and 5. The FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any existing site near a stream course, wetland, or water body (see Chapter II, section F, 3, a).

Vegetation and timber harvest projects across the Forest are ongoing. Implementations of these projects require adherence to BMPs and Standards and Guidelines designed to protect and maintain the hydrologic resource. Proposals for special use permits and the action of granting an easement typically do not directly affect hydrology. Detrimental effects to water resources from motorized use activities would remain at current levels with Alternative 1 and potentially decrease with Alternatives 2, 3, 4, and 5 through elimination of cross-country travel and establishment of designated routes. Therefore there are no foreseeable adverse cumulative effects.

2. Botanical Areas, Research Natural Areas and Special Plant Habitats

Effects of motorized vehicle use on Botanical Areas, Research Natural Areas and/or special botanical habitats

Botanical Areas, Research Natural Areas, and/or special botanical habitats such as serpentine terrain, meadows, fens, and bogs are identified as a Significant Issue for motorized vehicle use designation on the Rogue River-Siskiyou National Forest. Of special concern are motorized trails and the effects that current and/or proposed use may have on these resources.

a. Background

Botanical Areas and Research Natural Areas

Many of the Botanical Areas on the Forest currently have roads and trails going through them. The Siskiyou NF LRMP confines vehicle use to roads and trails. Some of the Siskiyou NF trails in Botanical Areas have been closed to motorized use and some have not.
The Rogue River NF LRMP confines vehicle use in Botanical Areas to roads only; motorized use of trails in Botanical Areas is not allowed. However, no Forest Order[22] has ever been issued to prohibit this use in all Botanical Areas covered by the RRNF LRMP. Consequently, some trails within these Botanical Areas are used by OHVs, specifically the Boundary Trail, the O'Brien Creek Trail, and the Cook and Green Trail.

No roads go through any of the Forest's Research Natural Areas (RNAs). However, a number of RNAs have trails going through them. Neither LRMP allows motorized use of trails in RNAs; off-trail use is also prohibited. However, since no Forest Order has ever been issued to prohibit it, motorized use of the Boundary Trail currently occurs where it passes through the west end of the (proposed) Oliver Matthews RNA.

Botanical Areas are shown on the alternative maps. Research Natural Areas are not shown on maps.

[22] Forest Supervisors may issue orders which close or restrict use of a described area(s) within the area over which they have jurisdiction. An order may close an area to entry or may restrict the use of an area.

Special Plant Habitats

Habitats such as meadows, wetlands, riparian areas, serpentine savannah, high mountain slopes, etc. often support rare or unusual plant species, easily disturbed bryophyte and lichen floras, or plant communities with high species richness. Where these habitats occur outside of Botanical Areas, or Research Natural Areas (RNA) or Wilderness Areas (where no motorized use is allowed) they can experience deleterious effects of off-road and off-trail OHV use if they are in areas that are accessible to these vehicles.

Serpentine (peridotite) habitats have a particularly high proportion of endemic plants (species whose distribution is restricted to limited geographic areas) and rare plants. Because they are often relatively open, serpentine areas may be more accessible to off-road/off-trail motorized use than areas on other soil types which are typically more heavily vegetated. Although serpentine soils are not particularly sensitive to surface erosion, the slow rate of re-vegetation on serpentine soils means disturbed areas may recover slower than elsewhere. For these reasons, and in response to public comments received during public involvement processes, a proposal to restrict motorized use in serpentine areas to roads only (no trails, no cross-country) is included as part of Alternative 4.

Serpentine areas are displayed on Map III-3, this chapter. The other special plant habitats are not mapped.

b. Effects Mechanisms and Analysis Framework

For a list of general assumptions with regard to this analysis, refer to subsection B, 1, this chapter. The following list contains specific assumptions applicable to the analysis for Botanical Areas, Research Natural Areas, and special plant habitats.

- Motorized vehicle use on and off established roads and trails has affected or has the potential to affect Botanical Areas, Research Natural Areas, and special plant habitats, either directly by damage or death to individual plants from wheel-traffic (stem breaking, crushing, etc.), or indirectly by altering the habitat through soil disturbance, changes in hydrologic functioning, or by the introduction of non-native, invasive plant species that can out-compete native species for water, sunlight, and nutrients.

- Unauthorized off-road and off-trail motor vehicle use is more likely to occur in special plant habitats where these areas have gentle terrain with little or no natural barriers to motor vehicles.

- Impacts to Botanical Areas and special plant habitats vary across all alternatives; no alternative completely eliminates the potential for adverse effects. In general, alternatives with fewer miles of routes open for public wheeled motor vehicle use should have reduced effects to special plant habitats.

c. Direct and Indirect Effects of Alternatives

Botanical Areas and Research Natural Areas

Siskiyou Portion of RRSNF

On the area covered by the Siskiyou NF LRMP, there would be no change in the status of trails in Botanical Areas under **Alternatives 1 and 2.** Effects would continue to be the same.

In the Bigelow Lakes Botanical Area and vicinity, **Alternatives 3 and 5** would close the Bigelow Lakes Trail (#1214) and Mt. Elijah trail (#1206) to motorized use. In the Bolan Lake Botanical Area and vicinity, Alternatives 3 and 5 would also close the Bolan Lake Trail (#1245) and Kings Saddle Trail (#1245a) to public motorized use. Alternatives 3 and 5 would also close two connected primitive roads (Maintenance Level 2) around the west and northwest sides of the Eight Dollar Mountain Botanical Area (Forest Roads 4103011 and 4201016) to public use. Further, these alternatives would disallow mixed use on two roads in the Days Gulch Botanical Area (4201881 and 4201029).

Alternative 4 would accomplish the same road and trail closures and mixed use restrictions as described above for Alternatives 3 and 5 within Botanical Areas. Alternative 4 would also close a primitive road in the Oregon Mountain Botanical Area (4402-019). Also under Alternative 4, additional trails that are currently open to motorized use in other Botanical Areas would become non-motorized.

The road closures and restrictions in the Eight Dollar Mountain Botanical Area and Day's Creek Botanical Area under **Alternatives 3 and 5** are expected to reduce illegal off-road and off-trail OHV use and lead to recovery of some native plant populations and native plant communities at Star Flat and some meadow and serpentine savannah locations in these Botanical Areas.

The Bigelow Lakes Trail closure under Alternatives 3 and 5 may enhance the recreational experience of some Botanical Area visitors and further discourage any illegal off-road and off-trail OHV use that could affect meadows and wetlands in several areas adjacent to the trail. The Bolan Lake and Kings Saddle Trail closures under Alternatives 3 and 5 may enhance the recreational experience of some Botanical Area visitors.

Alternative 4 would be expected to have the same beneficial effects to botanical resources and recreation experience of some Botanical Area visitors as Alternatives 3 and 5. Alternative 4 also prohibits OHV use along additional trails in additional Botanical Areas so these benefits to botanical resources and Botanical Area visitors would occur there as well.

None of the Research Natural Areas are open to off-road or off-trail vehicle use under any Action Alternative. No change is proposed from the current designated motorized or non-motorized designation of trails passing through RNAs except as follows: Under Alternatives 1, 2, 3, and 5, motorized use of the Boundary Trail where it passes through the west end of the proposed Oliver Matthews RNA would continue. There is some open gentle ground and wetlands in the Horse Springs vicinity where the Boundary trail passes through this proposed RNA that could be vulnerable to resource damage should OHV users go off-trail; therefore, unauthorized off-trail motorized entry and potential resource damage would be less likely to occur under Alternative 4 since motorized use would not be allowed in this area. Since no resource damage from OHV use has occurred at this location to date, any potential benefits are speculative.

Rogue River Portion of RRSNF

Current OHV use within Botanical Areas would continue under **Alternatives 1, 2, 3, and 5.** Though it currently occurs in isolated areas, under these alternatives, there is potential for OHV operators to venture off-trail and consequently cause damage to some rare plants or their habitat, or cause other resource damage.

Off-trail use by OHVs would not have effects on areas adjacent to the Cook and Green Trail, because surveys indicate there are no vulnerable special status plant populations along this trail and no real opportunities to get off the trail exist. However, off-trail use could cause adverse effects in the Grayback Botanical Area, both in the wet Krause Meadow where *Gentiana plurisetosa* (a FS Sensitive species) grows, and in the Sugarloaf/Windy Gap area where the soil is easily erodible and has required gully stabilization in the past. The continued risk of direct adverse effects to plant habitat is relatively high due to the ease of leaving the trail at the latter location under Alternatives 2, 3, and 5. Since no resource damage from OHV use is currently occurring at these locations, any potential adverse effects are too speculative to quantify.

Motorized use of trails in Botanical Areas would not be allowed under **Alternative 4.** For this reason, OHVs are not likely to be present (given the assumptions in subsection B, 1), so there is less likelihood they would go off-trail and damage Botanical Area resources.

Effects to RNAs are the same as described for the Siskiyou portion of the RRSNF.

Special Plant Habitats

Under **Alternative 1**, approximately 275,000 acres of Forest System land is available for off-road/off-trail motorized use, though in reality only a fraction (approximately 5%) of that is actually accessible.

Under **Alternatives 2, 3, 4, and 5**, uncontrolled off-road/off-trail OHV use would not be allowed on the Forest and, to the extent that OHV operators obey the rules, damage to these habitats from off-road/off-trail use is not expected to occur.

Also, under **Alternative 4**, motorized use would be prohibited on trails within serpentine areas and Inventoried Roadless Areas, further reducing the potential for unauthorized off-trail motorized use.

d. Cumulative Effects

Botanical Areas and/or special botanical habitats such as serpentine terrain, meadows, fens, and bogs are not likely to have been adversely impacted from major ground-disturbing actions in the past, nor are any major actions anticipated or identified in the future.

The Action Alternatives for this project are expected to maintain or reduce effects from motorized use. The prohibition of cross-country travel included in all Action Alternatives is expected to reduce or enhance Botanical resources. In addition, Alternatives 3, 4, and 5 would include a reduction in miles of routes open for public wheeled motor vehicle use adjacent to habitat. Therefore, at the scale of these special areas (site-scale), there would be no additional or foreseeable risk from adverse cumulative effects.

3. Public Safety

Motorized vehicle use conflicts and public safety

This issue concerns the safe use of Forest roads and trails by the recreating public. Public safety is a high priority on the RRSNF.

a. Background and Analysis Framework

Public safety on Forest roads and trails is achieved by three basic means: 1) maintaining facilities in good condition, 2) managing the mixture of user types on the same facility, and 3) expecting reasonable user behavior.

Facility condition is an aggregation of design, construction and maintenance of a transportation facility: Design and construction dictate the geometric parameters of the facility; the sharpness of the curves, the travel surface widths, the surface type, the climbing and descending gradients, the stopping site distances, signing needs, etc. Maintenance of drainage, surfacing, vegetation, signing is an attempt to preserve the original design and construction standards of the facility.

Mixed use on the same facility can create safety conflicts. Some motorized and non-motorized examples include:

1) *Mountain bikes on stock trails:* Mountain bikes traveling downhill tend to be fairly quiet and can move at a high rate of speed which can surprise and spook stock into unsafe behaviors.

2) *Unlicensed OHV riders on roads:* OHVs can travel roads at a higher rate of speed than highway vehicles. When the OHV user is unlicensed and/or inexperienced, meeting on-coming traffic is hazardous and can be disastrous. Vehicle accidents on this Forest involving OHVs have been low. Law enforcement personnel have had very few problems with OHV riders on roads and trails and citations issued to OHV operators are no greater than those issued to licensed vehicle operators (Ross, pers. com.).

3) '*Freeride' mountain bikes on trails:* 'Freeride' is a relatively new discipline of mountain biking, combining different aspects of the sport such as high downhill speed and obstacle jumping which has progressed rapidly in recent years, and is now recognized as one of the most popular disciplines within mountain biking.

The original concept of freeriding was that there was no set course, goals or rules by which to abide. The result, within a small portion of the freeride community, is that irresponsible riders attain very high speeds in areas with short sight distances and can be a hazard to hikers, runners, and their dogs. On the RRSNF, this hazard is most acute on the highly-used trails within the Ashland Watershed.

4) *Motorcycles on trails:* Motorcycles can attain high rates of speed on both downhill and uphill sections of a trail. This can pose a hazard to hikers, equestrians, and mountain bikers if sight distance is limited. However, unlike mountain bikes, motorcycles are not silent and other users can generally hear an approaching motorcyclist. Also, many portions of single track trails used by motorcyclists are not conducive to high speed due to steep and rocky terrain.

User expectation and behavior can be characterized by the reasonable and responsible use of Forest roads and trails. Reasonable users will assess the type and condition of road or trail and modify their driving or traveling techniques accordingly.

Expectations and behavior may vary based on the type of facility. Passenger car roads (Maintenance Level 3, 4, and 5) are identified on the Forest visitor maps as paved, graveled, or improved roads and are typically roads that have been designed and constructed to carry commercial truck and recreational

highway vehicles. Safe and reasonable users should expect conditions including: slow to moderate driving speeds, low to high traffic volumes, a variety of road surfaces, routinely maintained road surfaces, and navigational signing.

Roads not suitable for passenger car use (Maintenance Level 2) are displayed on the Forest visitor maps as unimproved roads and can be characterized as narrow single-lane, native surfaced roads with few passing turnouts, minimal direction signing, and minimal surface or vegetation maintenance. Safe and reasonable users should expect conditions including: very slow-speed driving and minimal site distance, native road surfaces, narrow, rough, and high-clearance road surfaces, steeper road gradients and tight curves, low to moderate traffic volume, and navigating using maps without a lot of signing aids.

Motorized trails offer a variety of standards and challenges. Safe and reasonable users should expect conditions including: varying widths, gradients, surface types and challenges, obstacles like downed logs or protruding rocks and roots, one-lane trails where passing is a challenge, a variety of other types of users. Reasonable users will stop and turn around when the challenge of the trail exceeds their ability.

Although there are many examples of non-motorized mixed use (as described above), this analysis focuses on motorized mixed use, particularly on roads.

Title 36, Code of Federal Regulations, Part 212 (36 CFR 212) is the implementing regulation for the Federal Roads and Trails Act (FRTA) and includes portions of the Travel Management Rule published in the Federal Register on November 9, 2005. Part 212 provides criteria for designation of roads and trails. Providing safe transportation facilities and considering the affordability of maintaining the transportation facilities are two of the criteria. **36 CFR 212.55** requires public safety be considered when designating roads, trails and areas for motor vehicle use. **36 CFR 212.55** requires consideration of the need for maintenance and administration of the designated National Forest Transportation System (NFTS).

Forest Service Manuals 2350 and 7700 contain agency policy for management of the NFTS. The policy requires the development of trail management objectives (TMOs) and road management objectives (RMOs). The TMOs and RMOs document the purpose of each trail or road. The purpose for the trail or road sets the parameters for maintenance standards needed to meet user needs, resource protection and public safety.

Forest Service Handbook **7709.59** describes the maintenance management system the Forest Service uses and the maintenance standards needed to meet RMOs for the road system including considerations for public safety.

Under Oregon State Law, paved roads and two-lane gravel roads are closed to non-highway legal vehicles unless posted open by the road authority with jurisdiction over the road as described in ORS 821.010. [1983 c.338 §711; 1999 c.565 §4] Gravel roads that are one and one-half lanes or less are open to OHVs unless posted closed (Oregon OHV Laws and Rules Handbook 2008). In general, operation of quads on pavement is not considered a safe practice. "ATVs are not designed to be used on paved surfaces because pavement may seriously affect handling and control" (Specialty Vehicle Institute of America, 2008). Experienced riders understand that handling characteristics vary depending upon the quads basic design and how they are equipped and in limited cases a quad can be operated safely on pavement (slow speed, light traffic, good sight distance, etc.).

The designation of a road for mixed-use may preempt State law (by allowing motorized mixed use where it would otherwise be prohibited) but may do so only after consideration of safety, liability, and enforcement issues, and only after coordination with State and local governmental and law enforcement agencies.

Analysis of mixed use is guided by Forest Service Handbook 7709.55, Chapter 30 Engineering Analysis (effective January 8, 2009). A mixed use analysis was conducted for all Forest Development Roads. The risk was evaluated based on the probability of an accident occurring and the severity if an accident did occur for each road being considered for mixed use traffic. For roads where the average user speed was less than 20 miles per hour the probability and severity was evaluated as low to moderate and generally of low risk for mixed use.

For all roads where risks (either probability or severity) approaches high, mitigation measures that would reduce probability and/or severity to moderate or lower would be implemented before the road is open for mixed-use traffic. Some roads or segments of roads were identified as having high risk to allow mixed use. This change has been incorporated into the maps displaying the current condition and is the same for all alternatives.

b. Direct and Indirect Effects

Identification of motorized routes would not change the Forest's public safety priority under any of the alternatives. The effects to user safety are similar for all alternatives. Three factors influence the safety of the road and trail system: 1) the condition of the facilities, 2) the mixture of uses on a particular facility (mixed use) and 3) user behavior. Safety is enhanced if Forest roads and trails are routinely maintained and unexpected damage or unsafe conditions are identified and corrected in a reasonable amount of time. Regardless of the final decision, public safety issues would be addressed as identified.

Facility Condition
All alternatives provide for user safety. It is expected that, as part of the forthcoming decision, the Forest would continue to maintain a program of inspecting the transportation system on a regular basis and identifying safety issues needing correction. It is also expected that the Forest would continue to fund and maintain any transportation system in order to correct safety issues in a reasonable amount of time.

Motorized Mixed Use
Under all alternatives it is expected that safety in general would increase due to Oregon's new OHV safety laws that are being phased in at the current time. These new laws require youth supervision and safety education for all riders. See Chapter II; subsection C, 1 for a more detailed discussion of the new requirements. In addition, mitigation planned for those "high risk" roads in conjunction with prohibiting mixed use on roads where mitigation would not be effective would also increase safety.

Under **Alternative 1 (No Action)** unauthorized mixed use would continue to occur on paved roads and on non-paved roads greater than one and a half lanes. This use would increase through time due to expected population growth.

User guides and signing would be planned under all of the **Action Alternatives** to educate users about mixed use on roads and trails. In combination with Oregon's new safety laws it is expected that overall safety would increase on the Forest's roads and trails. See Chapter II; subsection K, 1 for a listing of public safety mitigation measures.

In **Alternative 2**, traffic density would remain the same as Alternative 1. Traffic density on open roads would increase slightly in **Alternatives 3, 4, and 5** due to closure of some roads; this change would not likely be noticeable to the public and would not have a measurable increase in risk because the proposed road closures are less than one percent of currently open roads. Though unauthorized mixed use currently occurs on many paved roads on the Forest, the prohibition of mixed use on paved roads under Alternatives 3, 4, and 5 would improve public safety.

Effects would be similar on trails as for roads except that a greater amount of trails would be closed to motorized use in Alternative 4 than in Alternatives 3 and 5. This may result in increased use (higher density) on those motorized trails that remain open, thereby possibly decreasing safety on those trails. However, since motorized use is very light on most of the trails proposed for closure in Alternatives 3, 4, and 5, it is anticipated that responsible riders could still expect a safe experience on all remaining motorized trails.

User Expectation and Behavior
Safety would be achieved under all alternatives if users act reasonably and responsibly on Forest roads and trails. Reasonable behavior by users any road or trail improves the overall safety of the transportation system. The potential effects on public safety do not vary substantially by the Action Alternatives. The safety of the road and trail system is more influenced by the condition of the facilities and user behavior.

c. Cumulative Effects

This project is analyzing motorized use on the entire Forest. There are not likely to be any predictable effects for motorized use other than those being considered. There are no conditions that could be reasonably foreseen that would add to the conditions being proposed and analyzed that would create a cumulative adverse effect.

Activities described under all of the Action Alternatives would not increase threats to public safety because the RRSNF would follow State law and engineering analysis of mixed use. Though the volume of traffic may increase slightly in the foreseeable future, the change in composition of the traffic and the distribution of these vehicles is not expected to be noticeable. The majority of NFS roads on the RRSNF (Maintenance Level 2), are designed for low speed and have low traffic levels. The implementation under any of the Action Alternatives is not anticipated to increase to levels that would adversely and cumulatively affect public safety.

Although safety of the national forest users is always a concern, motorized vehicle use designation would not eliminate all hazards, either on roads, trails, or within areas. Designation of routes may reduce those available for motor vehicle travel, thereby reducing the risk of having an accident. However, many users utilize motor vehicle routes for access to the RRSNF and then travel by foot or horseback to their final destination. It is not uncommon for hazards to exist outside of the motor vehicle travel-way. Therefore, a safe experience for all users cannot be guaranteed.

4. Motorized Opportunities

Changes to motorized recreation opportunities

The existing motorized system provides motorized access and recreation driving opportunities to most areas of the Forest. Motorized recreation activities include driving for pleasure and providing access to recreational activities. Off-highway vehicles are also used to access many activities in remote areas on rough roads or trails that could not be otherwise accessed by passenger vehicles. This issue considers the change in motorized opportunities over current conditions.

a. Background

The Rogue River-Siskiyou National Forest is located in Southwest Oregon and Northwest California. The Forest is less than an hour drive from most locations in Jackson, Josephine, Curry, and Coos counties. The Forest offers high mountain scenery, attractive reservoirs and lakes, beautiful river canyons, and a wide range of campgrounds and trails for forest visitors.

The Siskiyou Land and Resource Management Plan (1989) and the Rogue River Land and Resource Management Plan (1990) were completed and implemented prior to the consolidation of the two Forests. Both Management Plans outline Standards and Guidelines for providing recreation experiences across the range of the Recreation Opportunity Spectrum being provided by the Forests. The Recreation Information Management System was utilized to monitor the supply and demand to meet the needs of all recreation opportunities including motorized recreation. Motorized Recreation opportunities and use was projected to increase slightly during the planning period. Both road/trail and off-road motorized recreation opportunities are permitted throughout the Forest in Management Areas designated for such use, and, as needed, with appropriate restrictions. When the two Forests were consolidated into the Rogue River-Siskiyou National Forest, the programmatic direction of the two separate Forest Management Plans still control land allocations, where applicable.

In 2005, the Recreation Facility Analysis process and evaluation was implemented and completed in 2008. The purpose of the analysis was to display tasks needed overtime to bring the Forest's recreation infrastructure into alignment with the resources available to operate and maintain developed sites to standard and sustainable with an emphasis of maintaining customer satisfaction and recreation experiences. The primary focus of this analysis was the developed recreation program which included; campgrounds, picnic sites, interpretive sites, trailheads, rental cabins, snow parks, boat ramps and observation sites.

Part of this analysis developed a recreation niche statement "Cascades to the Coast." The niche provides the vision of what the Forest is most capable of providing in the form of recreation settings and experiences. To establish niche, the Forest identified its unique attributes (both physical and social), special places, and potential experiences. To determine what outdoor recreation experiences people desire and expect, Forest managers focused on community connections and user satisfaction to help understand public preferences.

Some of the unique attributes within this niche are:

- The Cascade, Siskiyou, and Coastal Mountain Ranges converge in SW Oregon and are the backbone of the special setting for the Forest.

- The rivers flowing from these mountains are valued for their clean water, outstanding fisheries and recreational boating. Waterfalls and rock palisades accent the rivers and streams.
- Botanical species, including ice-age plants and large trees, are the most diverse in the western US.
- Climatic diversity allows year-round recreation and escape from the valley heat and coastal fog.
- The largest expanse of Wilderness and roadless areas in the Pacific Northwest region provides solitude seldom found on the west side of Interstate 5.
- Mt. Ashland and Mt. McLoughlin provide a snow-capped scenic backdrop to the valley communities.
- The Forest provides a "refuge" quality of life for local residents and, by contrast, enriches the experiences of visitors drawn to the area by the art and culture of valley communities.

Four niche setting descriptions were created from the niche development process:

- River Corridors - This setting includes the largest concentration of designated Wild and Scenic Rivers on the Pacific Coast; Rogue, Illinois, Chetco, Elk, and North Fork Smith. Scenic Byways parallel segments of the Rogue, South Fork Coquille and North Fork Smith Rivers. Other rivers are also included in this setting. High quality fish habitat draws international visitation.
- Concentrated Use Nodes - are associated with rivers, lakes, or winter sports.
- Rugged Remote - Offers solitude in a wild and primitive setting. Includes the highest elevations and rugged back country as well as the unique botanical diversity.
- Roaded Forest - Lower elevation, mixed conifer forest, accessed by roads from easy to difficult. Includes many trailheads and access points to back country. (USDA- 2006)

These attractive recreation opportunities result in high visitation levels. Based on the National Visitor Use Monitoring Results, the Forest received an estimated 1, 406,000 visits in 2002 (National Visitor Use Monitoring Results, Nov. 2008). A visit is defined as the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A visit could be one hour or several days.

Based on this survey, approximately 70% of Forest visitors live within 75 miles, 22% within 200 miles, and the remaining 8% more than 200 miles. As can be expected, the variety of activities are broad and include camping, backpacking, viewing scenery, fishing, hunting, skiing, driving for pleasure, nature viewing, bicycling, OHV riding, and a number of other activities.

Most access to the Forest requires motor vehicle travel (an exception being the community of Ashland, which borders the Forest and where a network of non-motorized trails provides access to NFS Lands).

Congressionally appropriated funds for both road and trail maintenance have steadily declined in recent years and the Forest no longer has the traditional trail and road crew resources. A portion of the maintenance program is funded under the Secure Rural Schools and Community Self-Determination Act of 2000 (Public Law 106-393). Road and trail maintenance funding is a year to year issue. OHV grants are occasionally obtained from Oregon State Parks and Recreation Department for maintenance and law enforcement purposes on motorized trails (primarily on the Prospect OHV system). These grants are also available for construction of new motorized trails.

b. Effects Mechanisms and Analysis Framework

This analysis will focus on motorized use on the Forest's roads and trails and the changes associated with the alternatives.

It is acknowledged that Forest visitors take part in many recreational activities so there is a great amount of overlap of activities. For example, some people will use a four wheel drive vehicle to access dispersed camping sites and to go fishing while others may travel to a developed campground with a passenger vehicle to hike or explore the Forest on a motorcycle or mountain bike.

The existing Forest Service road system provides motorized access and recreation driving opportunities to most areas of the Forest. Motorized recreation activities include driving for pleasure and providing access to hiking and walking, fishing, bicycling, skiing, viewing natural features, hunting, boating, developed and primitive camping, picnicking, viewing wildlife, backpacking, resort use, visiting historic sites, nature study, gathering forest products, horseback riding, and interpretive site activities. Many 4WD vehicles that are capable of OHV use never get off of Forest System roads and the driver uses them as passenger vehicles or high clearance vehicles but never actually needs to put the vehicle into 4WD mode.

On the other hand, off-highway vehicles are also used to access many of the above activities in remote areas on rough roads that could not be accessed by regular passenger vehicles. Based on the National Visitor Use Monitoring Results for the Forest, one can infer that about two thirds of Forest visits are at least partly tied to general motorized recreation to the extent that they use motor vehicles to access all the recreation opportunities described above including non-motorized activities. The survey also shows that approximately 5% of visitors indicated that driving for pleasure was their primary activity.

Approximately 4,496 miles of National Forest Transportation System (NFTS) roads are open to the public and provide access for all of the above recreation activities. Most roads above 4,000 feet in elevation are closed to wheeled motorized use during the winter months due to snow[23]. Mixed use is allowed on approximately 3,167 miles (70%) of the existing 4,500-mile road system.

Approximately 1,190 miles of trail are located on the Forest. Motorized use is allowed on 236 miles (20%) while non-motorized users have access to the entire system. Motorized trails are located on all Ranger Districts and provide opportunities for Class I (quads), Class II (jeeps), and Class III (motorcycles) vehicles.

The Prospect OHV System on the north end of the High Cascades Ranger District provides opportunities for all three vehicle classes. The Prospect System is very popular for OHV enthusiasts. Unlike the rest of the Forest, the northern third of the High Cascades Ranger District (former Prospect Ranger District) only allows mixed use on those roads and trails that are designated as part of the Prospect OHV System[24]. The system is closed from December 1 through June 30 for the protection of Big Game (deer and elk) Big Game Winter Range (MS 14) habitat.

Most other motorized trails on the Forest are single track[25] and suitable for motorcycles only. Well-liked routes include the Mule Mountain/Elliot Ridge complex on the Siskiyou Mountains Ranger

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[23] Many of these higher elevation roads are designated snowmobile trails, particularly on the High Cascades Ranger District. This analysis focuses solely on wheeled vehicles and does not include snowmobiles or other tracked vehicles. Most designated snowmobile trails on the Forest prohibit wheeled motorized use.

[24] The Prospect OHV System was developed in the 1990s on the former Prospect Ranger District. The decision to allow mixed use only on roads associated with the System was made at that time. This decision only applied to those roads located on the former District, which extended south to the Middle Fork of the Rogue River.

[25] "Single track" refers to a trail that is sized for hikers, equestrians, bicycles, and motorcycles. Tread with is not sufficiently wide for use by quads or jeeps with a trail so narrow that users must generally travel in single file.

District, the Boundary Trail and connectors on the Siskiyou Mountains and Wild Rivers Ranger Districts, and a complex of trails in the Briggs Valley area on Wild Rivers. The nationally known "McGrew Trail," located at the south end of the Wild Rivers Ranger District, is actually a road. It is an extremely rough, narrow and rocky road that requires a minimum of 6 hours to drive by highly experienced operators.

Unauthorized cross-country travel occurs on the Forest. This use continues since it is not prohibited by a specific Forest Order. According to LRMP direction, approximately 275,000 acres are open to OHV cross-country travel. However, approximately 95% of these acres are not actually available due to steep terrain and dense vegetation.

Most unauthorized cross-country travel occurs in open areas with sparse vegetation such as the Siskiyou Crest on the Siskiyou Mountains RD and the serpentine soil areas on the Wild Rivers RD. Unauthorized user-created trails are often a result of this cross-country travel. Mileage figures for user-created motorized trails on the Forest are unknown, although most are located on the Wild Rivers Ranger District.

Trespass onto private property is an issue on one area of the Forest. The lowest section of the Pine Grove Trail (#1160) abuts private land near the junction of the Rogue and Illinois rivers. Motorized users are avoiding the steep lower section by crossing private property in order to access a less steep section further upslope. Resource damage is occurring on the private property.

OHV use is widely recognized as one of the fastest growing recreation activities in the United States. The total number of Class I and Class III vehicles increased from an estimated 2.9 million in 1993 to 8.0 million in 2003. Off-highway motorcycles account for approximately 30% of the total, 2.4 million (Cordell et al. 2005).

Growth in OHV use showed a 32% increase from 1994 to 1999 (27.3 million to 36.0 million). An estimated 18.6 % of the U.S. population age 16 and older participated in some form of OHV recreation from 1999-2004. The Pacific region[26] rate was nearly identical at 18.4% while Oregon's rate was 22.0% (Cordell et al. 2005). An estimated 2% (28,000) of Rogue River-Siskiyou NF visitors participated in OHV use each year between 2002 and 2007 (USDA Forest Service 2008).

User Conflicts

Conflict happens when a person's expectations for his or her recreational experience are not met. This can occur as result of contact with another user or through disturbance from the sound or physical evidence left by another user. Examples might include gunshots or horse manure on a trail. Some hunters that hike into or ride into hunting areas on stock express that OHVs users ruin their hunting opportunities when they drive into hunting areas that others have worked hard to walk or ride stock into. Some non-motorized use hunting proponents have raised questions of fair chase and unfair advantage when others use OHVs for hunting access. The potential for conflict exists among all user groups, and even among the members of the same user group, when personal expectations of the desired experience are not being met. Not all user conflicts on the national forest are entirely recreation-based. In addition to recreation, the NFS provides a wide array of resource-based opportunities, such as timber harvest, livestock grazing, and mining. Some complain about cow manure on hiking trails as well as complaints about OHVs on closed roads and within closure areas.

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[26] The Pacific region includes the following states: Alaska, California, Hawaii, Oregon, and Washington.

Non-motorized users may use designated motor vehicle routes and would expect to encounter motor vehicle use, thus, not affecting the expectation and experience. In areas where the non-motorized user does not expect to encounter motor vehicles is where user conflict occurs. It is within these areas and under these situations that user conflicts are often exacerbated due to noise, presence, emissions associated with motor vehicle use, and lack of awareness of motor vehicle use in the area.

c. Direct and Indirect Effects of Alternatives

For environmental consequences the alternatives are compared in general for all motorized recreation opportunities and then where appropriate, specific opportunities or areas are compared by alternative. The alternatives are listed in order. All alternatives were designed to conform to the five-year program of work resulting from the Recreation Facilities Analysis completed in June 2008.

User Conflict
As the number of users and differing types of use continue to increase, there is a potential that user conflicts will also increase. However, motorized roads and trails would be administratively defined and published on a Motor Vehicle Use Map (MVUM) in Alternatives 2-5. Recreationists would be able to better plan recreational pursuits based on an individual's unique expectations and desires. As a result, the frequency of user conflicts between non-motorized and motorized recreation users would likely decrease in the short and long terms.

Alternative 1 has the greatest potential for user conflict because cross country travel would still be allowed and there would be no MVUM published. Alternative 2 would have slightly less potential for user conflict with publication of the MVUM. Alternatives 3 and 5 would further lessen user conflict because of less road and motorized trail mileage along with MVUM publication. Finally, Alternative 4 would have the least potential for conflict between non-motorized and motorized recreation users primarily because of a substantial reduction in motorized trails along with MVUM publication.

Alternatives 1 and 2

Current motorized recreation opportunities under **Alternative 1** would continue on the Forest and no roads or trails would be closed or constructed on the Forest unless future site-specific NEPA analysis is conducted.

Cross-country travel would continue to occur and most likely increase with a growing local population. There would be no loss or gain of current motorized opportunities for loops, connecting routes, and destinations on motorized trails and roads.

Consequences for **Alternative 2** would be nearly identical to Alternative 1 but would differ in three respects. First, a Forest Plan Amendment would provide consistency between the Rogue River LRMP and the Siskiyou LRMP in the Boundary Trail area. Another amendment would provide consistency with Standards and Guidelines for the Siskiyou LRMP in the lower Illinois River area for a system of existing motorized trails. (It is important to note that LRMPs provide "guidelines" for how an area is managed. A Forest Order is required to enforce those guidelines.) Second, implementation of the Travel Management Rule via a Forest-wide Plan Amendment would require publication of an MVUM that would clearly show where motorized use is allowed. Current District and Forest maps do not distinguish between motorized and non-motorized roads, trails, and areas. Third, cross-country travel

would be closed except for the existing play area on the High Cascades Ranger District. All of these changes would make it easier for the public to more clearly understand where motorized use is allowed.

Alternative 3

This alternative attempts to balance motorized recreation with other public land uses, such as hiking, backpacking, horseback riding, mountain biking, hunting, fishing, and camping. In some cases motorized opportunities are increased, while in others those opportunities are decreased.

Cross-country travel would be prohibited across the Forest, thereby eliminating a recreation pursuit that is important to a segment of the OHV community. It is difficult to measure or predict, but in the short term (prior to nationwide implementation of the Travel Management Rule) this off-road prohibition may cause some users to travel to other forests, BLM lands, or private property in order to pursue cross-country travel opportunities. In the long term, cross country travel on most National Forests will most likely be reduced or prohibited due to implementation of the Travel Management Rule, thereby lessening this opportunity. BLM may also be applying tighter restrictions on cross-country motorized travel in the future, but at present there is no BLM national direction that would prohibit cross-country motorized travel.

Most roads that are currently open to the public would remain open. There would be a very slight loss (less than 1/10 of 1%) of current motorized opportunities for loops, connecting routes, and destinations on Forest roads.

The current motorized 255-mile trail system would be reduced by 19 miles, including 2 miles of new construction and 12 miles of conversion of roads to motorized trails. Some loops and destinations would be lost while others would be gained (see the District-specific analysis below).

Powers Ranger District
Designated mixed use on the paved Eden Valley Road (#3348) would provide loop and destination opportunities in this area, particularly during elk season when hunters use Class I vehicles.

Gold Beach Ranger District
No road use would be prohibited on this District. Approximately 12.6 miles of the 1376 road system just north of the Chetco River on the west edge of the District would be closed to mixed use. This would limit the potential of OHVs to illegally cross onto private lands in this area. Loop opportunities and connecting routes do not currently exist on this 12-mile road system, so effects to OHV riders would be minimal, especially when all other District mixed use roads would remain open.

Approximately 9.3 miles of Maintenance Level 1 roads would be converted to motorized trails. These conversions would provide more recreation opportunities for OHV riders in the following areas: Quosatana Creek, Game Lake, and Signal Butte. All of the conversions provide for expanded loop opportunities because of their connection with other roads.

The proposed 0.5 miles of trail construction would connect the Woodruff Trail (#1164) to the 3313110 Road that is being converted to a motorized trail. It is acknowledge that this "new" trail construction occurs on a user-created trail that already receives use by quad and motorcycle riders. This alternative would authorize that use and bring the trail up to standard in order to minimize resource impacts and provide for user safety. This authorization would provide a loop opportunity for motorized users.

Approximately 11 miles of the lower portions of the Game Lake (#1169) and Lawson Creek (#1173) Trails would be closed to motorized use. As stated in Chapter II, both of these trails are impassable for motorized users due to steep slopes and overgrown vegetation. Formal closure of these single-track sections of trail under the Travel Management Rule is more of a "bookkeeping" change than an actual motorized use closure. There would be no effect to motorized use because these trail segments are not currently used (although they have received use in previous years).

Wild Rivers Ranger District

Approximately 7 miles of portions of the 4300 and 4400 road systems would be closed to motorized use. These road systems currently provide a challenge to experienced OHV operators in the Rock Creek, Josephine Creek, and Canyon Creek areas southwest and northwest of Cave Junction. They are generally rough, rocky, and steep. They provide loop opportunities and connecting routes for all three OHV vehicle classes and are popular destinations for Illinois and Rogue Valley residents. From a motorized user's point of view, prohibiting motorized use on these two primitive road systems would eliminate a highly-valued OHV opportunity.

An additional 11.8 miles on the 4300 and 4201 road systems in the Canyon Creek/Josephine Creek/Fiddler Gulch areas would be closed to mixed use, so this would also contribute to a loss of opportunity for OHV riders.

Approximately 3.3 miles of the 4201016 and 4103011 road systems would also prohibit motorized use. These roads are located slightly north of the Canyon Creek and Josephine Creek areas discussed in the previous paragraph. The roads parallel the Illinois River west of Eight Dollar Mountain and serve as a connecting route between the 4201 and 4103 Roads. Closure of this road would eliminate motorized dispersed camping and picnicking opportunities along this stretch of the Illinois River. It would also eliminate a short loop opportunity from Highway 199 between the Eight Dollar Road (4201) and the Illinois River Road (4103).

One other short segment of road would also prohibit motorized use. Approximately 0.6 miles of the 2600050 Road near Silver Creek would be closed due to issues associated with private land near its terminus. This closure would have minimal effect on motorized opportunities as most of the road would remain open and the motorized Dutchy Creek Trail (#1146) would still be accessible.

Approximately 3 miles of two road segments would be converted to motorized trails. Conversion of the 4402494 Road would provide access to Biscuit Hill from the popular McGrew Trail on the south end of the District while conversion of the 2509640 Road would provide a connector to the existing Shan Creek Trail. Both would enhance the recreation experience for motorized users.

Approximately 17.2 miles of trail would prohibit motorized use where it is currently allowed. The single-track Mt Elijah (#1206) and Bigelow Lake (#1214) Trails provide access to the Boundary Trail and serve as a connection between the Illinois River and Applegate River drainages. Closure of these two trails would require motorcyclists to use the much steeper and technical Elk Creek Trail (#1230) to the north as a connection between the two watersheds. In addition, riders would not have motorized access to the alpine scenery surrounding Bigelow Lake. Bolan Lake (#1245) and Kings Saddle (#1245A), located near the California border, also provide single track motorized access to alpine scenery and vistas and this opportunity would be lost.

Motorized use would be prohibited on a complex of trails located in and around Briggs Valley: a portion of Taylor Creek (#1142), Big Pine Spur (#1142A), Onion Way (#1181), Secret Way (#1182),

and Secret Way Spur (#1182A). This would eliminate a number of loop opportunities and connecting routes in this area although some remain to the north (lower Taylor Creek) and south (Briggs Creek). Motorized prohibition on the 1-mile Swede Creek Trail (#1135), located south of Briggs Valley, and would not limit connecting routes or loops since the trail does not connect to other routes. Likewise, the Little Silver Lake Trail (#1184), located in the Silver Creek drainage, is an "out and back" trail and is seldom used by motorcyclists due to steep slopes and exposure to cliffs on a "razor-back" ridge.

Seasonal closure of the McGrew Trail would result in a loss of opportunity for those who use the trail during the "wet months" of mid-October through mid-May. Sections of the trail are open almost year-round and the highest elevations are generally not snow-covered for more than 2-3 months because the trail is at a relatively low elevation (1,660-3,940 feet). Seasonal closure would limit use, especially in the spring and fall.

Siskiyou Mountains Ranger District
No road use would be prohibited on this District and mixed use would continue on all existing non-paved roads.

Motorized use would be prohibited on 4 miles of the Horse Camp Trail (#958). This trail is an "out and back" trail that terminates on the Pacific Crest National Scenic Trail (PCNST) where motorized use is prohibited. Motorized prohibition would lessen the likelihood of motorcyclists using the PCNST as part of a loop system that would connect with the nearby Cook and Green Trail (#959). Prohibition of motorcycle use on this single track trail would prevent motorized users from accessing the alpine scenery and Echo Lake on the upper portions of the trail.

Approximately 1.2 miles of the Penn Sled Trail (#957) would be reconstructed and partially relocated. The trail has not been maintained for a number of years. This trail would connect two existing single track motorized trail systems (Mule Mountain and Elliot Ridge) that are highly valued by motorcyclists. Relocation of the lower portion of the trail would lessen or eliminate the likelihood of trespass on private property located along Squaw Creek.

High Cascades Ranger District
No road use would be prohibited on the District and mixed use would continue on all existing roads where it is currently allowed. Mixed use is currently not allowed on roads located on the Prospect/Union Creek portion of the District except for those associated with the 250-mile Prospect OHV system. The only change proposed for roads and trails is to allow mixed use on approximately 31.5 miles of paved road on portions of Roads 34 and 37 (east of Butte Falls) and 3705 and 3720 (south of Fish Lake). Designation of mixed use on these roads would expand loop and destination opportunities in these areas, particularly during the deer and elk seasons when the greatest use occurs.

A new play area, in addition to the existing Woodruff Play Area, would be established in the Willow Lake vicinity. This area (approximately 10 acres) is currently used by OHVs. Formal designation would allow for this use to continue. The area is relatively flat and provides opportunities for beginning OHV riders to increase their skills. It is not a challenging area for experienced riders. There is a potential for riders to leave the proposed play area and create user-created trails. Based on patterns at the Woodruff Play Area where there have been no user-created trails, it is expected that there would not be an increase in un-authorized trails near Willow Lake.

Alternative 4

This alternative would limit motorized use across the Forest, relative to the other alternatives. Motorized opportunities would decrease (primarily on trails).

Cross-country travel would be prohibited across the Forest, thereby eliminating a recreation pursuit that is important to a segment of the OHV community. It is difficult to measure or predict, but in the short term (prior to nationwide implementation of the Travel Management Rule) this off-road prohibition may cause some users to travel to other forests, BLM lands, or private property in order to pursue cross-country travel opportunities. In the long term, cross country travel on most National Forests would most likely be reduced or prohibited, thereby lessening this opportunity. BLM may also be applying tighter restrictions on cross-country motorized travel in the future, but at present there is no BLM national direction that would prohibit cross-country motorized travel.

Most roads that are currently open to the public would remain open. There would be a 47-mile reduction of open roads out of the Forest total of 4,496 miles. Mixed use would continue to occur on most non-paved roads and would be prohibited on all paved roads except the Prospect OHV system.

This would be a 76-mile reduction out of a total of 3,167 miles where mixed use is currently allowed. There would be a loss (approximately 3%) of current motorized opportunities for loops, connecting routes, and destinations on Forest roads.

The current motorized 236-mile trail system would be reduced by 106 miles (45%) and there would be no new trail construction or conversion of roads to trails. There would be a decrease in motorized opportunities for loops, connecting routes and destinations (see the District-specific analysis below). Five high quality trail systems/complexes would be closed to motorized use: (1) the Boundary Trail and all connecting trails, (2) the majority of the Briggs Valley system, (3) the McGrew Trail, and (4) the Hobson Horn/Silver Peak Trail to the Illinois River.

Two high quality motorized trail systems would remain open to motorized use: the Prospect OHV network (High Cascades RD) and the Elliot Ridge system (Siskiyou Mountains RD). It is expected that these two systems would receive increased use due to the aforementioned closures on the Boundary, Briggs Valley, McGrew, and Hobson Horn/Silver Peak Trail systems.

Powers Ranger District

Motorized use would be prohibited on the 1 mile Big Tree Trail (#1150) south of Powers near the South Fork Coquille River and on the 2.7 mile "Russian Mike" Trail (unnumbered) near Russian Mike Creek on the South Fork Sixes River. Both of these trails are "out and back" so loop opportunities would not be lost. However, the prohibition would not allow motorized access to these two areas.

Unlike Alternative 3, no mixed use would be designated on the paved Eden Valley Road (#3348), which would limit loop and destination opportunities in this area, particularly during elk season. Although currently prohibited by State law, this road is currently used by OHVs.

Gold Beach Ranger District
Motorized use prohibitions would be the same as Alternative 3 with the following additions. Motorized use would also be prohibited on the entire length of the Game Lake (#1169) and Lawson Creek (#1173) trails, the lower portion of the Illinois River Trail (#1161), Lower Rogue River Trail (#1168)[27], the Silver Peak-Hobson Horn Trail (#1166) located on both the Gold Beach and Wild Rivers Ranger Districts, and the Fish Hook Trail (#1180) also located on both Ranger Districts. This represents a decrease of miles available to motorized use on the District. All of these trails provide outstanding opportunities for motorized loops and connections and all provide outstanding views along portions of their routes. These opportunities would not be available for motorized users in this alternative.

Unlike Alternative 3, there would be motorized use prohibitions on approximately 6 miles of road in the Basin Creek, Coon Creek, and East Fork Winchuck River drainages. All of these roads are dead end spurs so loop opportunities on roads would not be lost in this alternative.

Wild Rivers Ranger District
Motorized use prohibitions would be the same as Alternative 3 with the following additions. Motorized use would also be prohibited on Dutchy Creek Trail (#1146) northwest of Road 2402, the Briggs Valley Complex that includes a portion of Briggs Creek (#1132), Red Dog (#1143) and Phone (#1153) trails, and the Silver Peak-Hobson Horn Trail (#1166) located on both the Gold Beach and Wild Rivers Ranger Districts. The Fish Hook Trail (#1180), also located on both Ranger Districts, would also be closed to motorized use.

The entire Boundary complex of trails would be closed to motorized use in this alternative: Boundary (#1207), Elk Creek (#1230), Bigelow Lake (#1214), and Mt. Elijah (#1206), O'Brien Creek (#900), and Sturgis Fork (#903). The latter two trails are located on the Siskiyou Mountains Ranger District and tie into the Boundary Trail.

All of these trails provide outstanding opportunities for motorized loops, connections, and destinations and most provide outstanding alpine views along portions of their routes. These opportunities would not be available for motorized users under this alternative.

Under Alternative 4, motorized use of the McGrew Trail would be prohibited. This would result in a loss of opportunity for those who use the trail. There would be an overall decrease of motorized road miles on the District. All of the additional prohibitions in this alternative are on roads located east of Highway 199 in the following areas: Squaw Mountain, Pearsoll Peak, Pockett Knoll, Tennessee Mountain, and the system of roads leading westward from Rough and Ready Creek to the North Fork of the Smith River. Elimination of motorized access to a point near Pearsoll Peak would result accessing this scenic destination by foot or horse. The closures near Squaw Mountain and Pockett Knoll would be less impactive than the loss of Pearsoll Peak since these destinations are not as important to most users. There would be no loss of loop opportunities in these areas. On the contrary, there would be a loss of highly valued destination and loop opportunities between Rough and Ready Creek and the North Fork of the Smith River, which includes the McGrew Trail.

[27] There are three "Rogue River" trails on the Forest: the 48-miles Upper Rogue River Trail #1034 on the High Cascades RD; the 42-mile Upper Rogue River Trail # 1160 on the Gold Beach RD and Medford BLM; and the 13-mile Lower Rogue River Trail #1168 on the Gold Beach RD below Agness.

Siskiyou Mountains Ranger District
Motorized use prohibitions would be the same as Alternative 3 with the following additions. Motorized use would also be prohibited on the 8-mile Cook and Green Trail (#959), the Mule Mountain complex of trails, and on the two connector trails to the Boundary Trail: Sturgis Fork (#903) and O'Brien Creek (#900) (see Boundary Trail discussion above in the Wild Rivers RD section).

Closure of the Cook and Green Trail would result in the elimination of a popular loop opportunity that incorporates the 1040 and 1055 roads north and west of the trail. Closure of the Mule Mountain system would result in the loss of a high-valued opportunity for motorcyclists in this area as well as limiting the connection to the nearby Elliot Ridge system of trails on and near the California border.

All of these trails provide outstanding opportunities for motorized loops, connections, and destinations and most provide outstanding views along portions of their routes. These opportunities would not be available for motorized users under this alternative.

High Cascades Ranger District
There would be no changes on the High Cascades Ranger District. No mixed use would be designated on paved roads east of Butte Falls (Roads 34 and 37) and south of Fish Lake (Roads 3720 and 3705). This would limit loop and destination opportunities in these areas, particularly during the deer and elk seasons. Although currently prohibited by State law, these roads are currently used by OHVs.
There would be no additional prohibitions on motorized trails. The Prospect OHV system would remain the same (as it does in all Action Alternatives).

Alternative 5

This alternative attempts to balance motorized recreation with other public land uses, such as hiking, backpacking, horseback riding, mountain biking, hunting, fishing, and camping. In some cases motorized opportunities are increased, while in others, those opportunities are decreased.

Cross-country travel would be prohibited across the Forest, thereby eliminating a recreation pursuit that is important to a segment of the OHV community. It is difficult to measure or predict, but in the short term (prior to nationwide implementation of the Travel Management Rule) this off-road prohibition may cause some users to travel to other forests, BLM lands, or private property in order to pursue cross-country travel opportunities.

In the long term, cross country travel on most National Forests would most likely be reduced or prohibited, thereby lessening this opportunity. BLM may also be applying tighter restrictions on cross-country motorized travel in the future, but at present there is no BLM national direction that would prohibit cross-country motorized travel.

Most roads that are currently open to the public would remain open. There would be a very slight loss (less than 1/10 of 1%) of current motorized opportunities for loops, connecting routes, and destinations on Forest roads. The current motorized 236-mile trail system would overall be reduced by 7 miles. Some loops and destinations would be lost while others would be gained (see the District-specific analysis below).

Powers Ranger District
There would be one change on the Powers Ranger District. Motorized use would be prohibited on the 1 mile Big Tree Trail (#1150) south of Powers near the South Fork Coquille River. This trail is an "out and back" (very lightly used by motorcyclists) so loop opportunities would not be lost. However, the prohibition would not allow motorized access to the Big Tree Botanical Area.

Unlike Alternative 3, no mixed use would be designated on the paved Eden Valley Road (#3348), which would limit loop and destination opportunities in this area, particularly during elk season. Although currently prohibited by State law, this road is currently used by OHVs.

Gold Beach Ranger District
Approximately 12.6 miles of the Road 1376 system just north of the Chetco River on the west edge of the District would be closed to mixed use. This would limit the potential of OHVs to illegally cross onto private lands in this area. Loop opportunities and connecting routes do not currently exist on this 12-mile road system, so effects to OHV riders would be minimal, especially when most other District mixed use roads would remain open.

Approximately 12 miles of Maintenance Level 1 roads would be converted to motorized trails. These conversions would provide more recreation opportunities for OHV riders in the following areas: Quosatana Creek, Game Lake, and Signal Butte. All of the conversions provide for expanded loop opportunities because of their connection with other roads.

The 0.5 miles of new construction that would connect the Woodruff Trail (#1164) and Road 3313110 would not take place in this alternative. In addition, motorized use would be prohibited on the 1 mile Woodruff Trail and Road 3313110 would not be converted to a trail. Unlike Alternative 3, there would be no loop opportunities for motorized users that would connect from Woodruff Meadow to Wagontire Prairie.

Like Alternative 3, approximately 11 miles of the lower portions of the Game Lake (# 1169) and Lawson Creek (#1173) Trails would be closed to motorized use.

Unlike either Alternative 3 or 4, one portion of the Lower Illinois River Trail (#1161) would remain open to motorized use and another portion would prohibit motorized use. Motorized use would be prohibited from the Silver Peak/Hobson Horn (#1166) junction (just south of Indigo Creek) upriver to Conners Place at the Kalmiopsis Wilderness Boundary. Although this 3.2-mile prohibition would result in some loss of opportunity, motorcyclists could still have loop and destination opportunities that connect to Silver Peak /Hobson Horn Trails.

Wild Rivers Ranger District
Conversion of Road 4402494 to a motorized trail in the Biscuit Hill area would not occur in Alternative 5. Since this Maintenance Level 1 road is currently closed to motorized use, there would be no loss of current motorized opportunities on this road.

Motorized use would be prohibited on approximately 13.1 miles of portions of the 4300 and 4400 road systems. These road systems currently provide a challenge to experienced OHV operators in the Rock Creek, Josephine Creek, and Canyon Creek areas southwest and northwest of Cave Junction.

They are generally rough, rocky, and steep. They provide loop opportunities and connecting routes for all three OHV vehicle classes and are popular destinations for Illinois and Rogue Valley residents. From a motorized user's point of view, prohibiting motorized use on these two primitive road systems would eliminate a highly-valued OHV opportunity.

An additional 11.8 miles on the 4300 and 4201 road systems in the Canyon Creek/Josephine Creek/Fiddler Gulch areas would be closed to mixed use, so this would also contribute to a loss of opportunity for OHV riders.

Approximately 3.3 miles of the 4201016 and 4103011 road systems would also prohibit motorized use. These roads are located slightly north of the Canyon Creek and Josephine Creek areas discussed in the previous paragraph. The roads parallel the Illinois River west of Eight Dollar Mountain and serve as a connecting route between the 4201 and 4103 Roads. Closure of this road would eliminate motorized access to dispersed camping and picnicking opportunities along this stretch of the Illinois River. It would also eliminate a short loop opportunity from Highway 199 between the Eight Dollar Road (4201) and the Illinois River Road (4103).

One other short segment of road would also prohibit motorized use. Approximately 0.6 miles of Road 2600050 near Silver Creek would be closed due to issues associated with private land near its terminus. This closure would have minimal effect on motorized opportunities as most of the road would remain open and the motorized Dutchy Creek Trail (#1146) would still be accessible.

Approximately 0.3 miles of one road segment would be converted to motorized trail. Conversion of Road 2509640 would provide a connector to the existing Shan Creek Trail. This would enhance the recreation experience for motorized users by providing both a connection and loop opportunity in the Taylor Creek drainage.

Approximately 17.2 miles of trail would prohibit motorized use where it is currently allowed. The single-track Mt. Elijah (#1206) and Bigelow Lake (#1214) Trails provide access to the Boundary Trail and serve as a connection between the Illinois River and Applegate River drainages.

Closure of these two trails would require motorcyclists to use the much steeper and technical Elk Creek Trail (#1230) to the north in order to have a connection between the two watersheds. In addition, riders would not have motorized access to the alpine scenery surrounding Bigelow Lake. Bolan Lake (#1245) and Kings Saddle (#1245A), located near the California border, also provide single track motorized access to alpine scenery and vistas and this opportunity would be lost.

Motorized use would be prohibited on a complex of trails located in and around Briggs Valley: a portion of Taylor Creek (#1142), Big Pine Spur (#1142A), Onion Way (#1181), Secret Way (#1182), and Secret Way Spur (#1182A). This would eliminate a number of loop opportunities and connecting routes in this area although some remain to the north (lower Taylor Creek) and south (Briggs Creek). Motorized prohibition on the 1-mile Swede Creek Trail (#1135), located south of Briggs Valley would not limit connecting routes or loops since the trail does not connect to other routes. Likewise, the Little Silver Lake Trail (#1184), located in the Silver Creek drainage, is an "out and back" trail and is seldom used by motorcyclists due to steep slopes and exposure to cliffs on a "razor-back" ridge.

Seasonal closure of the McGrew Trail would result in a loss of opportunity for those who use the trail during the "wet months" of mid-October through mid-May. Sections of the trail are open almost year-round and the highest elevations are generally not snow-covered for more than 2-3 months because the trail is at a relatively low elevation (1,660-3,940 feet). Seasonal closure for Port-Orford-cedar (POC) root disease would limit use, especially in the spring and fall.

Siskiyou Mountains Ranger District
No road use would be prohibited on this District and mixed use would continue on all existing non-paved roads, except for a portion of Road 1000.

Motorized use would be prohibited on 4 miles of the Horse Camp Trail (#958). This trail is an "out and back" trail that terminates on the Pacific Crest National Scenic Trail (PCNST) where motorized use is prohibited. Motorized prohibition would lessen the likelihood of motorcyclists using the PCNST as part of a loop system that would connect with the nearby Cook and Green Trail (#959). Prohibition of motorcycle use on this single track trail would prevent motorized users from accessing the alpine scenery and Echo Lake on the upper portions of the trail.

Approximately 1.2 miles of the Penn Sled Trail (#957) would be reconstructed and partially relocated. The trail has not been maintained for a number of years. This trail would connect two existing single track motorized trail systems (Mule Mountain and Elliot Ridge) that are highly valued by motorcyclists. Relocation of the lower portion of the trail would lessen or eliminate the likelihood of trespass on private property located along Squaw Creek.

High Cascades Ranger District
Unlike Alternative 3, no mixed use would be designated on paved roads east of Butte Falls (Roads 34 and 37) and south of Fish Lake (Roads 3720 and 3705). This would limit loop and destination opportunities in these areas, particularly during the deer and elk seasons. Although currently prohibited by State law at the present time, these roads are currently used by OHVs. There would be no additional prohibitions on motorized trails.

d. Cumulative Effects

At Forest scale, no past, present or reasonably foreseeable future actions were identified with activities or projects would result in cumulative reduction of motorized recreation opportunities, especially loops, connecting routes, and destinations, or create a loss of current opportunities. A total of 5.87 miles of Maintenance Level 2 roads were closed and 24.02 miles of Maintenance Level 2 roads were decommissioned during implementation of the Applegate McKee Legacy Roads Decision Notice. Other roads were storm-proofed and have stream crossing upgrades to further reduce potential resource damage.

On the High Cascades Ranger District, there is a proposal to relocate portions of the Prospect OHV system off of Roads and on to trails, but total mileage would be unchanged or may increase slightly.

In addition to the Applegate McKee project, there are many miles of currently open roads Forest-wide that have an Objective Maintenance Level of 1. As funding becomes available, some of these roads may be closed in the future to meet road management and resource objectives. At the present time it is not possible to quantify miles of roads that would be closed to motorized use, however any changes would be reflected in the updated MVUM.

Adjacent National Forests and BLM districts are also analyzing motorized route designation. Based on preliminary proposals, it is expected that adjacent National Forests will eliminate most cross country travel yet keep most roads and motorized trails open. On the Smith River National Recreation Area on the Six Rivers NF, an MVUM was published in August 2009. Most roads remain open, but cross country travel is prohibited. On the Klamath NF, 61 miles of currently unauthorized routes would become authorized and open to the public. On the Fremont-Winema NF approximately 7,000 miles of road and trails are open to the public. Their Proposed Action would close six miles of this system. On the Umpqua NF, approximately 4,700 miles of road and 154 miles of trail are open to the public. Their Proposed Action would close approximately 100 miles of the road system. Limitations on cross country travel may encourage some motorized users to use adjacent BLM lands and private property.

On the Medford District of the BLM, there are two projects that relate to motorized opportunities. Under the Timber Mountain Recreation Management Plan DEIS (USDI, BLM 2009) near Jacksonville, Oregon, approximately 31 to 140 miles of roads and trails would be opened to OHVs instead of the 376 miles of roads and trails on public and private land that are currently used. The BLM is also considering designation of the Quartz Creek OHV Area near Merlin, Oregon. The system would cover about 9,000 acres with a potential of 144 miles of designated routes (roads and trails) for Class I & III with 55 miles of actual trails. A decision is anticipated in 2015 or later (Mastrofini, pers. com. 2014). Since no decision has been made on either of these projects, it is speculative to predict cumulative effects for motorized opportunities. It is expected that there might be a slight reduction in opportunities on designated routes.

From a State perspective on BLM lands in western Oregon, comprehensive planning for all access needs (public, administrative, commercial, recreational - motorized/non-motorized, etc.) has been put on hold for an undetermined amount of time (Dent, pers. com. 2009). It is not possible to predict when that planning will resume and what the decision(s) will be relative to motorized opportunities.

5. Roadless Character within Inventoried Roadless Areas

Effects of motorized vehicle use on roadless character within Inventoried Roadless Areas

There are 26 Inventoried Roadless Areas (IRAs) within the RRSNF, comprising a total of approximately 368,000 acres, as mapped in the RRSNF Geographic Information System (GIS).

The original inventory of roadless lands took place in the early 1970s during the RARE I (Roadless Area Evaluation and Review) evaluations, and then again in the late 1970s during RARE II. The inventory is displayed in the current Forest Plan FEIS and is an output of the RARE II inventory. Complete descriptions of these areas can be found in Appendix C of the FEIS for the Forest Plans (USDA 1989 and USDA 1990).

a. Background

All IRAs, identified in Appendix C of the Land and Resource Management Plans (LRMP), are managed according to the direction provided in the LRMP for their underlying land allocations. Some allocations permit motorized use within an IRA while others limit or prohibit motorized opportunities.

Map III-2 shows the IRAs on the Rogue River-Siskiyou National Forest. Within the RRSNF, there are approximately 48 miles of open roads (Maintenance Level 2) within IRAs identified in Appendix C in the LRMPs. The majority of these roads are within the South Kalmiopsis IRA on the Wild Rivers Ranger District.

There is a long history of debate and legal proceedings over management direction for IRAs, and the Roadless Rule. A Roadless Area Conservation Rule was adopted by the US Forest Service on January 12, 2001, after extensive public involvement. The 2001 Roadless Rule generally prohibits road construction and timber cutting in 58.5 million acres of IRAs, covering about 30 percent of the National Forest System.

On October 21, 2011, the Tenth Circuit Court of Appeals reversed Judge Brimmer's August 2008 decision that had invalidated the Roadless Rule and lifted a nationwide injunction. The Tenth Circuit's decision resolved the legal uncertainty that had resulted from the conflicting rulings by Judge Brimmer and the Ninth Circuit, making it clear that the 2001 Roadless Rule is legally adopted.

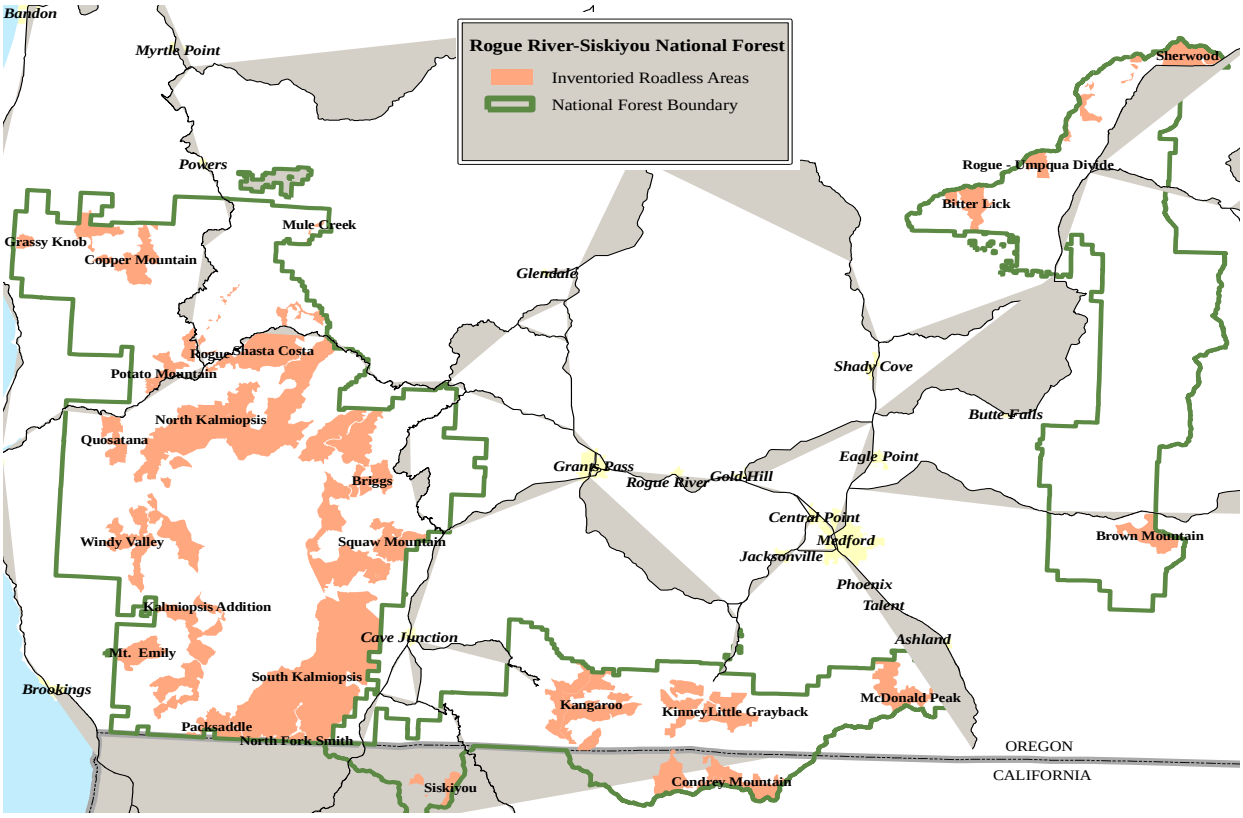
While this latest ruling came out after the DSEIS was published, Travel Management on the Rogue River-Siskiyou NF is not inconsistent with this ruling. This ruling essentially returns management direction to the 2001 Roadless Rule. The 2001 Roadless Rule does not prohibit motorized trails in IRAs, nor does it prohibit National Forest Transportation System roads in existence prior to January 12, 2001. (36 CFR § 294.14)

In addition, all proposed Action Alternatives analyzed within this FSEIS (Alternatives 2, 3, 4 and 5) comply with the 2001 Roadless Rule because continued use of existing roads and trails within IRAs is not road construction or reconstruction as defined by the rule. (36 CFR § 294.12) Further, the proposed designation of existing roadways for motorized public use is not new and has occurred on all routes for many decades prior to promulgation of the 2001 Roadless Rule. The Roadless Rule (36 CFR Part 294) clearly defines a road as a "motor vehicle travelway over 50 inches, unless designated and managed as a trail. Therefore, the roads being considered for continued authorization as open to motorized vehicles by the general public are consistent with the 2001 Roadless Rule.

Current Conditions

There are approximately 236 miles of NFS trails currently within IRAs on the Forest. Of this total, approximately 94 miles currently allow motorized use. Cross-country (or off-road) travel is currently allowed on approximately 30,170 acres of the area within the IRAs.

Map III-2. Inventoried Roadless Areas on the Rogue River-Siskiyou NF



Roadless characteristics include natural resource values or features often present on other, non-roadless, lands but are perhaps more highly valued because of their greater extent or higher quality in IRAs and are thus often used to characterize Inventoried Roadless Areas. **The following sections discuss such resource values and features:**

High quality or undisturbed soil, water, and air: These three key resources are the foundation upon which other resource values and outputs depend. Healthy watersheds catch, store, and release water over time, protecting downstream communities from flooding. They provide clean water for domestic, agricultural, and industrial uses and help maintain abundant and healthy fish and wildlife populations. They are also the basis for many forms of outdoor recreation. Water quality is discussed in section D, 1, this Chapter. Soil or site productivity is discussed in section E, 1 and air quality is discussed in sections E, 3 and 4, this Chapter.

Sources of public drinking water: National Forest System lands contain several watersheds that are important sources of public drinking water. Roadless areas within the entire National Forest System contain all or portions of 354 municipal watersheds that contribute drinking water to millions of citizens. Maintaining these areas in a relatively undisturbed condition saves downstream communities millions of dollars in water filtration costs. Careful management of these watersheds is crucial in maintaining the flow and affordability of clean water to a growing population.

Diversity of plant and animal communities: Roadless areas are more likely than roaded areas to support greater ecosystem health, including the diversity of native and desired nonnative plant and animal communities due to the absence of disturbances caused by roads and accompanying activities.

Inventoried Roadless Areas also conserve native biodiversity by serving as a buffer against the spread of nonnative invasive species. These effects are discussed in various sections in this chapter including D, 2; E, 6 and 7; and E, 10 and 11.

Habitat for Threatened, Endangered, Proposed, Candidate, and Sensitive species and for those species dependent on large, undisturbed areas of land: Roadless areas function as biological strongholds and refuges for many species because of their lack of fragmentation and development. They support a diversity of aquatic habitats and communities. Threatened, Endangered, and Sensitive species are discussed in section E, 9, this chapter.

Primitive, Semi-Primitive Non- Motorized, and Semi-Primitive Motorized classes of dispersed recreation: Roadless areas often provide outstanding dispersed recreation opportunities such as hiking, camping, picnicking, wildlife viewing, hunting, fishing, cross-country skiing, and canoeing. While they may have many Wilderness-like attributes, unlike Wilderness the use mechanized means of travel is often allowed. These areas can also take pressure off heavily used wilderness areas by providing solitude and quiet, and dispersed recreation opportunities. Motorized opportunities are discussed in section D, 4, this chapter.

Reference landscapes: The body of knowledge regarding the effects of management activities over long periods of time and on large landscapes is very limited. Reference landscapes of relatively undisturbed areas serve as a barometer to measure the effects of development on other parts of the landscape.

Natural appearing landscapes with high scenic quality: High quality scenery, especially scenery with natural-appearing landscapes, is a primary reason that many people choose to recreate. Visual quality is discussed in section E, 13, this chapter

Traditional cultural properties and sacred sites: Traditional cultural properties are places, sites, structures, art, or objects that have played an important role in the cultural history of a group. Traditional cultural properties and sacred sites may be eligible for protection under the National Historic Preservation Act. Cultural Resources are discussed in section E, 17, this chapter.

Other locally identified unique characteristics: Inventoried roadless areas may offer other locally identified unique characteristics and values. Unique social, cultural, or historical characteristics sometimes depend on the roadless character of the landscape.

b. Effects Mechanisms and Analysis Framework

It is not the purpose of this planning effort to decide whether motorized use within any IRA is appropriate. Those overarching decisions on the allowance of motorized uses within IRAs were made in the LRMPs and are not being revisited here. As discussed above, IRAs will continue to be managed according to the direction provided in the LRMP for their underlying land allocations.

The only exception to this is within the Kangaroo IRA on the Rogue River National Forest where the underlying land use allocations provide motorized trail-use direction inconsistent with that of the adjacent Siskiyou National Forest LRMP. The inconsistency affects use of a trail that weaves between the former boundaries of the two Forests. Motorized use of this trail had been ongoing before each LRMP was signed, and the Proposed Action seeks simply to accommodate existing use and bring

consistency to the direction in the LRMPs. In this case, the issue addressed is not the propriety of motorized use within an IRA, but rather the consistency of underlying land use allocations between adjacent Forests to accommodate long-standing use patterns.

Here, the analysis focuses on effects to roadless character, social values unique to these areas, such as their use as natural-appearing reference landscapes, opportunities for solitude, and suitability for future designation as Wilderness.

Many of the values listed in the prior section may be affected by motorized use of roads and trails within IRAs. Effects on those natural resources are discussed in the site-specific evaluations of environmental effects elsewhere in this Chapter (as noted) and resolved in alternatives or through mitigations on a site-specific, case-by-case, basis.

Generally, foot, horse, and mountain bike travel in Inventoried Roadless Areas is considered compatible with roadless area characteristics. That type of use is therefore not further analyzed in this section. If new or continued motorized trail use is authorized in the Selected Alternative, a short-term impact on the roadless characteristics of solitude and remoteness is expected. An increase in the number of miles of motorized trail use would generally have an inverse relationship with solitude and remoteness qualities.

c. Direct and Indirect Effects of Alternatives

Under all alternatives, varying levels of motorized use of existing NFS roads and trails within IRAs would continue.

Reference and Natural Appearing Landscapes
Cross-country travel allowed under the No Action (**Alternative 1)** would have impacts that may diminish the affected IRAs ability to serve as reference landscapes of relatively undisturbed forests. Under this alternative, approximately 30,170 acres would remain available for cross-country travel. However, due to steep topography and heavy vegetation associated with these areas, it is estimated that less than 3% (900 acres) is actually capable of supporting this use. Based on the analysis assumptions, it is not anticipated that this use would measurably change under any of the alternatives.

Due to the elimination of cross country travel **Alternatives 2, 3, 4, and 5** would have a slight potential to reduce impacts to landscapes serving as a reference for research study or interpretation. The reduction in trails open for motorized use in **Alternatives 3, 4, and 5** would further reduce the current level of impact and have less effect than Alternative 1 concerning the ability of the landscape to serve as a reference for research study or interpretation. The difference is slight, however, since there is little, if any, cross-country travel in most areas to begin with. The physical impact is primarily on the trails where the use is, not across the un-trailed or un-roaded forest affecting its use for reference or study. Eleven trails would be retained (would continue to exist) in all alternatives, the only difference would be the amount of motorized use allowed.

Unique Characteristics: Solitude and Remoteness
Cross-country motorized travel under **Alternative 1** would maintain the current likelihood of encountering other recreationists, perhaps adversely affecting each user's sense of solitude and distance from the sights, sounds, and evidence of other human use. Under this alternative, there is expected to be no change to the use levels along those routes currently used.

Continued allowance of cross-country travel would not result in permanent improvements such as structures, construction, habitations, and other evidence of modern human presence or occupation, other than the presence of tracks.

Alternatives 2, 3 and 5, and to a greater extent **Alternative 4,** would result in a lower likelihood of encountering other users along the trails open to motorized use. With the prohibition of cross-country use by all Action Alternatives within the IRAs, there is more opportunity for solitude and to experience less evidence of other human use.

Effects on Suitability for Future Designation as Wilderness
Formally identified IRAs were inventoried to determine suitability for Wilderness designation when they were first established and later adopted into the LRMPs. At that time, the Forest Plans noted that roads, timber harvest, or other development in these areas could adversely affect their eligibility for Wilderness consideration. In addition, the 2001 Roadless Rule generally prohibits road construction, timber cutting, sale or removal in IRAs (36 CFR 294).

Under the Action Alternatives, there are no proposals to construct roads, harvest timber, or create other developments, thus their continued suitability for future inclusion in the National Wilderness Preservation System Wilderness remains unaffected.

Effects on Potential Wilderness and Other Undeveloped Areas
The Rogue River-Siskiyou National Forest may have areas outside of IRAs that meet the criteria for potential wilderness. These uninventoried roadless areas are analyzed at a project specific level to determine the effects to wilderness characteristics. Forest Service Handbook (FSH) 1909.12, chapter 70, sets forth the guidance on inventorying areas that may be considered as potential wilderness areas. When projects could have a likelihood to impact potential wilderness areas, the Forest Service will evaluate projects against the characteristics found in FSH 1909.12, chapter 72.1 (Capability).

In addition to potential wilderness, there may be acres of other undeveloped areas. These are areas that are not IRAs and do not meet the Forest Service's definition of potential wilderness. However, these areas may have special resource values due to their undeveloped character and are most commonly identified and evaluated within project-specific NEPA.

Under all Action Alternatives, no proposals are made that would create additional roads, harvest timber, or create other developments. Thus, the **Action Alternatives** would not adversely affect Wilderness characteristics (i.e., the naturalness, undeveloped character, opportunities for solitude, special features or values, or manageability) of potential wilderness areas or special resource values of other undeveloped areas. Therefore, this document does not inventory or analyze those areas within its area of analysis.

Summary
Alternative 1 would not change the current condition in relation to the roadless area characteristics discussed above. **Alternative 2** would have some ability to improve these effects because of the prohibition of cross-country travel. **Alternatives 3, 4, and 5** would help to improve some of these effects by reducing the miles of motorized trails in roadless areas, and prohibiting cross-country travel. The following table summarizes the change of motorized use within IRAs.

Table III- 2. Summary of Motorized Use in IRAs by Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of cross-country travel	30,170	0	0	0	0
Miles of open roads	48	48	34	0	34
Miles of motorized trails	94	94	72	0	64

d. Cumulative Effects

The geographic scope of the cumulative effects analysis was limited to the IRAs within the RRSNF since the effects on reference landscapes, solitude, etc., are measured only within individual IRAs. Refer to the assumptions for cumulative effects at the beginning of this Chapter. Larger-scale cumulative effects assessments concerning the appropriate spacing, kind, and amount of areas providing these values were addressed in the LRMPs.

Effects of past road construction and development in roadless areas on the Rogue River-Siskiyou are minimal, and there is no new road or trail construction proposed in Inventoried Roadless Areas under any Action Alternative. Since this analysis includes only existing system trails and roads, with no additional construction or allowance for increased use, there would be no additive impact that might contribute to adverse cumulative effects on the character of IRAs.

Since Alternatives 3, 4, and 5 would reduce the amount of motorized use, the overall undeveloped nature of Inventoried Roadless Areas would improve. The expected increase in recreation use within the Forest and Inventoried Roadless Areas would likely have the cumulative effect of further reducing the availability of areas providing characteristics of solitude and remoteness.

E. ENVIRONMENT AND CONSEQUENCES ASSOCIATED WITH OTHER ISSUES

Other Issues (also presented in Chapter I) were used to formulate design elements and/or mitigation measures common to Action Alternatives (as effects are predicted to be minor and/or similar between Action Alternatives), providing nominal comparison of consequences to aid in later decision-making.

Other Issues as used in this environmental analysis are those that have been determined to be relevant, are used to disclose consequences, or whose disclosure of environmental effects are required by law or policy.

1. Soils - Site Productivity

Effects of motorized vehicle use on soils and site productivity

The geographic scope for the assessment of the soil resource conditions and potential effects is the entire Rogue River-Siskiyou National Forest. The Forest is divided into five districts: the analysis for the soil resource is organized, analyzed, and discussed for each of the districts. This analysis addresses changes in the type, extent, and location of designated areas open to cross-country motor vehicle use and/or limited motorized access, designated roads, and designated motorized trails by alternative. Temporary roads and trails and unauthorized roads and trails are not a part of this analysis.

FSEIS Appendix D (incorporated by reference) documents more detail on the soil types and characteristics that have been analyzed, organized by Ranger Districts and affected soils.

a. Background

Geology and soils information discussed in this section is summarized from the Soil Resource Inventory for the Siskiyou National Forest (Meyer and Amaranthus, 1979) and the Soil Resource Inventory for the Rogue River National Forest (Badura and Jahn, 1977), unless otherwise noted.

Klamath Mountains Geologic-Physiographic Province
The Klamath Mountains geologic-physiographic province encompasses the Powers, Gold Beach, Wild Rivers, and Siskiyou Mountains Ranger Districts.

The Klamath Mountains province is made up of rugged, mountainous terrain and narrow canyons generally with 2,000 to 5,000 feet of relief. The mountains along the coast are generally north-south trending; the province also includes the Siskiyou Mountain Range which is generally east-west trending and straddles the Oregon-California border.

The mountains within the Klamath province consist predominantly of pre-tertiary sediments and volcanics (about 65 million years old or more), that have been extensively folded, faulted, and intruded by serpentinized masses of ultra-basic and granitoid rocks along fault zones. The complex geologic history of this region also includes major periods of sea floor subduction at the continental border, volcanism, erosion, mass wasting, and uplift.

The geomorphic processes most common in the Klamath Mountains province are fluviation (degradation of the land surface by running water) and mass wasting. Fluviation is most evident on the long, steep, and rugged slopes that dominate the terrain. Mass wasting is naturally widespread and commonly occurs along geologic contacts, fault zones, in highly fractured parent material, and in areas of moisture accumulation and stream channel cutting of toe slopes. Past glaciation is evident in the highest elevations of the Siskiyou Range.

Due to the complex geology of the Klamath Mountains province, soils also vary widely across the landscape, and are dominantly of mixed mineralogy. In general, most soils are shallow, medium textured, and contain high percentages of rock fragments. Very deep soils also occur but are usually limited to ancient mass wasted land surfaces, glacial deposits or toe slope positions. Soils of particular interest are those derived from peridotite and serpentinite parent material because of their unique characteristics.
Serpentine soils have low amounts of calcium and high amounts of magnesium, relatively heavy concentrations of nickel, chromium, and other heavy metals, and low levels of nitrogen and poor nitrogen uptake. They support very unique ecosystems that have evolved to tolerate and thrive in these soil conditions.

Western Cascades Geologic-Physiographic Province
The Western Cascades geologic-physiographic province includes the western portion of the High Cascades Ranger District.

The mountains of the Western Cascades province are comprised of volcanic sediments and flows associated with the initial buildup of the Cascades during the Tertiary Period. Rock formations typically include beds of volcanic ash (tuff), massive flows of andesite lava, and layers of breccia and agglomerate. Relatively soft rock types are often overlain by more resistant material. Uplift and stream erosion has produced a topography of high relief. The geomorphic processes most common in the Western Cascades province are fluvation, mass wasting, and glaciation. Stream systems have carved generally steep-walled canyons with rocky escarpments near or at the top of many intervening ridges.

Soils for the most part are of mixed mineralogy. They generally have moderate depths, medium to fine texture, and contain a wide range of rock fragment percentages. Very deep soils occur in association with glacial and glaciofluvial deposits, colluvial toe slope and mid slope deposits and ancient mass wasted surfaces. Deep clayey soils possessing montmorillonitic minerals tend to develop in slump basins of old landslides originating from tuffaceous bedrock materials, and generally have restricted soil drainage.

High Cascades Geologic-Physiographic Province

The High Cascades geologic-physiographic province includes the eastern portion of the High Cascades Ranger District.

The High Cascades province is relatively young, related to volcanism during the Pliocene and Pleistocene Epochs that resulted in numerous flows of basalt and andesitic basalt, as well as deposits of cinder. The explosive collapse of Mount Mazama about 7,000 years ago left a thick blanket of pumice over much of the High Cascades Ranger District. This province has the character of a broad, upland plateau, with steep relief occurring in the form of prominent volcanoes or glacially-carved canyons. The geomorphic processes most common in the High Cascades province are fluviation, glaciation, and mass wasting, with glaciation being the most dominating process.

Soils are generally of mixed mineralogy, with average soil depths much greater than might be expected in the other provinces on the Forest and with textures generally medium to coarse. Many soils are relatively free of rock, while soils forming in glacially derived materials can contain large amounts of rock fragments. Ashy and cindery soils also occur in association with ash flow deposits on the flanks of former Mount Mazama, and in association with eolian (wind-carried) deposits of ash originating from the volcano's eruption. Soil types and arrangements within this province are by far the least complex on the Forest.

Naturally Occurring Asbestos-Influenced Geology and Soils

Asbestos is a term used for several types of fibrous minerals that occur naturally in the environment. Naturally occurring asbestos (NOA) is commonly found in serpentinite and other ultramafic rock formations, as well as the soils where these rock types are located. Not all of these rock formations, however, contain NOA; they only have the potential to contain asbestos, and require environmental testing to determine presence.

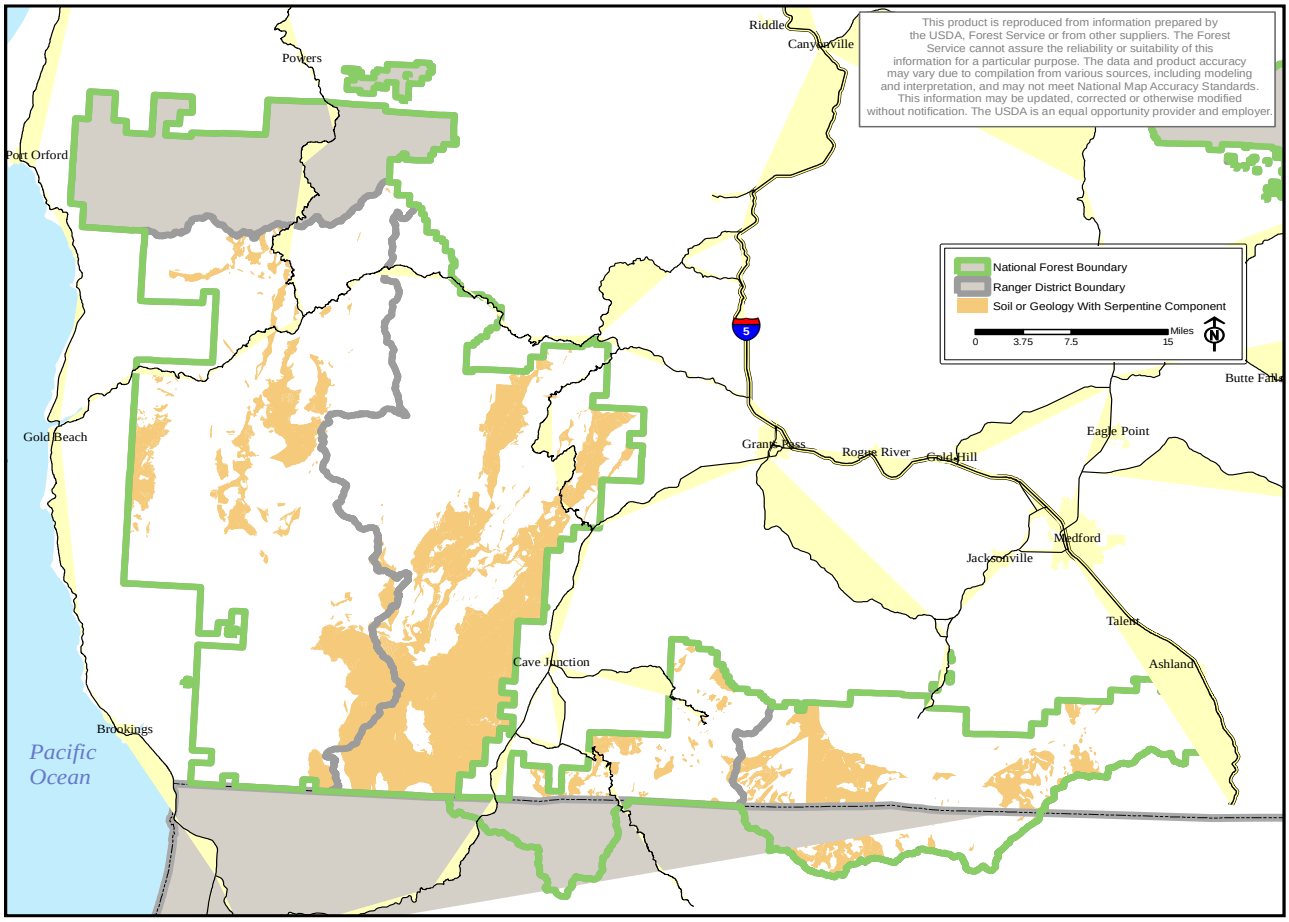
Asbestos minerals fall into two general categories – chrysotile (also known as serpentine asbestos) and amphibole. Chrysotile and two amphibole minerals, tremolite and anthophyllite, have been found in Oregon, and are associated with serpentine (Bright and Ramp, 1965; Van Gosen, 2010). The Klamath Mountains Province of the Rogue River-Siskiyou National Forest contains intrusions of serpentine along faults and geologic contacts, as well as peridotite that has been exposed through tectonic uplift and altered to serpentine minerals.

A major block of serpentine and ultramafic bedrock and associated soils extends roughly from Eight Dollar Mountain on the Wild Rivers District, south through Rough and Ready Creek to the California border, west to the north fork of the Smith River, and north extending into the Kalmiopsis Wilderness on the Gold Beach and Wild Rivers Districts.

Bands also extend north into the Limpy Creek, Shan Creek, and Chrome Ridge areas. A large block of serpentine and ultramafic bedrock and associated soils is also found on the west side of the Klamath Mountains in the Iron Mountain area of the Powers and Gold Beach Ranger Districts, extending south in a band on the Gold Beach Ranger District.

There are smaller areas of serpentine and ultramafics scattered throughout the Powers, Gold Beach, Wild Rivers, and Siskiyou Mountains Ranger Districts.

Map III-3. Serpentine/Ultramafic Geology and Soil Areas - RRSNF



Known asbestos deposits in Oregon are small, and Southern Oregon area mines have not been extensive (Bright and Ramp 1965; Van Gosen 2010). Information as to the levels of asbestiform minerals in serpentine soils on the forest is very limited. A laboratory study of two soil pedons associated with serpentine parent material, Snowcamp and Serpantano, was conducted in 1994 by the USDA Soil Conservation Service.

Results for the Snowcamp pedon were negative for the presence of asbestiform minerals. The Serpentano pedon was determined to have less than one percent asbestiform minerals in the 2C2 and 2CR horizons (Burt 1994).

See Map III-2 for approximate locations of serpentine and ultramafic bedrock and soils. Locations of serpentine and ultramafic geologies were determined using the USDA Forest Service Region 5 corporate bedrock GIS layer, and the Oregon Geologic Data Compilation (OGDC) – Release 5, from the Oregon Department of Geology and Mineral Industries (Oregon DOGAMI 2009). Locations of serpentine and ultramafic influenced soils were determined using the NRCS Soil Surveys for Coos County (USDA 1989), Curry County (USDA 2005), and Josephine County (USDA 1983), and the Rogue River National Forest Soil Resource Inventory (Badura and Jahn 1977). Refer to FSEIS Appendix D for a list of the geologic types and soils queried to build this map.

For a discussion on the potential for human effects from asbestiform, or fibrous asbestos from dust and disturbance to serpentine soils, see Other Issue #4 (Air Quality), this chapter.

b. Effect Mechanisms and Analysis Framework

See the assumption section at the beginning of Chapter III (section B, 1) for a general list of assumptions. The following list of assumptions is specific to soil productivity and naturally occurring asbestos geology and soils.

- The decision to allow or prohibit the use of public wheeled motor vehicle on routes would have no direct effects on soils. However, a route designation decision does have the potential to affect soils indirectly to the extent that it affects the concentration of use on roads and trails, the levels of maintenance needed, and the potential for damaged areas to recover. The magnitude of the indirect effects on soils will depend on (1) how effectively law enforcement can confine traffic to designated routes; (2) how effectively law enforcement can keep traffic off routes that are not designated; and (3) how well routes closed to public wheeled motor vehicle use recover on their own, without restoration treatments.

- To the extent that wheeled motor vehicle traffic is the primary cause of erosion, prohibiting public wheeled motor vehicle use of existing routes will result in less erosion. In most situations, however, erosion is the result of a combination of factors that include poor route design or location, lack of drainage, and inadequate maintenance.

- The routes being evaluated, as described in the description of Alternative 1 in Chapter II, already exist. They are compacted and generally lack vegetation, and some are eroded. From the standpoint of soil productivity, these routes are already non-productive. Therefore, the potential effects on soils are only related to sustaining route function, protecting adjacent soils from runoff and gully erosion, or restoring the routes to a productive state.

- According with its Maintenance Level, roads and trails are constructed and maintained to standard, including the maintenance of drainage structures, to minimize soil erosion due to the existence of the travel bed and based on its level of use. When roads or trails are closed, they are put into a maintenance storage condition utilizing standard practices that effectively minimize erosion.

- While aggregate can be an effective mitigation if applied and maintained appropriately for the purpose of reducing potential exposure to NOA in the underlying roadbed, it is assumed that aggregate surfaced roads on the forest are currently not an effective mitigation since a source rock is not known, and current condition of aggregate is not known, for this analysis.

Soil Productivity

Soil productivity on the Rogue River-Siskiyou National Forest has been directly impacted by the type, extent, and location of designated roads, motorized trails, and cross-country motor vehicle use. These impacts have affected the existing condition of all districts to varying degrees.

Soil productivity includes the inherent capacity of a soil under management to support the growth of specified plants, plant communities, or a sequence of plant communities. The following text describes loss or degradation of soil productivity in two aspects:

- **Total Soil Resource Commitment (TSRC)** is defined as the conversion of a productive site to an essentially non-productive site for a period of more than 50 years. In this analysis, quantifiable TSRC is associated with roads and trails. These areas are dedicated to a specific management use that precludes other uses of the land and removes the majority of the productive capability of the land. These TSRC types of disturbances also affect water quality because they often create the greatest amount of accelerated soil erosion and thus sedimentation.

- **Detrimental Soil Disturbance (DD)** is the alteration of natural soil characteristics that results in immediate or prolonged loss of soil productivity and soil-hydrologic conditions. DD can result from off-road motorized activities and can produce unacceptable levels of soil degradation by compacting, moving, eroding, or pudding the soil. Motorized vehicles can damage soils directly from impact from surface traffic and indirectly by hydrologic modifications, soil transport, and deposition.

Motorized vehicle use off-roads and trails can degrade soil productivity. Direct mechanical impacts have several components: abrasion, compaction, shearing, and displacement.

Compaction reduces soil voids and causes surface subsidence. Shearing is the destructive transfer of force through the soil. Displacement results in the mechanical movement of soil particles. Indirect impacts include hydraulic modification, such as the disruption of surface water flow, reduction in infiltration and percolation, surface ponding, and the loss of water-holding capacity.

Disturbances from roads and motorized trails can increase erosion and sediment delivery. Existing roads and trails are a primary source of long-term management-related sediment. The type, extent, and location of a designated motorized system of roads, trails, and areas contribute to the amount of accelerated erosion, and can vary widely across the landscape (Gucinski et al., 2001).

Accelerated erosion and sediment delivery have been identified as a source of water quality pollution in many Rogue River-Siskiyou National Forest watersheds. Reduced soil productivity, manifested through a decline in tree growth, adjacent to roads and trails can also be expected due to changes in soil physical properties along the cut and fill slopes, as well as on road prisms that have been closed but not decommissioned (Gucinski et al., 2001).

The following text provides a summary of how and why each Soil Indicator is used to evaluate effects on the soil resource.

Soil Indicator 1: Acres of the forest designated open to cross-country motor vehicle use
The area designated open to cross-country motor vehicle use is used as a general measure of potential effects to soil productivity. Motorized cross-country travel can pioneer new trails across alpine areas, wetlands, steep slopes, and other areas with sensitive soils, such as serpentine. Degraded areas become a major environmental problem because of their direct effects on vegetation, soils, and site hydrology.

Soil Indicator 2: Miles of road surface
Roads represent a long-term commitment of the soil to a non-productive condition. This is a total resource commitment of the soil resource.

Soil Indicator 3: Miles of designated motorized trails
OHV trails can have similar effects to soil productivity as roads but the effects differ based on the width of the travel way. As with two-wheel motorized trails, OHV trails create additional problems due to steep grades, lack of designed stream crossings, and difficulty of maintaining water management features.

Table III- 3. Existing Condition of Soil Indicators – Rogue River-Siskiyou NF

Forest-Wide Soil Indicators	Existing Condition
Acres of forest designated open to cross-country motor vehicle use	275,000 acres
Miles of road surface	5,270 miles
Miles of roads open to the public	4,496 miles
Miles of motorized trails	236 miles

Table III-3 shows the current condition of soil productivity across the forest as related to the forest-wide soil indicators discussed above. This shows the amount of Total Soil Resource Commitment (TSRC) across the forest related to roads and trails, and is an indicator of the Detrimental Disturbance (DD) associated with roads, trails, and cross-country motor vehicle use.

c. Direct and Indirect Effects of Alternatives

Under the **No Action Alternative**, the current motorized route system would remain on the landscape and vehicle use designations would not change. Therefore, current effects to the soil resource, including TSRC and current levels of DD would persist. These effects are described in general terms in the current condition discussion.

Alternative 2
Alternative 2 would implement the Travel Management Rule with no change to the NFS of roads and trails, but would eliminate cross-country travel across the forest. Therefore, effects to the soil resource with implementation of this alternative, in regard to miles of road surface and miles of motorized trails, would be the same as for Alternative 1.

Eliminating cross-country travel across the forest would reduce the amount of disturbance to soils across the forest from pioneered routes, and would be a beneficial effect in reducing the occurrence of DD, and reducing the potential for expanding TSRC, as pioneered cross-country routes would otherwise become established with loss to soil site productivity. Only approximately 15 acres would be open to cross-country use, in the existing Woodruff OHV use area on the High Cascades Ranger District.

Table III- 4. Alternative 2 – Forest-Wide Soil Indicators

Forest-Wide Soil Indicators	Alt. 2
Acres of forest designated open to cross-country motor vehicle use	15 acres
Miles of road surface	5,270 miles
Miles of roads open to the public	4,496 miles
Miles of motorized trails	236 miles

Alternative 2 would limit off road parking for dispersed camping and day use to generally 300 feet from the centerline of all open roads except where specifically prohibited. The FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any existing site near a stream course, wetland, or water body (see Chapter II, section F, 3, a). Typically the greatest effects to soils and site productivity (i.e., loss of vegetation and surface litter, compaction) occur at the initial stage of campsite development, with effects stabilizing over time with continued use, and generally recovering at a slower rate than the initial disturbance rate once no longer used (Marion and Cole, 1996).

Limiting off road access for dispersed motorized camping and day use has the potential to reduce or prevent localized DD from dispersed sites and associated access spurs that are beyond this distance, and would maintain localized DD in sites and on access spurs within this distance. In general the effects of this action across the forest on the soil resource would be negligible, since effects are highly localized. Sites within 300 feet of open roads are predominantly already established and would not experience much change to site productivity.

Alternative 3

Under Alternative 3, the Forest-wide miles of road surface would essentially remain the same as the current condition. While there are actions proposed to close roads to motorized use, the road beds would still be maintained (i.e., not recontoured/decommissioned and reclaimed for soil site productivity); therefore they would still have some effect of TSRC across the landscape.

This alternative would eliminate cross country travel across the Forest, except for 25 acres in two designated OHV areas on the High Cascades Ranger District. This action would reduce the amount of disturbance to soils across the forest from pioneered routes, and would be a beneficial effect in reducing the occurrence of DD, and reducing the potential for expanding TSRC, as pioneered cross-country routes would otherwise become established with loss to soil site productivity.

The miles of motorized trails would be reduced by 19 miles. Motorized trails typically do not receive the same level of maintenance as a road, therefore they often experience higher levels of channelized flows and erosion off their surfaces, as well as a higher chance of surface failure (such as the formation of puddling and deep muck holes) (Meyer 2002). This would result in a beneficial effect across the forest to DD related to these kinds of soil disturbances.

Table III- 5. Alternative 3 – Forest-Wide Soil Indicators

Forest-Wide Soil Indicators	Alt. 3
Acres of forest designated open to cross-country motor vehicle use	25 acres
Miles of road surface	5,270 miles
Miles of roads open to the public	4,482 miles
Miles of motorized trails	218 miles

Alternative 4

Alternative 4 proposes a reduction in motorized use over current conditions, by providing increased protection to sensitive areas from motorized travel. In general, the effects to the soil resource are similar to those in Alternative 3, but with the elimination of motorized trails within Inventoried Roadless Areas, Botanical Areas, and areas with serpentine soils, and there would be an overall increase in beneficial effects to the soil resource through reduction in Detrimental Disturbance.

Alternative 3 would limit off road parking for dispersed camping and day use to generally 300 feet from the centerline of all open roads except where specifically prohibited, on the Powers, Gold Beach, Siskiyou Mountains, and High Cascades Ranger Districts. No off-road motorized travel for dispersed camping would be allowed on the Wild Rivers Ranger District.

Effects would be similar to Alternative 2, except that there would be a greater reduction in roads open to this dispersed use. Therefore, more dispersed camping and day use sites, and associated access spurs, would have the opportunity to recover naturally from DD associated with those impacts.

Under this alternative, the miles of road surface would essentially remain the same as the current condition. While there are actions proposed to close roads to motorized use, the road beds would still be maintained (i.e., not recontoured/decommissioned and reclaimed for soil site productivity); therefore they would still have some effect of TSRC across the landscape.

The conversion of Maintenance Level 1 roads to motorized trails that is proposed in Alternative 3 would not occur with this alternative, which would result in maintaining the current condition of those Maintenance Level 1 roads. The Boundary Trail and all connectors would also prohibit motorized use, which would have no effect to the TSRC since it would still be committed as a trail, and could have minor beneficial effect to DD if litter and vegetation encroach and narrow the active tread, and with the likely reduced amount of traffic overall that would be disturbing the trail surface making it easily erodible.

Table III- 6. Alternative 4 – Forest-Wide Soil Indicators

Forest-Wide Soil Indicators	Alt. 4
Acres of forest designated open to cross-country motor vehicle use	15 acres
Miles of road surface	5,270 miles
Miles of roads open to the public	4,449 miles
Miles of motorized trails	130 miles

Alternative 5

Under Alternative 5, the miles of road surface would essentially remain the same as the current condition. While there are actions proposed to close roads to motorized use, the road beds would still be maintained (i.e., not recontoured/decommissioned and reclaimed for soil site productivity); therefore they would still have some effect of TSRC across the landscape.

This alternative would eliminate cross country travel across the forest, except for 15 acres in one currently existing designated OHV area (Woodruff) on the High Cascades Ranger District. This action would reduce the amount of disturbance to soils across the forest from pioneered routes, and would be a beneficial effect in reducing the occurrence of DD, and reducing the potential for expanding TSRC, as pioneered cross-country routes would otherwise become established with loss to soil site productivity.

Alternative 5 would limit off road travel for dispersed camping and day use to generally 300 feet from the centerline of all open roads except where specifically prohibited. Effects would be similar to Alternative 2 and 3, except that there would be a greater reduction in roads open to this dispersed use. Therefore, more dispersed camping and day use sites, and associated access spurs, would have the opportunity to recover naturally from DD associated with those impacts.

Table III- 7. Alternative 5 – Forest-Wide Soil Indicators

Forest-Wide Soil Indicators	Alt. 5
Acres of forest designated open to cross-country motor vehicle use	15 acres
Miles of road surface	5,270 miles
Miles of roads open to the public	4,481 miles
Miles of motorized trails	207 miles

This alternative is composed of a combination of actions from the other alternatives. The site specific effects of each Element in Alternative 5 are described in the District specific discussion.

District Specific Actions

The following discussion presents effects by specific Ranger Districts, with a focus on the action elements as associated with the Alternative 3 (Proposed Action), Alternative 4, and Alternative 5.

Powers Ranger District

Designate approximately 6.2 miles of paved road for mixed use on a portion of Road 3348 (Eden Valley Road).

Under **Alternatives 3, 4, and 5**, this action would result in no change to the TSRC or in DD. The proposed activity would merely redefine the type of vehicle that is permitted to drive on Forest Road 3348.

Prohibit motorized use on the 1-mile Big Tree Trail (1150) south of Powers

Under **Alternatives 4 and 5**, this action would result in no change to the TSRC since the trail would still exist as a commitment to the soil resource. There would be no change, to a potential reduction in DD with the exclusion of motorized use disturbance. Exclusion of motorized use may allow surface litter and vegetation to encroach and narrow the active trail tread, which has the potential to reduce soil displacement.

Gold Beach Ranger District

Convert approximately 8 miles of roads (portions of roads 3313103, 3313110, 3313117, 3680190, 3680195, 3680220, , 3680409,) currently designated as Maintenance Level 1 to motorized trails.

Under **Alternatives 3**, this action would result in no change to the TSRC since the road beds would still be committed to travel routes. There would be an increase in DD since the travel bed would be going from a closed state, where organic litter and vegetation have the opportunity to collect and grow on the road surface, to an actively used state that would result in regular disturbance of the travel-bed surface from wheel action that is easily susceptible to soil displacement. Some of these routes travel over areas with serpentine soils.

Construct approximately 0.5 miles of new motorized trail that would connect to the Woodruff Trail.

Under Alternative 3, this action would result in an increase in TSRC, and an increase in DD, since soils would be newly committed to use as a motorized trail and experience the associated impacts. Approximately 95% of the proposed route is over soils with slight to moderate erosion rating, and roughly 5% have a severe erosion rating. The susceptibility of the soils to erosion processes can affect the layout and design of new routes in order to minimize erosion issues, as well as provide a travel surface that is easier to maintain over time. During design and layout this section would be reviewed by a Soil Scientist (see Mitigation Measures, Chapter II).

Designate approximately 0.2 miles of paved road for motorized mixed use on a portion of Road 3313.

Under **Alternatives 3, 4, and 5**, this action would result in no change to the TSRC or in DD. The proposed activity would merely redefine the type of vehicle that is permitted to drive on a portion of Forest Road 3313.

Prohibit motorized use on approximately 10 miles in the lower portions of the Lawson (#1173) and Game Lake (#1169) trails that currently allow motorized use.

Under **Alternatives 3, 4, and 5** this action would result in no change to the TSRC since the trail would still exist as a commitment to the soil resource. There would be no change, to a potential reduction in DD with the exclusion of motorized use disturbance. Exclusion of motorized use may allow surface litter and vegetation to encroach and narrow the active trail tread, which has the potential to reduce soil displacement.

Prohibit mixed use on approximately 12 miles of road where it is currently authorized on portions of Roads 1376010, 1376012, 1376013, 1376015, 1376019, 1376902, 1376903, and 1376908.

Under **Alternatives 3, 4, and 5** this action would result in no change to the TSRC or in DD. The current road network would be maintained in its existing condition, with street legal motorized use continuing.

Wild Rivers Ranger District

Convert approximately 3 miles of roads currently designated as Management Level 1 to motorized trails (portion of road 4402494; portion of road 2509640).

Under **Alternative 3 and 5**, (only the portion of the 2509640 Road proposed in Alternative 5) this proposed activity would have no effect to the TSRC since the road beds would still be committed to a travel route. There would be an increase in DD since the travel bed would be going from a closed state, where organic litter and vegetation have the opportunity to collect and grow on the road surface, to an actively used state that would result in regular disturbance of the travel-bed surface from wheel action

that is easily susceptible to soil displacement. The Maintenance Level 1 roads being considered with this action are located along ridgelines in soils developed from serpentinized parent materials.

Prohibit motorized use on approximately 11 miles of trail that currently allows motorized use.

Under **Alternatives 3, 4, and 5**, this action would result in no change to the TSRC since the trail would still exist as a commitment to the soil resource. There would be no change, to a potential reduction in DD with the exclusion of motorized use disturbance.
Exclusion of motorized use may allow surface litter and vegetation to encroach and narrow the active trail tread, which has the potential to reduce soil displacement.

Prohibit public motorized use on approximately 6 miles of road.

Under **Alternative 3, 4, and 5**, this action would result in no change to the TSRC since the road would still exist as a commitment to the soil resource. There would be no change, to a potential reduction in DD with the exclusion of motorized use disturbance. Exclusion of motorized use may allow surface litter and vegetation to encroach, which has the potential to reduce soil displacement.

Prohibit motorized mixed use on approximately 11 miles of road.

Under **Alternatives 3, 4, and 5**, this action would result in no change to the TSRC or in DD, since the current road network would be maintained in its existing condition, with street legal motorized use continuing.

Amend Siskiyou National Forest LRMP to make motorized use of the Boundary Trail and other trails consistent with Standards and Guidelines.

Under **Alternatives 3 and 5**, this action would result in no change to the TSRC or in DD over current condition, as this Forest Plan Amendment would merely make the Forest Plan consistent with the current use.

Siskiyou Mountains Ranger District

Construct and relocate approximately 1 mile of the Penn Sled Trail (#957) east of Applegate Lake that would allow motorized use for Class III vehicles.

Under **Alternatives 3 and 5**, this action would result in an increase in TSRC, and an increase in DD, since soils would be newly committed to use as a motorized trail and experience the associated impacts. Soil land-types 68 and 69 are generally moderately to well suited for trail development; land-type 61 is considered poorly suited due to shallow soils, steep slopes, and high rock outcrop percent. Land-type 69 limitations for trails include high soil creep rates and some wet areas. The entire length is estimated to be within a Severe soil erosion rating.

The susceptibility of the soils to erosion processes can affect the layout and design of new routes in order to minimize erosion issues, as well as provide a travel surface that is easier to maintain over time. During design and layout this section would be reviewed by a soil scientist (see Mitigation Measures, Chapter II, section K, 8).

Prohibit motorized use on approximately 4 miles of the Horse Camp Trail (#958) that currently allows motorized use.

Under **Alternatives 3, 4, and 5**, this action would result in no change to the TSRC since the trail would still exist as a commitment to the soil resource. There would be no change, to a potential reduction in DD with the exclusion of motorized use disturbance. Exclusion of motorized use may allow surface litter and vegetation to encroach and narrow the active trail tread, which has the potential to reduce soil displacement.

Amend Rogue River National Forest LRMP to make motorized use of the Boundary Trail and some connecting trails consistent with Standards and Guidelines.

Under **Alternatives 3 and 5**, this action would result in no change to the TSRC or in DD over current condition, as this Forest Plan Amendment would merely make the Forest Plan consistent with the current use.

High Cascades Ranger District

Develop a motorized use play area (approximately 10 acres) near the junction of Forest Road 3050 and County Road 821.

Under **Alternative 3**, the location of the proposed activity is flat terrain within an existing borrow pit (already heavily disturbed). The action would result in a continuation of the TSRC, and a potential increase in DD due to increased vehicular activities in the pit. Soils are sandy loams forming in cindery glaciofluvial deposits that are excessively drained. Due to the flat terrain, coarse soil texture, and high permeability, effects to soils are expected to be very localized, and mostly contained within the pit.

Designate approximately 31.5 miles of paved road for mixed use, and within developed campgrounds adjacent to routes that allow mixed use (approximately 7 miles).

Under **Alternative 3,** this action would result in no change to the TSRC or in DD. The proposed activity would merely redefine the type of vehicle that is permitted to drive on portions of Forest Roads 34, 37, 3705, and 3720, and in the Union Creek, Farewell Bend, Natural Bridge, Woodruff Bridge, Abbott Creek, and Whiskey Springs Campgrounds.

Table III- 8. Summary of the Forest-Wide Soil Indicators by Alternative

Forest-Wide Soil Indicators	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of forest designated open to cross-country motor vehicle use	275,000 acres	15 acres	25 acres	15 acres	15 acres
Miles of road surface	5,270 miles	5,270 miles	5,270 miles	5,270 miles	5,270 miles
Miles of road open to the public	4,496 miles	4,496 miles	4,482 miles	4,449 miles	4,481 miles
Miles of motorized trails	236 miles	236 miles	229 miles	132 miles	221 miles

d. Cumulative Effects

The geographic scope of the cumulative effects analysis selected is the entire RRSNF, since the routes allowing public wheeled motor vehicle use occur within this area and the effects are likely to occur within this area. Other actions and activities that have the potential to have cumulative effects to the soil

resource include fuel treatments and fire, range management, minerals management, recreation, timber harvest and vegetation treatments, road and right-of-way management, special uses and state and county easements.

Fuels reduction projects and prescribed fire are on-going across the Forest. Project designs to protect the soil resource greatly minimize or avoid direct effects, and they are typically short-term. Detrimental effects to the soil resource from motorized use activities would remain at current levels with Alternatives 1 and 2, and potentially decrease with Alternatives 3, 4, and 5 through elimination of cross-country travel and establishment of designated routes. Therefore there are no foreseeable adverse cumulative effects.

Livestock grazing is a use that is managed under proper use guidelines. The actions proposed in this project would not alter the grazing pattern or management of the livestock, and would therefore not include adverse cumulative effects.

Mining activities typically cause disturbance to the soil resource through the removal and/or displacement of vegetation and soil, and long-term commitments for access. Detrimental cumulative effects to the soil resource from future minerals development have the potential to increase at the Forest-level in all alternatives. However at this scale, these effects would be immeasurable. Alternative 4 would offset any effects through the beneficial consequences of eliminating motorized trails through Botanical Areas and areas with serpentine soils, in addition to elimination of cross-country travel in Alternatives 3, 4, and 5.

The greatest motorized vehicle recreation effects to soil productivity are typically tied to activities involving roads, trails, campgrounds, and dispersed sites. These are areas that result in varying levels of total soil resource commitment to those activities. Varying levels of detrimental soil disturbance can also occur from motorized recreation activities off-roads and trails. Detrimental effects to the soil resource from motorized use activities would remain at current levels with Alternatives 1 and 2, and potentially decrease with Alternatives 3, 4, and 5 through elimination of cross-country travel and establishment of designated routes. Therefore there are no foreseeable adverse cumulative effects.

Additional effects would be offset by the elimination of motorized trails through Botanical Areas and areas with serpentine soils in Alternative 4. Adverse cumulative effects would also potentially be offset by eliminating off-road parking for dispersed camping beyond 300 feet from designated roads in Alternatives 2, 3, 4, and 5.

2. Aquatic Conservation Strategy

Effects of motorized vehicle use on the Aquatic Conservation Strategy Objectives associated with the Northwest Forest Plan

The Aquatic Conservation Strategy (ACS) was designed to facilitate the management and restoration of aquatic ecosystems within lands covered by the Northwest Forest Plan (1994). Specifically, the strategy is intended to protect anadromous fish habitat on federal lands within the range of Pacific Ocean anadromy. It is assumed that implementation of the ACS provides protection for all aquatic species present on the Rogue River-Siskiyou National Forest.

According to the Northwest Forest Plan Standards and Guidelines, the ACS was developed to improve and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The four primary components of the ACS are designed to operate together to maintain and restore the productivity and resiliency of riparian and aquatic ecosystems; they include: 1) Riparian Reserves; 2) Key Watersheds; 3) Watershed Analysis; and 4) Watershed Restoration.

Riparian Reserves are established as a component of the Aquatic Conservation Strategy, designed primarily to restore and maintain the health of aquatic systems and their dependent species. Riparian Reserves also help to maintain riparian structures and functions and conserve habitat for organisms dependent on the transition zone between riparian and upland areas.

a. Background

Riparian Reserves include lands along all streams, lakes, ponds, wetlands, unstable areas, and potentially unstable areas that are subject to special Standards and Guidelines designed to conserve aquatic and riparian-dependent species. Standards and Guidelines apply to activities in Riparian Reserves that may otherwise retard or prevent attainment of Aquatic Conservation Strategy (ACS) objectives, as defined in the 1994 ROD.

Widths for Riparian Reserves necessary to ensure ACS objectives for different waterbodies are established based on ecological and geomorphic factors. Widths are typically one site potential tree height (150 feet for the Rogue River portion of the Forest (see RRNF White Paper #36), and 175 feet for the Siskiyou portion of the Forest (unless site-specially determined at the project scale), along each side of stream channels. Widths are twice this distance along fish bearing streams. These widths are designed to provide a high level of protection to fish and riparian habitats.

Key Watershed designation is an additional component of the ACS that is applied to watersheds that contain at-risk fish species or anadromous stocks and that provide high quality water and fish habitat.

b. Applicability of Riparian Reserve Standards and Guidelines

The analysis of the existing conditions of the affected sub-watersheds relative to Riparian Reserve Standards and Guidelines is presented below for all alternatives considered in detail (1994 NWFP ROD, pages C-31 through C-39). The Recreation Standards and Guidelines were reviewed as being applicable relative to the types of actions being proposed under this project.

Recreation Management

> **RM-1.** New recreational facilities within Riparian Reserves, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves, evaluate and mitigate impact to ensure that these do not prevent, and to the extent practicable contribute to, attainment of Aquatic Conservation Strategy objectives.

Table III- 9. Evaluation of Applicable NWFP Riparian Reserve Standards and Guidelines

Standard and Guideline	No Action Alternative and Alternative 2	Alternatives 3, 4, and 5
RM-1	No new trails would be constructed within Riparian Reserves	No new trails would be constructed within Riparian Reserves
RM-2	No opportunity to adjust practices would be taken at this time	Opportunities to correct problem areas within Riparian Reserves are captured by reducing motorized use in some areas
RM-3	Not Applicable	Not Applicable

RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective, eliminate the practice or occupancy.

RM-3. Wild and Scenic Rivers and Wilderness management plans will address attainment of Aquatic Conservation Strategy objectives.

c. Consistency with Aquatic Conservation Strategy for Action Alternatives

The Northwest Forest Plan requires project consistency with ACS with specific reference to nine ACS Objectives. Below, is a summation of the environmental analysis regarding consistency with the elements and components of the ACS Objectives (ACSOs). Additional discussion and rationale may be found in analysis documented under other issues in this Chapter including soils, hydrology, water quality, invasive pathogens, fisheries, and terrestrial wildlife.

Objective 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.

Hydrologic analysis of vehicle travel route changes in each of the 6th field watersheds affected shows that none of the Action Alternatives would result in measurable change over the existing condition at the watershed scale. Since effects lessen as drainage size increases, it is reasonable to conclude that effects at the landscape-scale are also undetectable. In addition, alternatives largely occur in headwater areas upstream of high value fish habitat. Thus, no measurable effects to fish populations or habitat are expected. Regardless of which alternative is selected, future land management actions would be designed to emphasize the protection or enhancement of aquatic systems in accord with ACS objectives.

Objective 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.

Proposed changes to motor vehicle travel under the Action Alternatives would have no detectable effect on spatial and temporal connectivity due to their small size compared to the subwatershed and larger scale and due to their location along small or ephemeral streams and ridgelines. Vehicle routes on gravel or native road surfaces generally do not alter connectivity. Extensive roading within a watershed may alter temporal connectivity by increasing peak flows however; hydrologic analysis for this project shows that the proposed changes are too small to have an effect that is detectable over the existing

condition. From a fisheries perspective, no new passage barriers would be created, and all current passage barriers would remain following implementation of any alternative.

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

The existing condition alternative contains some roads within Riparian Reserves that are or have the potential to contribute sediment to streams and generate localized erosion. Action Alternatives provide for better administration to prevent future problems that are likely to develop as human population increases in southwestern Oregon. Alternatives 3, 4, and 5 address some known local resource problems. Mitigation Measures under all Action Alternatives provide for monitoring that would identify and repair road-related damage to aquatic resources. Since none of the alternatives identify road use or construction where vehicle use is not currently occurring, the Action Alternatives represent an adaptive approach to improving existing conditions including those affecting aquatic resources.

Objective 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.

In general, all alternatives would maintain current water quality conditions on the forest, as most alternative components merely change the use (i.e., type of vehicle) designation on an existing route or routes.

Accordingly, attributable and measurable changes to water quality conditions are not expected with the implementation of any alternative. Elimination of motorized travel on Trails #1169 and #1173 may help to attenuate sediment input at low water stream crossings on Lawson Creek and the Illinois River, however, even in this case, the action would undetectably contribute to water quality improvement and the receiving waters would remain impaired for temperature. Improvement of the Forest's unpaved road system falls into the realm of "Best Management Practices"; a recognized set of management actions that collectively benefit aquatic resources if consistently applied over a large area. Action Alternatives and mitigating measures are consistent with Best Management Practices.

Objective 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.

Implementation of any alternative would not appreciably alter the sediment regime within any watershed or overall at the subwatershed scale. Watersheds within the boundaries of-the Rogue River-Siskiyou National Forest-tend to be heavily roaded. This characteristic is largely attributed to historical level of timber harvest that occurred on the Forest. As discussed under Objectives 1 and 4, Action Alternative proposals alone affect too small a portion of the road system to have a detectable effect on sediment at the watershed scale.

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

None of the alternatives would alter in-stream flows on the Forest. All alternatives are largely composed of alterations to use designations on existing travel routes. As such, no measurable changes to runoff patterns or stream flows are expected.

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

See response to Objective 6. Some of the affected roads contain numerous stream crossings, occur in the vicinities of unstable areas, or are within Riparian Reserves. The existing condition of some roads may be causing localized damage in Riparian Reserves that would not be detectable at a subwatershed level. Monitoring of these areas as proposed under mitigating measures would allow road related damage to be documented and repaired.

Objective 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.

While the POC Risk Key provides vegetation treatments as a recommended strategy to prevent the spread of *Phytophthora lateralis,* roadside sanitation is not a component of any alternative being analyzed as part of this project. Thus, no alteration of riparian vegetation would occur regardless of which alternative is implemented.

Under the guidance of the POC ROD, the Forest Service would also be proactive in making extra efforts to prevent infestation of currently uninfected watersheds (USDA-FS USDI-BLM 2004). The analysis in the FSEIS, Management of Port-Orford-cedar in Southwest Oregon indicates all significant ecological functions for POC, including those relating to aquatic health, will be retained under the POC ROD. In short, the POC ROD provides managers with a suite of PL control measures that will provide for the continued ecological function of POC, and for meeting the goals of the ACS. (USDA, USDI 2004)

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

Implementation of any alternative would result in negligible effects to aquatic biota and habitat across the forest. In general, the actions included within the alternatives are related to changes in use designation on various routes across the Forest. Adverse impacts to aquatic biota and habitats related to the existing road system would continue to occur regardless of the alternative selected. These impacts include sedimentation, alteration of runoff, fragmentation of aquatic habitats, and increased risk of chemical pollution (Gucinski et al. 2001, Trombulak and Frissell, 2000).

As an overall conclusion, the effects associated with all alternatives, either directly, indirectly, or cumulatively are not likely to retard or prevent attainment of neither the Aquatic Conservation Strategy nor the nine ACS objectives, at the site, watershed, or landscape scales.

3. Air Quality - Vehicle Emissions

Effects of motorized vehicle use on air quality and human health

Designation of roads, trails, and areas could affect air quality on the Rogue River-Siskiyou National Forest. Possible contributing sources that could affect human health include motorized vehicle emissions or toxic air contaminants from emissions.

a. Background

Air quality is a concern for southwestern Oregon valleys where surrounding coastal, Cascade, and Siskiyou mountain ranges tend to hold in particulates produced by industrial plants, woodstoves, motor vehicles, outdoor debris burning, wildfire, windblown dust, and other sources. In particular, the air quality in the Rogue Valley has suffered largely because of winter temperature inversions trapping particulate matter and other pollutants (Jackson County 2008).

Meteorological Factors
Topography and weather patterns determine the extent that airborne particulate matter accumulates within a given area. Weather patterns strongly influence air quality through pollutant dispersion.

The primary weather conditions that affect dispersion are atmospheric stability, mixing height, and transport wind speed. Atmospheric stability refers to the tendency for air to mix vertically through the atmosphere and mixing height is the vertical distance through which air is able to mix.

The transport wind speed is a measure of the ability to carry emissions away from a source horizontally. These factors determine the ability of the atmosphere to disperse and dilute the released emissions (USDA 2008). On the RRSNF, the predominant wind direction is from a western inland flow (USDA 2008).

While air quality is an important consideration for actions occurring in southern Oregon, the issue has not proven to be a major concern along high elevation topographic features above 5,000 feet. Much of the Cascades and high elevation peaks are located above most inversion layers that form in southern Oregon and northernmost California. As an exposed feature located at high elevation where winds can be strong, air emissions are readily dispersed. Furthermore, the majority of emissions associated with these high elevation areas are unlikely to contribute to inversion related air quality in the southern Oregon (USDA 2004).

Air Quality Standards
National Ambient Air Quality Standards (NAAQS) were established by the Clean Air Act (CAA) of 1963 and subsequent amendments (42 USCA 7401 to 7671(q)). The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The CAA and its implementing regulations also establish air pollution emission standards for a variety of stationary sources. The Environmental Protection Agency (EPA) retains oversight authority, but has delegated enforcement of the CAA to the states. In Oregon, the Department of Environmental Quality (ODEQ) acts as the lead agency.

The State, in turn, is required to develop and administer air pollution prevention and control programs. State standards must be either the same as, or more stringent than the CAA standards (USDA 2004).

Federal and State ambient air quality standards have been established for six common pollutants, also referred to as "criteria" pollutants.

b. Effects Mechanisms and Analysis Framework

Vehicle Emissions

The EPA has set standards for emissions of non-road engines and vehicles. The standards for emissions of oxides of nitrogen (NOx), hydrocarbons (HC), and carbon monoxide (CO), are to ensure compliance with the Clean Air Act, and to regulate those emissions that contribute significantly to the formulation of ozone and carbon monoxide. Compliance with these standards requires manufacturers to apply existing gasoline or diesel engine technologies to varying degrees, depending on the type of engine (EPA 2002).

Before emissions controls on automobiles became significantly more effective, there was little concern about emissions from small engines; today, however, their relative contribution to air-quality is significant. This is because small engines, especially 2-stroke models (many of which are being phased out), do not burn fuels completely; thus their emissions contain the resulting by-products of incomplete combustion, including NOx, sulfur dioxide (SO2), CO, O3, aldehydes, and extremely persistent polycyclic aromatic hydrocarbons (PAH) (USDI 2007). In fact, a very small, 2-stroke engine running for 2 hours emits the same amount of hydrocarbons as driving 10 cars for 250 miles (CEPA 2008).

While some pollutants, such as CO, are directly emitted, others are formed in the atmosphere from precursor emissions. Such is the case with ozone, which is formed in the atmosphere when Reactive Organic Gases (ROG) and NOx precursor emissions react in the presence of sunlight. Particle Matter (PM), which includes PM_{10} and $PM_{2.5}$, is a complex pollutant that can either be directly emitted or formed in the atmosphere from precursor emissions. PM precursors include NOx, ROG, SOx, and ammonia (NH3) (USDI 2007).

OHV emissions also contain a variety of heavy metals, including zinc, copper, nickel, chromium, and lead. Concentrations of lead particles along roads have been correlated with traffic volumes. Lead concentrations have been found to diminish notably within a few hundred feet of road edges. Although heavy metals from gasoline have declined due to control policies, they persist in soils and continue to move through the environment when contaminated soils are dislodged (USDI 2007).

Pollutants emitted from exhaust can also cause a variety of impacts on vegetation. Carbon dioxide may function as a fertilizer and cause changes to in plant species composition. Nitrogen oxides also may function as fertilizers, producing similar effects along roadsides. Sulfur dioxide, which can be taken up by vegetation, may result in altered photosynthetic processes. In some species, these same pollutants can also cause leaf injury, reduced growth, and death (USDI 2007).

Vehicle emissions on the Forest are most concentrated along secondary highways (County and State). The Forest does not have jurisdiction on vehicle use levels or emissions in any of these concentrated motorized areas. Motorized vehicle use under the Forest's jurisdiction is more localized to system roads and motorized trails, which generally have less concentrated use where wind dispersion is commonly sufficient to avoid air quality concerns.

Toxic Air Contaminants

The 1990 amendment to the Clean Air Act included a list of 189 pollutants identified as hazardous to human health. These pollutants are known, or have the potential, to cause cancer, mutations, be toxic to nervous tissue, or reproductive dysfunction. Toxic air contaminant is defined as an, "air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health". Toxic air contaminants are usually present in minute quantities in the ambient air; however, their high toxicity may pose a threat to public health even at very low concentrations. In general, for those toxic air contaminants that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and where State and federal governments have set ambient air quality standards (USDA 2008).

The Oregon Department of Environmental Quality (ODEQ) has substantially increased its knowledge about toxic air contaminants, and the data indicate that control efforts have been effective in reducing public exposures and associated health risks. In 2003, the ODEQ established the Oregon Air Toxics Program to systematically identify air toxics and set up methods to reduce risks to communities throughout the state (ODEQ Policy 2008).

In August of 2006, working with the Air Toxics Science Advisory Committee, ODEQ determined Ambient Benchmark Concentrations (ABCs) for 51 air toxics. The committee is helping the ODEQ draft guidance for using ABCs to evaluate air toxics problems, design emissions reductions efforts and measure progress. The proposed future gradual phase-in of control strategies will likely continue to result in lower exposures for Oregon's citizens (ODEQ Analysis 2008).

The majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds. The top 12 air toxics of concern in Oregon include: acetaldehyde, acrolein, arsenic compounds, benzene, 1,3-butadiene, chromium and compounds, diesel particulate matter (PM), formaldehyde, naphthalene, polycyclic organic matter (POM), 1, 1, 2, 2, tetrachloroethane, tetrachloroethylene (Perc). These 12 compounds pose the greatest known health risks based on air quality data, or concentration estimates.

c. Direct and Indirect Effects of Alternatives

Vehicle Emissions

Although all alternatives would result in vehicle emissions and the production of pollutants such as PM_{10} and $PM_{2.5}$, CO, NOx, VOCs, and heavy metals, the direct effects of the **No Action Alternative** would be negligible. Effects of this alternative would neither increase nor decrease current levels of vehicle emissions. **Alternative 2** would have the same effects as the No Action Alternative, except that there is a potential to reduce vehicle emissions by closing cross-country travel.

The direct effects of **Alternative 3 (Proposed Action)** would be insignificant. This alternative would only construct two new miles of motorized trails. This increase in trail miles would be so minute, in comparison to the existing miles of motorized roads, trails, and areas that there would be virtually no measurable increase in vehicle emissions. Furthermore, this alternative would remove 275,000 acres of cross-country motorized use, thus reducing the amount of vehicle emission produced as a whole, as well as compensating for the added emissions created by the proposed two new miles of trails.

The direct effects of **Alternative 4** would be insignificant. Alternative 4 would also remove 275,000 acres of cross-country motorized use, thus reducing vehicle emissions. Additionally, Alternative 4 would slightly further reduce vehicle emissions by prohibiting motor vehicle use in Inventoried Roadless Areas and, except on existing roads, in Botanical and serpentine areas.

The direct effects of **Alternative 5** would be insignificant. This alternative would only construct 1.5 miles of new motorized trails. This increase in trail miles would be so minute, in comparison to the existing miles of motorized roads, trails, and areas that there would be virtually no measurable increase in vehicle emissions. Furthermore, this alternative would remove 275,000 acres of cross-country motorized use, thus reducing the amount of vehicle emission produced as a whole, as well as compensating for the added emissions created by the proposed two new miles of trails.

There are two indirect effects of all the Action Alternatives, both would be unsubstantial. The first effect is that the alternatives could indirectly impact vegetation along roads and trails. The second effect is that the alternatives could contribute to the formation of ozone in the atmosphere.

Both of these indirect effects would have no measurable difference between the No Action Alternative and Alternative 2. The Proposed Action and Alternative 5 would possess slightly less indirect effects, while Alternative 4 would hold the lowest associated indirect effects from vehicle emissions.

Contaminants

Although all alternatives would result in vehicle emissions of toxic air contaminants, the direct effects of the **No Action Alternative and Alternative 2** would be negligible. Effects of these two alternatives would neither increase nor decrease current levels of toxic air contaminants produced by vehicle emissions. **Alternative 2** would have the same effects as the No Action Alternative, except that there is a potential to reduce vehicle emissions by closing cross-country travel.

Direct effects of the **Alternative 3 (Proposed Action)** would be insignificant. This alternative would only construct two new miles of motorized trails. This increase in trail miles and would be so minute, in comparison to the existing miles of motorized roads, trails, and areas that there would be virtually no measurable increase in toxic air contaminants via vehicle emissions. Furthermore, the Proposed Action Alternative would remove 275,000 acres of cross-country motorized use, thus reducing the amount of toxic air contaminants produced as a whole, compensating for the added toxic air contaminant emissions created by vehicles operating on the proposed two new miles of trails.

As with the Proposed Action, the direct effects of **Alternative 4** would be negligible. Alternative 4 would also remove 275,000 acres of cross-country motorized use, thus reducing toxic air contaminants emitted from vehicles. Additionally, Alternative 4 would slightly further reduce vehicle emissions by prohibiting motor vehicle use in Inventoried Roadless Areas and, except on existing roads, in botanical and serpentine areas.

As with Alternatives 3 and 4, the direct effects of **Alternative 5** would be negligible. Alternative 5 would also remove 275,000 acres of cross-country motorized use, thus reducing toxic air contaminants emitted from vehicles.

The indirect effects of all the alternatives for contaminants would be unsubstantial and could indirectly impact users who come in contact with toxic air contaminants and later discover they have cancer or give birth to children with birth defects.

Although, considering the very short duration of exposure to toxic air contaminants, the likelihood of users experiencing these effects later in life as a result of riding on the RRSNF is quite low. These indirect effects would have no measurable difference between the No Action Alternative and Alternative 2. Alternatives 3 and 5 would possess slightly less indirect effects, while Alternative 4 would hold the lowest associated indirect effects stemming from toxic air contaminants associated with the alternatives.

d. Cumulative Effects

Cumulative effects of motorized travel on air resources are unique in that past impacts to air quality are not usually evident. The emissions associated with motorized travel would be cumulative only with concurrent local emission sources. Since motorized emission sources on the Forest are localized and transient, actual cumulative combinations of emissions are minor and do not result in significant effects.

The cumulative effects of toxic air contaminants produced by motor vehicle emissions would result in negligible differences than those currently experienced. Toxic air contaminants emitted from motor vehicles driving on the forest transportation system combined with toxic air contaminants produced by the implementation of other projects, such as prescribed burning and harvest operations, could have cumulative effects. Implementation of prescribed burns and harvest operations on other federal, state, or private lands could contribute to toxic air contaminants, contributing to health risks.
It is not possible to predict the amount of contaminants contributed by these sources, although they are not likely to be significant.

4. Air Quality - Dust and Asbestos

Effects of motorized vehicle use on air quality via dust and naturally occurring asbestos

Designation of roads, trails, and areas could affect air quality on the Rogue River-Siskiyou National Forest. Possible contributing sources include motorized vehicle disturbance to soils creating dust or effects from serpentine rocks or soils containing asbestos.

a. Background

Topography and weather patterns determine the extent that airborne particulate matter accumulates within a given area. Weather patterns strongly influence air quality through pollutant dispersion. The primary weather conditions that affect dispersion are atmospheric stability, mixing height, and transport wind speed.

Atmospheric stability refers to the tendency for air to mix vertically through the atmosphere and mixing height is the vertical distance through which air is able to mix. The transport wind speed is a measure of the ability to carry emissions away from a source horizontally. These factors determine the ability of the atmosphere to disperse and dilute the released emissions (Jackson County 2008).

The physical shape of landscapes interacts with and controls some weather patterns that influence particulate dispersion. On a local or regional basis, the air flow in southern Oregon is channeled by mountain ranges. On the RRSNF, the predominant wind direction is from a western inland flow (USDA 2008).

b. Effects Mechanisms and Analysis Framework

Fugitive Dust

Atmospheric dust arises from the mechanical disturbance of granular material exposed to the air. Dust generated from open sources is termed "fugitive" because it is not discharged to the atmosphere in a confined flow stream.

Fugitive road dust can be a result of motor vehicle use on dry road surfaces. The force of wheels moving across the native surfaces causes pulverization of surface material. Dust is lofted by the rolling wheels as well as by the turbulence caused by the vehicle itself. This air turbulence can persist for a period of time after the vehicle passes. Surfaced roads produce a relatively smaller amount of dust than do native surface roads, especially during dry weather.

The quantity of dust emissions from a given segment of native surface road varies linearly with the volume of traffic. Variables which influence the amount of dust produced include the average vehicle speed, the average vehicle weight, the average number of wheels per vehicle, the road surface texture, the fraction of road surface material which is classified as silt, and the moisture content of the road surface (EPA 2002).

The potential drift distance of particles is governed by the initial injection height of the particle, the terminal settling velocity of the particle, and the degree of atmospheric turbulence. Theoretical drift distance has been computed for fugitive dust emissions. Results indicate that for a typical mean wind speed of 10 mph, particles larger than about 100 microns in aerodynamic diameter are likely to settle out within 20 to 30 feet from the edge of the route or other point of emission. Particles that are 30 to 100 microns in diameter are likely to undergo impeded settling. These particles, depending upon the extent of atmospheric turbulence, are likely to settle within a few hundred feet of the route.

Smaller particles, (particularly Inhalable Particles, PM_{10} and $PM_{2.5}$), have much slower gravitational settling velocities and are much more likely to have their settling rate retarded by atmospheric turbulence and dispersed over much greater distances from the source (EPA 2002).

Fugitive dust is the primary contributor to elevated levels of particulate matter. Effects of airborne particulates depend on the size of the particle. Larger dust particles tend to settle out of the air and are not considered to have a significant health effects. However, both long-term and short-term exposure to smaller particulate matter,10 microns in diameter or less, are inhalable and pose increased health risks associated with respiratory illnesses. These finer particles can deposit deep in the lungs, causing early death in people with existing heart and lung disease. These effects tend to be most acute in the elderly and other at risk populations (MASA FEIS 2004).

Naturally Occurring Asbestos

Asbestos is a term used for several types of fibrous minerals that occur naturally in the environment. The two general types of asbestos are chrysotile (also known as serpentine asbestos) and amphibole. Chrysotile has long, flexible fibers, and is the kind most commonly used in commercial products. Amphibole fibers are brittle, have a rod or needle shape, and are less common in commercial products. All forms of asbestos fibers can cause cancer and are classified as known human carcinogens; however it is not known with certainty how much exposure to asbestos can result in a person developing an asbestos-related disease. Specific information on the health effects of asbestos can be found in the Toxicological Profile for Asbestos by the Agency for Toxic Substances and Disease Control (2001), which can be found on their website: www.atsdr.cdc.gov/asbestos/index.html.

Naturally occurring asbestos (NOA) is commonly found in serpentinite and other ultramafic rock formations, as well as the soils where these rock types are located. Not all of these rock formations, however, contain NOA; they only have the potential to contain asbestos, and require environmental testing to determine presence.

Natural weathering and human activities may disturb NOA-bearing rock or soil and release mineral fibers into the air, where they can remain airborne or in the soil for a long time. Asbestos fibers do not dissolve or evaporate, and are resistant to heat, fire, chemicals and biological degradation (Agency for Toxic Substances and Disease Registry 2005).
NOA that is not disturbed poses little, if any, health risk. Airborne asbestos fibers may pose a health hazard because of the potential risks associated with inhalation of the fibers.

Motor vehicles traveling across serpentine rock and soils have the potential to create fugitive dust containing asbestos fibers. There is no health threat if NOA remains undisturbed and does not become airborne and inhaled (EPA 2008). However, if asbestos fibers become air-borne and are inhaled, they can penetrate body tissues and remain in the tissue of the lungs and abdominal cavity. The fibers that remain in the body are thought to be responsible for asbestos-related diseases. The illnesses caused by asbestos may not be observed for twenty or more years. The most common diseases caused by inhaling asbestos are asbestosis, lung cancer, and mesothelioma.

The risk of disease depends upon the intensity and duration of exposure to asbestos. State and federal health officials consider all types of asbestos to be hazardous. Any exposure to a carcinogenic compound involves some risk; therefore, no "safe" exposure level has been established for asbestos. It is not yet known how many fibers are needed to cause cancer or other lung disease. Available evidence supports that exposure to non-asbestiform fragments is not likely to produce a significant risk of developing asbestos related disease (USGS 2001).

There are public safety concerns from routes that traverse serpentinite and other ultramafic rock formations and associated soils, which could potentially contain naturally occurring asbestos (NOA). Disturbances from motorized traffic on these geology types and soils have the potential to expose and disaggregate the mineral fibers from rock and soils and release them into the air, making it then possible to inhale.

On the Rogue River-Siskiyou National Forest there are approximately 324,000 acres of ultramafic/serpentinite bedrock and soils, across the Powers, Gold Beach, Wild Rivers, and Siskiyou Mountains Ranger Districts (see Soils Affected Environment discussion, Other Issue 1).

Areas underlain by these geology and soil types were delineated and are shown in Map III-2. The location of motorized roads and trails on these areas highlight the areas of concern regarding potential naturally occurring asbestos. If there are proposed changes to routes that would increase disturbance, such as creation of new trails or changing an administratively closed road to a motorized trail, then site-specific analysis, including testing the ground surface material will be done to determine if the ground surface poses a health risk due to presence of asbestiform fibers.

The following text provides a summary of how and why each NOA Geology and Soil Indicator is used to evaluate the effects on naturally occurring asbestos.

NOA Geology & Soil Indicator 1: Acres of the forest designated open to cross-country motor vehicle use that traverse serpentine/ultramafic geology and soils that have the potential to contain NOA.

The area designated open to cross-country motor vehicle use is used as a general measure of potential effects to geology types and soils that have the potential to contain NOA. Motorized cross-country travel can pioneer new trails that can disturb and expose soils and rock and cause them to break down and become more susceptible to becoming airborne particles. Due to the sparse nature of vegetation on many serpentine areas, these areas can be particularly easy to access for cross-country travel on the forest.

NOA Geology & Soil Indicator 2: Miles of changed routes displayed by miles in areas identified as having the potential to contain naturally occurring asbestos.

Changes to the existing NFTS of roads and trails (this can include additions or deletions of travel routes and changing the vehicle class and season of use) represent where locations would experience increased or decreased disturbance that could affect exposure of fibers to the potential to be become airborne.

NOA Geology & Soil Indicator 3: Miles of changed routes open to OHV use by miles in areas identified as having the potential to contain naturally occurring asbestos.

Similar to NOA Indicator 2, except this specifically breaks out the locations that allow OHV use. Users of OHV's are typically located closer to the road surface and more directly exposed to dust generated by vehicles due to open cabs. Table III-10 shows the current condition of the Rogue River-Siskiyou National Forest transportation system of roads and trails, in relation to the location of geology and soils that have the potential to contain naturally occurring asbestos, forest-wide. The NOA Indicators will focus on the site-specific proposed changes to this existing condition that can impact exposure of NOA based on each Alternative. A comparison of alternatives at this Forest-wide scale can be found at the end of FSEIS Chapter II in the Comparison of Alternatives section.

Table III- 10. Existing Condition of Roads and Trails in Relation to the Potential for NOA

NOA Geology & Soils in Relation to the Current NFTS Forest-Wide	Existing Condition
Acres of forest designated open to cross-country motor vehicle use that cross through potential NOA geology and soils	127,000
Approximate miles of open, unpaved, motorized routes	509
Approximate miles of open, aggregate-surfaced, motorized routes	318
Approximate miles of open, native-surfaced, motorized routes	191
Approximate miles of open, aggregate-surfaced, motorized routes **open to OHV use**	310
Approximated miles of open, native-surfaced, motorized **Roads open for OHV use**	191
Approximate miles of open, native-surfaced, motorized **Trails open for OHV use**	37

c. Direct and Indirect Effects of Alternatives

Fugitive Dust

Direct effects of the **No Action Alternative and Alternative 2** would be negligible. The current condition of motorized vehicles traveling on native surfaces and gravel roads does pose a risk of stirring up fugitive dust that could pose health risks and reduce visibility. However, these two alternatives would neither exacerbate nor improve current risks associated with fugitive dust conditions.
Alternative 2 would remove 275,000 acres of cross-country motorized use, thus having a potential to reduce the health risks and visibility issues derived from fugitive dust.

Under **Alternative 3,** the direct effects would also be negligible. This alternative would only construct two new miles of motorized trails. This increase in trail miles and would be minor, in comparison to the existing miles of motorized roads, trails, and areas that there would be virtually no additional measurable risks from fugitive dust. Furthermore, Alternative 3 would remove 275,000 acres of cross-country motorized use, thus reducing the health risks and visibility issues derived from fugitive dust, as well as compensate for the added dust created by the proposed two new miles of trails.

As with the Proposed Action, the direct effects of **Alternative 4** would also be negligible. Alternative 4 would also remove 275,000 acres of cross-country motorized use, thus reducing the health risks and visibility issues derived from fugitive dust. Additionally, Alternative 4 would further reduce fugitive dust by prohibiting motor vehicle use in Inventoried Roadless Areas and, except on existing roads, in botanical and serpentine areas.
Under **Alternative 5,** the direct effects would also be negligible. This alternative would only construct 1.5 miles of new motorized trails. This increase in trail miles and would be minor, in comparison to the existing miles of motorized roads, trails, and areas that there would be virtually no additional measurable risks from fugitive dust. Furthermore, Alternative 5 would remove 275,000 acres of cross-country motorized use, thus reducing the health risks and visibility issues derived from fugitive dust, as well as compensate for the added dust created by the proposed new trail.

There are two indirect effects of all alternatives for fugitive dust. The first indirect effect is that suspended dust particles in the air could linger in the area or drift to areas where it could be inhaled by other users. The second indirect effect is that irritation, nuisance, or health risks from fugitive dust associated with the alternatives could result in both motorized and non-motorized users choosing no longer recreate in dust prone, dry, areas where motorized vehicles create dusty conditions. Motorized and non-motorized users would likely be displaced and begin to concentrate in areas where vehicles would not stir up high concentrations fugitive dust. Both of these indirect effects have no measurable difference between the No Action Alternative and Alternative 2. Although qualitative, Alternatives 3 and 5 would predict slightly less indirect effects and Alternative 4 would have the lowest associated effects.

Naturally Occurring Asbestos

The direct/indirect effects of **Alternative 1 – No Action** would be no change in disturbance to potential NOA over current condition with selection of this alternative. These effects are described in general terms in the 'Affected Environment' and 'Effect Mechanisms and Analysis Framework' discussions in Soils, Other Issue 1, above. This Alternative would allow cross-country travel across ultramafic/serpentine bedrock and soils to continue, where not otherwise closed, so there would be no change to possible exposure.

Driving over these areas would continue to break up serpentine rocks and stir up dust, potentially releasing NOA into the air where it could be inhaled. When conditions are dry and dust is generated from motorized activities on routes and areas with serpentine, people could be exposed to NOA. There would be no change to the NFS of roads and trails, so there would be no change to risk of exposure.

Alternative 2 would eliminate motorized cross country travel across the forest, which would decrease disturbance in ultramafic and serpentine geology and soils that have the potential to contain NOA, outside the NFS of roads and trails. The existing Woodruff OHV use area is not underlain by geology or soils with the potential to contain NOA.

Limiting off road access for dispersed camping and day use would decrease disturbance in ultramafic and serpentine geology and soils. There would be no change to the NFS of roads and trails, so there would be no change in disturbance to potential NOA in regards to the NFS of roads and trails, with selection of this alternative.

Alternative 3 would eliminate motorized cross country travel across the forest, which would decrease disturbance in ultramafic and serpentine geology and soils that have the potential to contain NOA.

Table III-11 shows the changes being proposed in Alternative 3 that would affect areas overlying potential NOA geology and soils. Most proposed changes would result in a decrease of disturbance from motorized traffic. The only actions that would increase disturbance from motorized traffic involve conversion of Maintenance Level 1 roads to motorized trails because use could be concentrated on select routes. Site-specific analysis that includes testing the ground surface material is planned on these routes to determine if the ground surface poses a health risk due to presence of asbestiform fibers.

Table III- 11. Alternative 3 – Motorized Routes Surface Type within NOA Soils

Alt. 3 Elements on potential NOA geology and soils	Aggregate-surfaced route miles	Native-surfaced route miles
Trails that would prohibit motorized use	0 mi.	8 mi.
Non-paved roads that would prohibit mixed use	0 mi.	9 mi.
Roads that would be closed to public use yearlong	0 mi.	14 mi.
ML1 roads proposed for conversion to motorized trails	4 mi.	5 mi.

Specific Maintenance Level 1 Roads that would be converted to motorized trails that are located on potential NOA geology and soils are located on the Gold Beach and Wild Rivers Ranger Districts. The Gold Beach Ranger District roads total approximately 6 miles, have a mix of aggregate and native surfacing, and include portions of the 3313110, 3313103, 3680195, 3680190, and 3680220 Roads. The Wild Rivers Ranger District roads total approximately 3 miles, are native surfaced, and include portions of the 2509604 and 4402494 Roads.

Alternative 4 would eliminate motorized cross country travel across the forest, which would decrease disturbance in ultramafic and serpentine geology and soils that have the potential to contain NOA.

Table III- 12. Alternative 4 – Motorized Routes Surface Type within NOA Soils

Alt. 4 Elements on potential NOA geology and soils	Aggregate-surfaced route miles	Native-surfaced route miles
Trails that would prohibit motorized use	0 mi.	34 mi.
Non-paved roads that would prohibit mixed use	0 mi.	6 mi.
Roads that would be closed to public use yearlong	2 mi.	35 mi.
ML1 roads proposed for conversion to motorized trails	0 mi.	0 mi.

There would be no changes to the NFS roads and trails with Alternative 4 that would result in potentially increasing disturbance to potential NOA geology and soils through increased motorized use.

Alternative 5 would eliminate motorized cross country travel across the forest, which would decrease disturbance in ultramafic and serpentine geology and soils that have the potential to contain NOA.

Table III- 13 shows the changes being proposed in Alternative 5 that would affect areas overlying potential NOA geology and soils. Most proposed changes would result in a decrease of disturbance from motorized traffic. The only actions that would increase disturbance from motorized traffic involve conversion of Maintenance Level 1 roads to motorized trails because use could be concentrated on select routes. Site-specific analysis that includes testing the ground surface material is planned on these routes to determine if the ground surface poses a health risk due to presence of asbestiform fibers.

Table III- 13. Alternative 5 – Motorized Routes Surface Type within NOA Soils

Alt. 5 Elements on potential NOA geology and soils	Aggregate-surfaced route approximate miles	Native-surfaced route approximate miles
Trails that would prohibit motorized use	0 mi.	9 mi.
Non-paved roads that would prohibit mixed use	0 mi.	9 mi.
Roads that would be closed to public use yearlong	0 mi.	14 mi.
ML1 roads proposed for conversion to motorized trails	4 mi.	2 mi.

Specific Maintenance Level 1 Roads that would be converted to motorized trails that are located on potential NOA geology and soils on the Gold Beach and Wild Rivers Ranger Districts. The Gold Beach Ranger District roads total approximately 6 miles, have a mix of aggregate and native surfacing, and include portions of the 3313103, 3680195, 3680190, and 3680220Roads. The Wild Rivers Ranger District road totals approximately 0.3 miles, is native surfaced, and includes a portion of Road 4402494.

Summary

Alternatives 2, 3, 4, and 5 would eliminate motorized cross country travel across the forest, which would reduce the risk of exposure to potential NOA from motorized activities in areas of ultramafic/serpentine bedrock and soils. Eliminating this activity reduces the opportunity for potential NOA to become airborne and potentially inhaled. Over time areas that have been disturbed by cross-country travel may recover, reducing air-borne dust containing serpentine minerals, but rate of recovery depends upon localized soil productivity.

Alternatives 3, 4, and 5 reduce the overall miles of open, motorized roads and trails that cross over ultramafic/serpentine bedrock and soils that have the potential to contain NOA across the forest. Table III-14 displays this difference by alternative. Of the three alternatives, **Alternative 4** poses the lowest risk of all alternatives for inhaling potential asbestos fibers, since motorized vehicles would be eliminated from most serpentine areas except on existing roads.

Table III- 14. Motorized routes that cross areas likely to contain naturally occurring asbestos

	Alternative 1 & 2	Alternative 3	Alternative 4	Alternative 5
Approximate miles of open, unpaved, motorized routes	509	492	473	492
Approximate miles of open, aggregate-surfaced, motorized routes	318	318	316	318
Approximate miles of open, native-surfaced, motorized routes	191	174	157	174
Approximate miles of open, aggregate-surfaced, motorized **routes open to OHV use**	310	310	308	310
Approximated miles of open, native-surfaced, motorized **roads open for OHV use**	191	163	146	163
Approximate miles of open, native-surfaced, motorized **Trails open for OHV use**	37	34	2	31

Table III- 15. Summary of the NOA geology and soils indicators, per alternative

Elements on Potential NOA Geology & Soils	Alternative 1 & 2	Alternative 3	Alternative 4	Alternative 5
Trail – Prohibit Motorized Use	0 mi.	0 mi. – AGG[1] 8 mi. – NAT[2]	0 mi. – AGG 34 mi. - NAT	0 mi. – AGG 9 mi. – NAT
Non-Paved Road – Prohibit Mixed Use	0 mi.	0 mi. – AGG 9 mi. – NAT	0 mi. – AGG 6 mi. – NAT	0 mi. – AGG 9 mi. – NAT
Close to Public Use Yearlong	0 mi.	0 mi. – AGG 14 mi. – NAT	2 mi. – AGG 35 mi. – NAT	0 mi. – AGG 14 mi. – NAT
ML1 Road – Convert to Motorized Trail	0 mi.	4 mi. – AGG 5 mi. – NAT	0 mi.	4 mi. – AGG 2 mi. – NAT

[1]AGG: Aggregate-surfaced. [2]NAT: Native-surfaced.

d. Cumulative Effects

The direct effects of fugitive dust produced by motor vehicles operating on native surfaces and gravel roads would result in only negligible differences than those currently experienced. Fugitive dust particles stirred up from roads and trails, particularly PM_{10} and $PM_{2.5}$, combined with other particles produced by the implementation of other projects on the Forest, such as prescribed burning and harvest operations, could have cumulative effects. Implementation of prescribed burns and harvest operations on other federal, state, or private lands, would also contribute to fugitive dust, contributing to respiratory health risks and visibility concerns. It is not possible to predict the amount of toxic air contaminants contributed by these other sources, although they are not likely to be cumulatively significant.

Motor vehicles stirring up asbestos fibers in combination with other activities creating suspended particles in the air could possibly cumulatively add to the effects of air-borne asbestos. The difference in cumulative impacts between alternatives cannot be quantified, and is not predicted to be substantially different. The motorized use designation project is not likely to adversely add to cumulative air-borne asbestos effects from this and other current and foreseeable activities, particularly since no action is being proposed in any alternative that would increase the miles of roads (and therefore possibly increase potential exposure to NOA), above the current condition.

Additionally, the risk can be reduced by actions individuals take to reduce exposure to NOA (see the Agency for Toxic Substances and Disease Registry's Limiting Environmental Exposure to Asbestos in Areas with Naturally Occurring Asbestos (2001), US EPA's Naturally Occurring Asbestos: Approaches for Reducing Exposure (2008), and the US Forest Service, Pacific Southwest Region (Region 5) website on naturally occurring asbestos (www.fs.fed.us/r5/noa).

5. Fire Risk

Effects of motorized vehicle use on fire risk

This issue has two parts. The first concerns the potential for various forms of motorized travel that would be allowed under the alternatives to increase the risk of unplanned fire ignitions. The second part concerns the potential effects of motorized use management on the Forest's ability to suppress a wildland fire.

a. Background

Fire risk is defined as the chance of fire starting as determined by the presence and activity of causative agents. The causative agents for this analysis are limited to motorized vehicles and whether they are legally or illegally operated.

Operating motorized vehicles off designated trails and road systems has been prohibited on many areas of public lands administered by the Rogue River-Siskiyou National Forest since implementation of the Land and Resource Management Plans. In addition, motorized vehicle use is typically restricted during times of high fire danger through the implementation of the Forest's fire restrictions and Forest Closure Order process. Unwanted fire starts from the improper use of motorized off-road vehicles off designated trails and roads are rare. According to RRSNF fire occurrence records, approximately 1% of fire starts have been attributed to equipment[28] fires over the last twenty years.

Roads and motorized trails provide access for fire suppression and ground-based fire suppression equipment; access to and from water sources, lookouts and helicopter staging areas; fire breaks for fire suppression; and from a safety standpoint, anchor points for pre-positioning firefighting resources and fire line construction.

In planning suppression strategies for fire events lasting several days or weeks, roads and motorized trails provide alternative transportation options. These options play an important role in developing a wider range of strategies, commensurate with management area objectives that address cost-effectiveness and public and firefighter safety.

b. Effects Mechanisms and Analysis Framework

The factors related to the probability for increased fire risk include the numbers of vehicles (frequency) and the potential for ignition. There are generally two potential causes of ignition related to motorized use. These include:

Hot exhaust systems and machine parts: In a forest environment, grass and other fine fuels such as tall grass, may come into contact with exhaust systems. In some cases, this material accumulates on a heat source, either the exhaust system or the brakes. The temperature of the exhaust system can easily reach the ignition point for grass. Fine fuels on the machine may ignite and fall to the ground,

[28] "Equipment" fires include vehicles and other heavy equipment such as logging or road building equipment. Fires caused by OHV or standard passenger vehicles are not tracked separately.

initiating a surface fire. Exhaust systems on Class I and III OHVs are typically higher off the ground and do not usually come in contact with grass.

Sparks from the exhaust system: Many muffler systems can produce sparks. While these do not ignite as many fires as direct contact, they are an occasional cause. Spark arresters are an effective means to prevent this type of fire cause.

The mere presence of a vehicle on grass, for example, does not equate to a fire ignition. Environmental factors such as fuel moisture and weather conditions must also be considered.

Road and motorized trail access are important considerations for fire suppression activities. They provide for a wide array of suppression tactic options. In a wildland fire situation, response time for suppression actions can become a critical factor, especially when human lives are at stake. Roads provide access that allows pre-positioning of firefighting resources in the immediate area. Where roads are present, suppression resources such as engines and hand crews are used. Conversely, helicopter crews and smokejumpers respond to backcountry wildfire incidents where roads are not present.

c. Direct and Indirect Effects of Alternatives

Alternative 4 proposes fewer miles of roads and trails available to the public for motorized use than the current condition (**Alternatives 1 and 2**) and **Alternatives 3 (Proposed Action) and 5**. The potential for various forms of motorized travel that would be allowed under the alternatives to increase the risk of unplanned fire ignitions is currently considered very small. Due to the relatively minor change in miles of roads and trails available for motorized use under each of the alternatives, the change in risk of an ignition is very small between alternatives and is considered too small to be measurable.

All Action Alternatives would maintain the existing roaded access around wildland-urban interface areas. In addition, none of the Action Alternatives would prevent the use of aviation assets, off-road vehicles, or the use of heavy equipment as necessary to initiate the appropriate suppression response for a wildland fire. Therefore, no alternative would create inaccessible areas on the forest.

However, roads and trails not available (prohibited) for public motorized use would still be available for administrative access (including fire suppression). Though the Forest road system may influence the type of suppression activities, it would not affect the number of acres of forest available for fire suppression activity. Regardless of alternative, the number of acres available for fire management activities would remain constant. The alternatives may vary slightly in which resources are used for a particular wildfire, but those differences are too speculative to analyze.

d. Cumulative Effects

This cumulative analysis considers historical fire data on the forest and the influence of road access. It considers the likelihood of effects of the road system on future wildland fires. It also considers the likely increase in population of the surrounding communities. Although changes in the total miles of access may occur in the future as a result of project scale planning, these changes are not foreseeable.

Statistics show that lightning naturally causes most fire ignitions in this region. The second most common fire start is human-caused. As population increases into an area, it may be assumed that there would be a higher chance of wildland fire; however, several other factors must be taken into account.

Fires that are started by humans are individual instances and cannot be predicted. Factors in these circumstances also include weather conditions and fuel conditions. Implementation of any of the alternatives would not have any adverse cumulative effects on the ability to take suppression action on wildland fires.

6. Federally Listed Plants, FS Sensitive, and NWFP Survey and Manage (S&M) Vascular Plants, Bryophytes, Lichens, and Fungi

Effects of motorized vehicle use on rare, sensitive, S&M, and federally listed botanical species

A Biological Evaluation of the alternatives described in detail in Chapter II was conducted to evaluate potential effects on plants listed under the Federal Endangered Species Act, and on Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi. This section (and its subsections) documents the steps, analysis, and findings of that Biological Evaluation; all information and findings are included within this section.

The original Survey and Manage provision of the NWFP was amended in 2001 and 2004. A recent U.S. Court of Appeals for the Ninth Circuit's opinion reversed a U.S. District Court Western District of Washington's order, in Conservation Northwest, *et al.* v. Harris Sherman, *et al.* and D.R. Johnson Company, Case 11-35729 (April 25, 2013). Projects that are within the range of the northern spotted owl are now subject to the survey and management standards and guidelines in the 2001 ROD. Background and effects to S&M vascular plants, bryophytes, lichens, and fungi are included in the analysis below.

a. Background

Federally-Listed Plant Species

Two Federally-listed plant species are known to occur along roads, trails, and/or in other areas under consideration in one or more of the Action Alternatives. They are *Fritillaria gentneri* (Gentner's fritillary) and *Arabis macdonaldiana* (McDonald's rockcress). One additional species, *Lomatium cookii* (Cook's lomatium), has potential habitat, but no known occurrences, along roads, trails, and/or in other areas under consideration in one or more of the Action Alternatives. A brief discussion of each species is provided below:

Gentner's Fritillary

Fritillaria gentneri (Gentner's fritillary) is a showy tall plant in the lily family, found in oak woodland and various mixed forest, brushlands, meadow edges, etc. The single known occurrence on the Forest has only a handful of individuals in an oak stand/meadow edge in the Waters Creek area of Wild Rivers Ranger District. This occurrence is not immediately adjacent to a road or trail, and it is in an area for which a closure order exists, prohibiting vehicle use off of existing roads and trails. Though the occurrence is close to both a Forest Service road and a trail, in gentle terrain, off-road use has not been a problem in the actual population area to date. Under all alternatives, off-road use would not be allowed off designated roads and trails in this area, and assuming adherence to the rules, this Gentner's fritillary population would not be affected by this activity.

There is also potential for *Fritillaria gentneri* to occur in suitable habitat at other sites on Siskiyou Mountains and Wild Rivers Ranger Districts within the Applegate River watershed. Some of these potential sites could be immediately adjacent to roads, trails, and/or in other areas under consideration in one or more of the alternatives.

McDonald's Rockcress

Arabis macdonaldiana (McDonald's rockcress) is a perennial herbaceous plant with rose-colored flowers in the mustard family, present on the Forest in serpentine areas of southern Curry County. It is known to be immediately adjacent to a road at one site only on the Forest. This site is on a rock outcrop on the road cut slope at a corner along Forest Road 4402.

Other individuals are above and below the road, outside of the road prism. Road maintenance activities, if not properly coordinated, could threaten several individuals, though this is unlikely on such a low maintenance road, on this stable rock surface. The risk to these individuals is the same under all alternatives, because road maintenance would continue to occur at this site.

All other *Arabis macdonaldiana* known sites on the RRSNF are not near roads or trails. These known sites are far enough from roads or trails, or in steep enough places, that the likelihood of them being affected by off-road use is essentially zero under all alternatives.

Potential habitat for McDonald's rockcress exists on serpentine in southern Curry County in additional locations where this species is not currently known to occur. If McDonald's rockcress were present in undiscovered locations along existing open roads, there would be some risk that individuals could be lost during road maintenance. Since road maintenance activities have been occurring on these roads for decades, it is relatively unlikely that individuals still exist at roadside in vulnerable microsites where they are likely to be disturbed in the future by these ongoing activities. Also, even if present, they may be part of a population that extends well beyond the roadside, hence the viability of the population over the surrounding area may not be at risk. This risk would be the same under all alternatives because road maintenance would continue to occur on the same roads on serpentine in southern Curry County.

In December 2012, the US Fish and Wildlife Service decided that their Endangered Species Act listing of McDonald's rockcress will apply only in Mendocino County, California. This is where they designated critical habitat on Mendocino County's Red Mountain, the location from which this taxon was first collected and described. From this point forward, *Arabis macdonaldiana* in Del Norte, Siskiyou, and Curry County, will be considered a FS Sensitive species, not a Federally-listed species.

Cook's Lomatium

Cook's lomatium has a small amount of potential habitat, but no known occurrences, along a few roads, trails, and off-road, off-trail areas under consideration in one or more of the alternatives, on Forest Service lands on the west edge of the Illinois Valley. This herbaceous perennial prefers sunny low-lying areas in heavy soil, or at the edge of drying vernally-wet areas.

Forest Service Sensitive Vascular Plants, Bryophytes, Lichens, and Fungi

There are 101 vascular plants, 24 bryophytes (mosses and liverworts), 11 lichens, and 29 fungi, documented or suspected to occur on the Forest, which have been designated as FS Sensitive species. As such the Forest manages these species to maintain their viability, often conducting surveys for them, analyzing project effects during NEPA planning, and developing mitigation measures to reduce or eliminate impacts to these species. A listing of all these species is too lengthy to include here.

Spreadsheets of Forest Service and Bureau of Land Management (BLM) Sensitive species lists for all classes of organisms and all National Forests in the Pacific Northwest and BLM districts in Oregon are available on the web at http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/. A listing of Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi for only the Rogue River-Siskiyou National Forest is available from the Supervisor's Office on request.

All but a handful of these species are known to occur, or could occur, immediately adjacent to roads, trails, and/or in other areas under consideration in one or more of the Action Alternatives. Field Reconnaissance specifically for this Forest-wide Travel Management Planning effort was not conducted. The information offered below was gathered during 2-3 decades of previous botanical field work by Forest Service botanists and others.

Estimates of effects of the alternatives are professional opinion of the Forest Botanist, based on extensive familiarity with the Forest and its botanical resources. Where effects could not be determined for specific road or trail segments proposed to be authorized for motorized use via future trail construction or conversion from Maintenance Level 1 roads under Alternative 3 or 5, a field reconnaissance of that site, and subsequent re-routing or re-design if needed, is included as a Chapter II mitigation measure for Alternative 3 and 5, before ground disturbance would occur.
Where Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi occur immediately adjacent to roads, they may be lost during routine road maintenance activities such as blading, ditch clearing, culvert maintenance, brushing, debris clearing, contouring, weed control, etc. This is an ongoing risk, sometimes ameliorated at known sites when properly coordinated. This risk would remain the same under all alternatives because the level of road maintenance across the Forest is the same.

Survey and Manage Vascular Plants, Bryophytes, Lichens, and Fungi

National Forests are tentatively using a region wide March 2011 interim S&M list which is available on request from the Supervisor's Office. Of the 11 vascular plants on this list, 3 are known to occur on the Forest (*Cypripedium fasciculatum*, *Cypripedium montanum*, and *Aster vialis*) and could be positively or negatively affected under one or more of the alternatives. Of the 15 bryophytes on this list, only one (*Rhizomnium nudum*) occurs in a habitat that could be affected by motor vehicles on this Forest. Of the 45 lichens on this list, only one (*Peltigera pacifica*) occurs on a substrate that could be affected by motor vehicles on this Forest. Of the approximately 170 fungi on this list, perhaps one-half of them (too numerous to list, and too much uncertainty to specify which may be found) could occur on the Forest in locations or habitats that could be affected by motorized vehicles.

b. Effects Mechanisms and Analysis Framework

For a list of general assumptions with regard to this analysis refer to the beginning pages of Chapter III (section B, 1). The following list is specific to the analysis for Sensitive plants.

- Motorized vehicle use on and off established routes has affected or has the potential to affect Sensitive plant populations, either directly by damage or death to individual plants from wheel-traffic (stem breaking, crushing, etc.), or indirectly by altering the habitat through soil disturbance, changes in hydrologic functioning, or by the introduction of non-native, invasive plant species that can out-compete Sensitive species for water, sunlight, and nutrients.

- Motorized vehicle use is unlikely to impact certain Sensitive plant habitats due to the steep or rocky nature of the surrounding terrain.

- Motorized vehicle use is more likely to impact other Sensitive plant habitats such as meadows that exist on gentle slopes or flat terrain with little or no vegetation or natural barriers to motor vehicles.

- Impacts to Sensitive plants and their habitats vary across all alternatives and no alternative completely eliminates adverse effects to Sensitive plants. In general, alternatives with fewer miles of routes open for public wheeled motor vehicle use should have reduced effects to Sensitive plants and their habitats.

c. Direct and Indirect Effects of Alternatives

Federally-Listed Plant Species

Gentner's Fritillary

Under all alternatives there is some potential for individual Gentner's fritillary plants to occur undetected within the road prism and to be adversely affected by road maintenance activities. However road maintenance activities have occurred for many decades and the current risk to undetected Gentner's fritillary plants would not change under any of the alternatives.

To date, very little of the potential and suitable habitat away from roads and trails receives any OHV use, because the steepness and forest vegetation is generally an effective barrier. However, under **Alternative 1**, OHVs would not be confined to roads and trails in this area, and the potential for Gentner's fritillary plants (if they were present) and/or habitat to be adversely affected by off-road activity still exists. Under **Alternatives 2, 3, 4, and 5**, OHVs would not be allowed off designated roads and trails, and assuming adherence to the rules, any Gentner's fritillary population present would not be affected by their activity.

McDonald's Rockcress

Alternatives 1 and 2 allow motorized use on some trails in potential McDonald's rockcress habitat, less so under **Alternatives 3 and 5,** and even less under **Alternative 4.** However, as long as OHVs stay on existing trail beds and the trail is wide enough for the vehicle, OHVs are likely to have effects on McDonald's rockcress that are no different than humans, pack stock, or wild animals walking along these trails; i.e., little possibility of harming individuals or populations.

Under **Alternative 1**, OHV use may still occur off of roads and trails. If McDonald's rockcress were present in undiscovered locations in these areas, there is some risk of physical injury to plants or habitat from off-road use. However because of the barriers of steepness, brush, trees, and rocks, there is likely to be very little off-road use away from roads and trails and hence adverse effects to more than a few individual plants are unlikely.

Under **Alternatives 3 and 5,** off-road and off-trail vehicle use would not be allowed. The administratively closed Maintenance Level 1 road from Cedar Springs to Biscuit Hill (4402494, Alternative 3 only) would be authorized for conversion to a motorized trail. There may be suitable habitat for McDonald's rockcress along this route, and there is some possibility that the species is present. The road is probably used already even though it is currently closed. But the conversion to an official motorized trail may involve new physical disturbance. If so, a botanical field reconnaissance to determine presence/absence of McDonald's rockcress would be required and protection measures implemented (FSEIS Chapter II) if the species were found in the trail bed or immediately adjacent.

Under **Alternative 4,** off-road and off-trail vehicle use would not be allowed. In serpentine areas (McDonald's rockcress habitat), motorized use on trails would also not be allowed. The closed Maintenance Level 1 road from Cedar Springs to Biscuit Hill (4402494) would be closed to public motorized use, not converted to a motorized trail.

Compared to Alternative 1, the Action Alternatives have somewhat less risk to McDonald's rockcress because off-road and off-trail use is not allowed. There is little difference in effects to McDonald's rockcress between Alternatives 2, 3, 4 and 5 because motorized trail use is not considered a threat to the species (as explained above) and a botanical survey conducted under Alternative 3 along the road to Biscuit Hill would prompt protection measures if the species were found to be present.

One area where off-road use has caused damage to McDonald's rockcress plants in the past, is nearby on Six Rivers National Forest at Sourdough Junction. The McGrew Road (4402450) (aka McGrew Trail) coming from Oregon terminates here. There have been repeated instances of vehicles driving off-road at this location, potentially damaging McDonald's rockcress plants that are present.

The McGrew Road would be closed under Alternative 4. However, since better and more frequently traveled roads also converge at Sourdough Junction, the closure of the McGrew Road under Alternative 4 would have no effect on the frequency with which MacDonald's rockcress plants are damaged by illegal off-road/off-trail use of motorized vehicles.

Cook's Lomatium

Under **Alternative 1,** OHVs would continue to be allowed access to some of the suitable habitat areas for this species. Some of this suitable habitat is actually physically accessible to OHVs also, though it is unknown what damage to suitable habitat, if any, is occurring.

Under **Alternatives 2, 3, and 5,** vehicles would not be permitted off-road or off-trail. The allowed vehicle use on roads and trails in the suitable habitat areas is no different than under Alternatives 1 and 2.

Under **Alternative 4**, in addition to the prohibition of vehicles off-road or off-trail, there may be a few trails in suitable habitat for Cook's lomatium, in Botanical Areas and serpentine areas that would no longer be accessible to OHVs. However, as long as OHVs stay on existing trail beds and the trail is wide enough for their vehicle, effects to any Cook's lomatium plants that could be present would likely be little different than effects of humans, pack stock, or wild animals walking along these trails; i.e., little possibility of harming individuals or populations. Therefore there would be little if any increased benefit to Cook's lomatium (if it were present) from Alternative 4 compared to Alternatives 2, 3 and 5.

Summary of Effects of the Alternatives on Federally-listed plant species

Effects (mostly potential effects to currently unknown occurrences, if present) differ by species and by alternative as explained above. For all three species, all Action Alternatives would result in a **"May Affect**, but is **Not Likely to Adversely Affect" (NLAA)** determination for species or critical habitat. It is assumed that there would be no measurable change in the amount of use these routes currently receive. However, at this time there is no information that would allow the Forest Service to meaningfully measure, detect, or evaluate potential effects. Therefore, though any effects may be discountable, an NLAA determination is made for listed plant species.

Forest Service Sensitive Vascular Plants, Bryophytes, Lichens, and Fungi

Vehicle use of existing open roads is expected to have little or no effect on Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi across the Forest, because these species seldom occur on roadbeds where vehicles drive. This is also more or less true for trail surfaces whether or not OHVs are allowed to operate on trails. There is little difference in the level of disturbance to the trailside flora caused by humans, pack or saddle stock, wildlife, or wheeled vehicles, as long as the OHV tread width is less than the tread width of the trail, and vehicles truly stay on the trails.

Therefore, although the alternatives differ in the number and location of motorized vs. non-motorized trails, there is little difference among the alternatives in the degree of effect this activity has on FS Sensitive vascular plants, bryophytes, lichens, and fungi.

Off-road and off-trail vehicle use is permitted on 275,000 acres under **Alternative 1**. Even though very little of this acreage is actually accessible or frequently used by OHVs, this activity has the potential to adversely affect known and unknown occurrences of Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi, by crushing plants or physically disturbing their substrate or habitat, or as vectors for non-native invasive species. Some local occurrences of these species could be at risk of extirpation by these off-road and off-trail activities allowed under Alternatives 1 and 2.

Except for the existing Prospect OHV system and a proposed 10 acre OHV play area near Willow Lake under Alternative 3 only, off-road/trail use is not allowed under **Alternatives 2, 3, 4, and 5** and therefore this extirpation risk from off-road/off-trail vehicle use would not exist (assuming adherence to the rules). The proposed 10 acre OHV play area near Willow Lake under Alternative 3 has been surveyed for Forest Service Sensitive species and none occur there. So far, the only known places where there is high current extirpation risk from off-road/off-trail vehicle use are some areas where they are already not allowed, and the damage is from illegal off-road use. Examples are *Carex klamathensis*, *Viola occidentalis, and Perideridia erythrorhiza* occurrences in the Eight Dollar Mountain Botanical Area and parts of the Days Gulch Botanical Area.

Alternatives 3 and 5 are similar and provide some additional indirect protection for Forest Service Sensitive vascular plants by closing some roads and restricting mixed use on others in the Eight Dollar Mountain, Day's Gulch, Canyon Creek, Rough and Ready/W. Fork Illinois River divide areas on Wild Rivers Ranger District. This provides additional discouragement, compared to Alternatives 1 and 2, to OHV operators that would be inclined to go off-road and off-trail and damage plants or habitat in these serpentine areas with high concentrations of rare and endemic plants.

Also under Alternatives 3, 4, and 5, the trail in the Bigelow Lakes Botanical Area, a trail system north of Briggs Valley on Wild Rivers RD, and the Echo Lake Trail on Siskiyou Mountains RD are proposed for closure to motorized vehicles. Though no damage to Forest Service Sensitive species has been observed so far in these locations, all of these trails have some trailside habitat for Forest Service Sensitive vascular plants accessible to OHVs, which could be adversely affected if OHVs left the trails. OHVs are not likely to be present on these trails if their use is not allowed there. Therefore there is less risk of any illegal off-road or trail use occurring.

Alternative 4 provides indirect protection for Forest Service Sensitive species similar to Alternative 3, by reducing the likelihood that OHVs would be in the vicinity of Sensitive species occurrences with operators that are tempted to illegally leave roads and trails, potentially damaging plants and habitat.

The additional trails closed under Alternative 4 to motorized use in serpentine areas, the Boundary Trail, and Botanical Areas, often have Forest Service Sensitive species occurrence and habitat which could be accessed and damaged by OHVs if their operators inclined to leave the trails.

There is a specific new trail being proposed to authorize motorized use that would require future construction on Gold Beach Ranger District under **Alternative 3**; 0.5 miles of new motorized trail that would connect to the Woodruff Trail (T.36S., R.13W., section 9).

The Forest Service Sensitive vascular plant *Trillium angustifolium* is in this immediate vicinity. A botanical field reconnaissance of this proposed trail route is included as a Mitigation Measure to be completed before construction begins, with re-routing to be done if needed to avoid the Trillium or other Forest Service Sensitive species (FSEIS Chapter II).

The Forest Service Sensitive vascular plants *Carex gigas* and *Arctostaphylos hispidula* are present immediately adjacent to a Maintenance Level 1 road in the Signal Buttes area on Gold Beach Ranger District that is proposed to be converted to a motorized trail under **Alternatives 3 and 5**. Although there is a slight possibility of a few individuals being lost during this conversion, there is little new disturbance off the roadbed itself expected and the viability of the local populations of these species are not expected to be affected.

On Wild Rivers Ranger District, the Maintenance Level 1 road from Cedar Springs to Biscuit Hill is proposed to be converted to a motorized trail under **Alternative 3**. There are no known occurrences of *Lupinus tracyi* or some of the serpentine Forest Service Sensitive vascular plants, or *Arabis macdonaldiana*, but the route has habitat for these species. Botanical field reconnaissance would be required along this route if there would actually be new disturbance/construction associated with the conversion. Re-routing or other design change would be made if the viability of the local populations is expected to be adversely affected. If any *Arabis macdonaldiana* individuals are found, a re-routing or design change would be made to protect individuals of that species.

On Siskiyou Mountains Ranger District, **Alternatives 3 and 5** includes the relocation and construction of approximately 1.2 miles of the Penn Sled Trail. There are no known Forest Service Sensitive vascular plants, bryophytes, lichens, or fungi in the proposed new location. Under alternatives 3 and 5, a Chapter II Mitigation Measure would require the Forest Service to conduct botanical field reconnaissance along this route before ground-disturbing activities occur. Re-routing or other design change would be made if Special Status plants located and the viability of the local populations is expected to be adversely affected.

On the High Cascades Ranger District, a motorized use play area (approximately 10 acres) is proposed under **Alternative 3** near the junction of Forest Road 3050 and County Road 821 in an old Willow Lake Dam borrow area. There are no known occurrences of Forest Service Sensitive vascular plants, bryophytes, lichens, or fungi in this location and no potential habitat for them either. No botanical mitigation is proposed for this feature.

Summary of Effects on Forest Service Sensitive vascular plants, bryophytes, lichens, and fungi
The viability of some local occurrences of Forest Service Sensitive vascular plants in the Eight Dollar Mountain and Day's Creek Botanical Areas is at risk from the adverse effects of illegal off-road and off-trail vehicle use. This is not an effect of any of the Action Alternatives, rather an effect of recreational misuse that the Forest Service has had limited ability to control.

Alternatives 3, 4, and 5 may partially alleviate this problem by restricting off-road opportunities in this general area. When considering the actual components of all alternatives, the most meaningful difference in potential effects to these organisms is whether 275,000 acres of off-road/off-trail land are "available" for off-road motorized vehicle use as described for Alternative 1, or are closed to this activity as in Alternatives 2, 3, 4, and 5.

Since the 2011 DSEIS was released, a vascular plant species new to science was described. It is the daisy *Erigeron stanselliae,* which so far is only known in the Signal Buttes/McKinley Mine area and near Flycatcher Springs. Although *Erigeron stanselliae* is not currently a Forest Service Sensitive species, it undoubtedly will be given that status the next time the FS Region 6 Sensitive species list is updated. In summer 2012, Forest Service botanists determined that *Erigeron stanselliae* in the Signal Buttes/ McKinley Mine area occupies at least 50-100 acres and is comprised of thousands of individuals.

Effects of Alternatives 3 and 5 on *Erigeron stanselliae* are expected to be the same as described above for *Carex gigas* and *Arctostaphylos hispidula*, i.e., a slight possibility that a few individuals could be lost during the conversion of this level 1 road to a motorized trail. However, there is little new disturbance off the roadbed itself expected and the viability of the local population of *Erigeron stanselliae* is not expected to be adversely affected.

Comments to the 2011 DSEIS suggested that other Sensitive plant species known to occur in the Signal Buttes area could be impacted by motorized vehicle use including: *Mondardella purpurea*; *Carex scabriuscula* (C. gigas) Siskiyou Sedge; and *Poa piperi*. The Monardella and the Poa are no longer Forest Service Sensitive species. The Forest Service has no record of *Monardella purpurea* in the Signal Buttes area. The effect of Alternatives 3 and 5 on *Poa piperi* in the Signal Buttes area is expected to the same as described for *Carex gigas* and *Arctostaphylos hispidula,* and for *Erigeron stanselliae.*

The alternatives differ in numerous ways as described above. However, all alternatives "**may impact individuals or habitat (MIIH), but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species.**

Survey and Manage Vascular Plants, Bryophytes, Lichens, and Fungi

In general, Survey and Manage (S&M) organisms are associated with late successional forest, not with roads, trails, and open country that can be readily accessed by OHVs. Therefore, these organisms are most likely to remain undisturbed under all alternatives.

Only S&M organisms which occur on soil as a substrate could be considered at risk from motor vehicle activities. S&M species which occur on trees, shrubs, rocks, and in streams, are not considered to be at risk.

Under **Alternative 1**, there is some possibility of occasional limited adverse effects to these organisms because 275,000 acres are theoretically open to cross country travel and at least some of that is accessible to OHVs. Adverse effects, if they were to occur, would be from soil disturbance where vehicles leave the established road and trail surfaces in areas where S&M organisms were present. Even under these circumstances, it would be unusual for the extent and level of disturbance to be high enough to place the viability of local populations at risk.

Compared to Alternative 1, there is less threat to S&M vascular plants, bryophytes, lichens, and fungi **under Alternatives 2, 3, 4, and 5** because cross-country OHV travel would not be allowed.

There are minor differences between Alternatives 3, 4, and 5 regarding S&M organisms. Under Alternative 3, the proposed new OHV play area near Willow Lake could lead to disturbance that may adversely affect S&M organisms. Under Alternative 3, a new 0.5 mile trail connecting to the Woodruff Trail on Gold Beach District could lead to similar disturbance. Re-routing of portions of the Penn Sled Trail on Siskiyou Mountains Ranger District under Alternatives 3 and 5 could also lead to similar disturbance. Surveys for S&M category A and C species at these latter two locations are included in Chapter II Mitigation Measures for "special status plants".

Converting some Maintenance Level 1 roads to motorized trails as proposed under Alternatives 3 and 5 is not expected to affect S&M organisms because they are presumed to not be present on the roadbed of these level 1 roads.

Alternative 4 is likely to have the least adverse effect on S&M organisms because there is little or no new disturbance under this alternative.

d. Cumulative Effects

Cumulative effects from other future ground disturbing activities could impact Sensitive plants, S&M organisms, and their habitat. However, project design, mitigation measures, and compliance with Forest Plan Standards and Guidelines should not allow direct adverse effects to the viability of populations. The Action Alternatives for this project are expected to maintain or reduce effects from motorized use. Alternatives 3, 4, and 5 would include a reduction in miles of routes open for public wheeled motor vehicle use adjacent to habitat and the prohibition of cross-country travel. Therefore at the scale of these Sensitive plant and S&M habitats (site-scale), there would be no additional or foreseeable risk from adverse cumulative effects.

7. Invasive Non-native Plants

Effects of motorized vehicle use on the spread of invasive non-native plants

Invasive non-native plants have the potential to alter the composition, structure, and function of wildland ecosystems. Of special concern for this planning effort are motorized vehicles as vectors for these species, and how the alternatives may affect the potential for these species to spread to new areas.

a. Background

In October 2005, the Regional Forester signed the Record of Decision (ROD) for *Pacific Northwest Region Invasive Plant Program; Preventing and Managing Invasive Plants*. This ROD amended Land and Resource Management Plans (LRMPs) in the region to include new Standards and Guidelines (S&Gs) applicable to invasive plants.

The 2005 ROD emphasizes prevention practices; provides updated treatment options including the use of herbicides with formulations containing one or more of ten active ingredients and it emphasizes restoration and long-term site management goals. The new Standards and Guidelines now provide the management framework for invasive plant prevention and control efforts on the Forest.

The Forest also has adopted *Best Management Practices for Noxious Weed Prevention and Management, Record of Decision and Land and Resource Management Plan Amendment for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest, Sudden Oak Death Prevention and Management.--Interim Direction for the ROR/SIS National Forests--February 15, 2002.*

The 1999 Environmental Assessment and Decision Notice for *Integrated Noxious Weed Management on the Rogue River National Forest* identified the need to implement a program that would curtail the introduction and spread of noxious weeds on Forest. The control strategies include chemical, manual, mechanical, biological, and prescribed fire treatments.

The 2003 Siskiyou National Forest Decision Memo, "Non-Chemical Treatments on Invasive Plant Projects within the Siskiyou National Forest", allows for control of invasive weeds using non-chemical methods, such as pulling, digging, hoeing, cutting, mowing, burning, mulching, and the introduction of biological control agents.

b. Effects Mechanisms and Analysis Framework

Non-native invasive plants are present on many parts of the Forest, particularly along roads. The Forest has an active prevention and control program for the worst of these invaders which are Oregon Department of Agriculture (ODA)-designated Noxious Weeds. ODA noxious weed lists can be viewed at http://oregon.gov/oda/plant/weeds/lists.shtml.

The Forest has known occurrences of over 25 species of noxious weeds. A Forest-specific noxious weed list can be requested at the Supervisor's Office.

Two of these, *Alyssum murale* and *Alyssum corsicum*, deserve attention in this analysis because they are new to the Forest, are the first serious invasive plant threat to the Forest's native serpentine flora, and are present within a few miles of a number of roads proposed under various alternatives to be closed, or with mixed use restrictions, in the Eight Dollar Mountain area, Josephine Creek watershed, Rough and Ready Creek watershed, and W. Fork Illinois River watershed.

Primary vectors for noxious weeds on the Forest are mostly people, vehicles, machinery, imported rock and fill. The vector for one species, the non-native houndstongue, is animal fur/hair/hides, and for another, bull thistle, it is wind. Invasive plants are sometimes inadvertently included in seed mixes. All kinds of disturbance (fire, logging, grazing, soil displacement, etc.) increase the likelihood that these invaders will establish and spread, once their propagules are present. Road maintenance activities have the potential to spread invasive plants along roads. This risk is present under all alternatives and does not differ by alternative.

c. Direct and Indirect Effects of Alternatives

People and vehicles can and do spread invasive plants along roads and trails. The degree to which this currently occurs is reflected in **Alternatives 1 and 2**, and perhaps less so under **Alternatives 3 and 5** (in which some roads and trails would be closed to vehicles but some Maintenance Level 1 roads would become motorized trails).

The expected degree of spread, or risk of spread of invasive plants along roads and trails via people and vehicles, under **Alternative 4** is similar to Alternative 3 and 5 with an additional reduced risk in Botanical Areas, serpentine areas, and Inventoried Roadless Areas. This is because OHVs would be prohibited on trails in these areas.

Under **Alternative 1**, 275,000 acres of Forest Service land is available for off-road/off-trail motorized use, though in reality only a fraction of that is actually accessible. Under this alternative, OHVs and their operators have the potential to spread invasive plant seeds/propagules into these off-road/off-trail areas over many parts of the Forest. If invasive plants become established away from roads and trails, they are hard to detect and, for ODA-designated Noxious Weeds, could remain untreated and spread further before detected and control efforts initiated.

Under **Alternatives 2, 3, 4, and 5**, uncontrolled off-road/off-trail OHV use would not be allowed on the Forest and, assuming compliance with the Travel Management Rule, OHVs and their operators would not be a vector for invasive plants into off-road/off-trail areas.

Chapter II Mitigation Measures designed to prevent and control the spread of invasive non-native plants are expected to reduce but not eliminate that risk.

Under **Alternative 3,** a new OHV play area is proposed near Willow Lake, in and near an old borrow area from which Willow Lake Dam was constructed. This location is one of few known sites in SW Oregon for the noxious weed sulphur cinquefoil (*Potentilla recta*). There is concern that play area users could unknowingly transport sulfur cinquefoil seeds from the soil seedbank to their homes and other destinations, where new populations could establish, greatly reducing the current possibility of eradicating this noxious weed in SW Oregon. This concern would be greatest when the sticky clay soils at the proposed play area are wet and adhere readily to vehicles and OHVs.

Also present at the proposed play area site is medusahead grass (*Taeniatherum caput-medusae*), a serious rangeland noxious weed. The Forest has no effective way to get rid of medusahead once it establishes, and it has clinging seeds that are easily transported even in dry conditions. Unlike the cinquefoil, medusahead is frequently found, particularly on private lands, in the Butte Falls/Willow Lake area, and eradication from the overall area would not be possible.

Two other invasive weeds are close by the proposed new play area but not yet known to be within the exact area proposed for development. They are spotted knapweed and Dalmation toadflax. Besides the potential for off-site transport of these weeds, play area construction and the ground disturbance from play area users could create conditions that favor the increase of these weeds on-site.

See the mitigation prescribed in Chapter II for the proposed new play area under Alternative 3. This mitigation is likely to control the abundance of sulphur cinquefoil, medusahead grass, and other noxious weeds within the play area. It would reduce but not eliminate the probability of these species spreading to new locations. Since the new play area is not proposed under Alternatives 1, 2, 4, and 5, there is less risk of noxious weed increase or transport from the proposed play area under these alternatives.

The potential for *Alyssum murale* and *Alyssum corsicum* to spread onto the Forest varies by alternative: Under Alternative 1, parts of the Forest near the Illinois Valley are currently open to off-road/off-trail travel, and few roads and trails are closed to motorized use. Alternative 1 represents the current potential for these two Alyssums to spread and establish on the Forest. Under Alternative 2, travel off of roads and trails is not allowed in the Illinois Valley area so the potential for spread and establishment of these two Allyssums is lessened. Under alternatives 3 and 5, some primitive roads would be closed to OHV use within the area of likely spread of the Alyssums, so there is somewhat less opportunity for the Alyssums to spread into those areas. Additional roads and trails would be closed under Alternative 4, so this alternative provides the least opportunity for the Alyssums to spread into those areas. It should be noted that none of the alternatives would have much influence on the success of Alyssum eradication efforts in the Illinois Valley and vicinity compared to the efforts that are currently underway on private lands in the area.

d. Cumulative Effects

On National Forest System lands, future projects would employ mitigation measures that are designed to reduce the potential for the spread or increased introduction of invasive plant species. It is unknown to what extent projects on private lands would lead to increased spread or introduction of invasive species.

It is not expected that the identification of motorized routes would substantially add to the incremental increase of the spread of invasive plants. Prohibiting cross-country motorized travel is expected to contribute toward meeting the regional goal of no net increase for invasive plants.

8. Invasive Pathogens

Effects of motorized vehicle use on the spread of invasive pathogens Phytophthora lateralis and Phytophthora ramorum

Phytophthora (meaning "plant destroyer") is a genus of more than 70 described species of the Oomycetes (Brasier et al. 2006). Often referred to as "fungi", *Phytophthora* species are "water molds" that are more closely related to marine algae than fungi (Erwin and Ribeiro, 1996). Favored by moist conditions, *Phytophthora* species include some of the world's most notorious plant pathogens. Two non-native invasive pathogens, *Phytophthora lateralis*, the cause of Port-Orford-cedar root disease, and *Phytophthora ramorum,* the cause of Sudden Oak Death or Ramorum leaf and twig blight, are known to occur on the Rogue River-Siskiyou National Forest. While these two pathogens have slightly different life histories, their spread may be influenced by human activities that move infested soil, water, or organic material.

a. Background

Port-Orford-cedar and Phytophthora lateralis

Port-Orford-cedar (*Chamaecyparis lawsoniana*) is native to an area along the Pacific Coast from Coos Bay, Oregon, to the mouth of the Mad River near Arcata, California. Its range extends from the coast to about 50 miles inland. There is also a small disjunct population in the Scott Mountains of California.

Phytophthora lateralis (PL) is a virulent, non-native root pathogen. It was introduced into the native range of POC in the early 1950s and its place of origin is unknown. It readily kills POC of all ages that are growing on sites favorable for infection. Once an area becomes infested, it is difficult to eradicate PL. Pacific yew (*Taxus brevifolia*) is occasionally infected by *Phytophthora lateralis* (Kliejunas 1994). Observations and laboratory trials show that Pacific yew is much less susceptible to *Phytophthora lateralis* than Port-Orford-cedar (POC). When found, infected yew is always in close association with many previously infected POC (Murray and Hansen, 1997).

However, PL does not threaten POC with extirpation. Considerable areas within the range of POC are on low-risk sites or in drainages that presently remain uninfested. There is little spread of PL on low-risk sites even when the pathogen is already established nearby. Low risk sites are defined as streamside POC greater than 100 feet from a road and non-stream side POC greater than 50 feet from a road. For the purposes of this analysis, probability of spread and establishment of PL into new uninfested areas is below 6.1%, it is considered low risk.
Probability figures are based on literature and professional judgment of forest pathologists with substantial amounts of experience evaluating PL in the laboratory and in the field.

PL primarily affects high-risk sites, especially in streams and riparian areas. High risk sites are defined as low-lying wet areas (infested or not) that are located downslope from already infested areas or below likely sites for future introductions. These areas include streams, drainage ditches, gullies, swamps, seeps, ponds, lakes, and conclave low-lying areas where water collects during rainy weather (USDA-FS 2004). High risk sites include streamside POC within 100 feet of a road and non-streamside POC within 50 feet of a road.

A more complete discussion of risk, application of the Risk Key, the resultant management practices, and rate of spread can be found in the FSEIS Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI 2004) and is incorporated herein by reference. Some of the POC FSEIS is included throughout this subsection to assist in understanding the effects of PL Spread. On the Rogue River–Siskiyou National Forest, current inventory data shows POC occurs on approximately 133,000 acres on the Gold Beach, Powers, and Wild Rivers Ranger Districts. About 12,700 acres (8.7%) are infested with *Phytophthora lateralis*, the pathogen that causes POC root disease.

Port-Orford-cedar program objectives are to maintain POC as an ecologically and economically significant species on National Forest lands. Stands of POC that contribute to management objectives are described as Measurably Contributing Port-Orford-cedar (MC-POC) because these stands are ecologically and economically significant species on National Forest lands. Port-Orford-cedar management will provide cost-effective mitigation for controllable activities creating appreciable additional risk to important uninfected POC, not to reduce all risk to all trees at all cost (USDA-FS 2004).

Port-Orford-cedar management slows the spread of the non-native pathogen PL enough to maintain POC's significant ecological and economic functions, without the cost of the management strategy exceeding its effect on the value of these functions.

The range of POC is divided into four risk regions: North Coast, Siskiyou, Inland Siskiyou, and the disjunct California risk region. (USDA-FS USDI-BLM 2004)

North Coast Risk Region
The North Coast risk region is part of the Oregon Coast Range. This is an area of low mountains with high rainfall and dense coniferous forests. It has moderately sloping, dissected mountains and sinuous streams. The most important characteristic in terms of species composition is the occurrence of western hemlock as a dominant or co-dominant species.

The Powers Ranger District within the North Coast risk region has the greatest concentration of POC in the world, from the South Fork of Coquille River to Iron Mountain. This District is also unique in having stands with compositions of POC up to 70 to 80 percent. Included within the District are the Port-Orford-cedar Research Natural Area, the Big Tree Viewing Area, (which includes the largest POC in the world at nearly 12 feet in diameter), and the Coquille River Falls Research Natural Area. The District has been active in the inventory of POC through district-wide road surveys in 1964, 1972, 1983, 1992, and 1999 and 2008.

Siskiyou Risk Region
The Siskiyou risk region includes the Coastal Siskiyous, Siskiyou Mountains, and Gasquet Mountain ultramafics located in Oregon and California. In the northwest part of the region, the Coastal Siskiyous have highly dissected mountains and high gradient streams, as well as a few, small, alpine glacial lakes. This region has a high diversity of ecological conditions, which is reflected in the vegetation. In the middle of the region, the Siskiyou Mountains are higher and steeper than the other portions of the cedar's range in Oregon. The vegetation is dominated by Douglas-fir at low elevations, Jeffrey pine on ultramafic soils, and white fir and red fir series at higher elevations. In the south portion of this region, populations of POC are highly scattered across the landscape and within many vegetation types. Douglas-fir and tanoak are the predominate trees in this part of the region. The southern extreme of this region stretches to the southwest edge of the Klamath Mountains and into the northern California Coast Range. Many of the isolated populations of POC in this part of the region are often found on ultramafic soils.

The Port-Orford-cedar populations inside the Biscuit Fire perimeter were updated in 2005. Thirty-eight POC cores were burned in the Biscuit Fire and no longer contain the minimum 100 acres of POC needed to qualify as a POC core. In addition, the 2005 inventory showed 24,137 acres of POC present of which 838 acres (3.5%) are infested with PL. Port-Orford-cedar inventory updates outside the Biscuit Fire perimeter are ongoing. Current inventories show 75,414 acres of POC present, of which 9,811 acres (13.0%) are infested with PL.

Port-Orford-cedar can be found from Iron Mountain on the northern boundary of the Gold Beach District south to Mineral Hill. POC grows from near sea level up to approximately 4,700 feet at Chetco Peak in the Kalmiopsis Wilderness. Port-Orford-cedar is mostly found within 100 feet of the streams, but is also present in upland areas on many different soil types, including serpentine. Port-Orford-cedar is mixed with Douglas-fir, true firs, pines, and incense cedar. In the mixed conifer stands, POC crown closure is generally 5 to 20 percent, but can be up to 80 percent in small isolated areas.

Many of the POC within these districts are 200 to 400 years old and 20 to 60 inches in diameter. PL has occurred along Forest roads since about 1960. The disease has spread to many stands, mostly along roads and streams, and including locations in the Kalmiopsis Wilderness following introduction.

Many of the POC within the Wild Rivers Ranger Districts range in age from 200 to 400 years and are 20 to 60 inches in diameter. Port-Orford-cedar root disease has been present along the Oregon side of the Grayback Road going toward Happy Camp, California, since about 1960. Sanitation removals were implemented on the California side to reduce the potential for further disease introduction. So far, the root disease has not been found on the California side of the Grayback Road.

In contrast, in Oregon, there has been considerable spread along this route and subsequent downstream movement in the years following introduction. The pathogen has spread to many stands, mostly along roads and down streams, east of Highway 199 on the Wild Rivers Ranger District. *Phytophthora lateralis* has infested the Grayback/Sucker Creek drainage near the Oregon Caves National Monument. The Wild and Scenic Illinois River and Briggs Valley area have a 6 to 40 percent stand composition of POC and are uninfested. Other major drainages in the Illinois Valley have scattered distributions of uninfected POC amidst steep topography.

Port-Orford-cedar is most often found in riparian areas within the Wild Rivers Ranger District. Generally, POC is within 100 feet of the stream; however, small groves of POC can be found on alluvial fans and benches along these streams.

Crown closure in the streamside areas are from 10 to 50 percent. There are upland populations on the many different soil types, including serpentine. Port-Orford-cedar is mixed with Douglas-fir, true firs, pines, and incense cedar up to approximately 4,500 feet elevation. In these mixed conifer stands, POC crown closure is generally 5 to 20 percent. Before the Biscuit Fire, POC on serpentine soils could be found from Josephine Mountain south to the Oregon border, where POC was scattered with white, knobcone, and lodge pole pines. In other serpentine areas, POC can be found with incense cedar and Douglas-fir. In these areas, POC crown closures are less than 2 percent.

POC has an especially significant presence and ecological role on areas with ultramafic (serpentine) soils. The contribution of POC to forest canopy cover on ultramafic soils in plant association groups where POC was prominent in the overstory show that POC made up 38 percent of the overstory cover and in ultramafic riparian stands it made up 50 percent of the overstory cover (USDA-FS USDI-BLM 2004).

For areas outside of the Powers Ranger District and the Biscuit Fire perimeter, the following protocol is used to determine what constitutes "important uninfected POC", that measurably contributes to meeting Land and Resource Management Plan objectives.

Measurably Contributes/High Risk Plant Association Groups (PAGs)
The moist tanoak plant association group contains POC that measurably contributes to meeting management objectives. Canopy cover is greater than ten percent, risk is considered to be high, and POC presence in this PAG is common. Loss of POC could reduce the potential of meeting management objectives in this PAG (USDA–FS, USDI-BLM 2004).

The Ultramafic - SW Oregon PAG also contains POC that measurably contributes to meeting management objectives. This PAG has greater than ten percent canopy provided by POC, occurs on high-risk sites, frequently contains POC and is unique to the Klamath province. Port-Orford-cedar provides an uncommon ecological function on ultramafic soils and loss of this species can prevent the attainment management objectives (USDA–FS, USDI-BLM 2004b).

Measurably Contributes/Low Risk PAGs
The Port-Orford-cedar PAG and coastal western hemlock PAGs both have greater than ten percent canopy cover provided by POC, commonly contain POC and occur on low risk sites. Since POC occurs on low risk sites in these PAGs, POC is expected to persist in the canopy even if some mortality from PL occurs and continue to measurably contribute to meeting management objectives (USDA–FS, USDI-BLM 2004).

For the Powers Ranger District and inside the Biscuit Fire perimeter, POC canopy cover of six percent or greater is the threshold for POC that measurably contributes to meeting management objectives.

POC-PL Management and Consistency with ACS Objectives
Forest management projects are implemented under the direction for Port-Orford-cedar management on the Rogue River-Siskiyou National Forest, which is described in the Record of Decision and Land Resource Management Plan Amendment for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI 2004).

This decision is consistent with other elements of the Siskiyou National Forest Land and Resource Management Plan (USDA-FS 1989) including amendments made April 13, 1994, known collectively as the Northwest Forest Plan (NWFP) (USDA-FS and USDI-BLM 1994b). This amendment does not change any Standards and Guidelines for the NWFP, nor does it significantly reduce protection for late-successional or old-growth forest related species, or reduce protection for aquatic ecosystems.

Therefore, POC management strategies listed in the Record of Decision and Land Resource Management Plan for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI 2004) do not have an adverse impact on the nine Aquatic Conservation Strategy Objectives required by the Northwest Forest Plan Amendments. **Below is a summary regarding consistency with the elements and components of the ACS Objectives.**

Reducing POC risk within Riparian Reserves contributes to meeting ACS Objectives by decreasing tree mortality, thereby maintaining stream shade and habitat, bank stability, and maintaining the physical integrity of the aquatic system.

Bank stability is expected to remain within the range of natural variability. This is because POC has tremendous decay resistance and the mass of large roots form a matrix that will persist for years (Burroughs and Thomas, 1977) and resist the action of flowing water along streams, thus binding streambanks. In the meantime, a replacement stand would be increasing root strength. In the ultramafic soils areas, the underlying bank material includes cobble-sized rock that is very resistant to erosion, thus preventing the lateral migration of streams. POC would have very long and variable temporal inputs to the streams as standing POC snags may be aged in excess of 800 years old (Jimerson 1999).

The turnover rate of stands of conifer or mixed conifer/hardwood would be considerably faster (expected to be in the range of 60 to 100 years for hardwoods and 80 to 300 for non-cedar conifers). (USDA, USDI 2004)

Stream shading response, as affected by POC that succumbs to PL, varies by risk region. In the North Coast Risk Region and non-ultramafic portions of the Siskiyou and Inland Siskiyou Risk Regions, spaces in the canopy created by POC mortality due to PL would be filled rapidly by adjacent trees broadening their canopies, release of understory trees, and seeded trees. Therefore, loss of shade and increases in stream temperatures are not expected (USDA, USDI 2004).

POC provides valuable large wood input, even though the snags decay slowly. However, the large wood within the streams decay slowly as well, and having a large wood component contributes to maintaining a stream's sediment regime by slowing and/or accumulating sediment input.

Within the ultramafic soils areas, there may be a future gap in large wood recruitment for POC killed close to the stream. However this short-term lower recruitment rate is not expected to be significant because: durable POC material will be standing as snags on streambanks that would be future downed wood; healthy POC trees not subject to infection or the influences of standing water in riparian areas would provide some contribution of woody material; POC log structure in streams will considerably outlast other tree species, which will result in maintaining stream structural integrity and habitat diversity; and a Douglas-fir, Jeffery pine, western white pine, or red alder or tanoak replacement stand will likely begin large wood recruitment to streams within 80 to 200 years. (USDA USDI 2004)

However, this short-term lower recruitment rate is not expected to be significant because (1) durable POC material will be standing as snags on streambanks that would be future downed wood, (2) healthy POC trees not subject to infection or the influences of standing water in riparian areas should provide some contribution of POC woody material, (3) POC log structure in streams will considerably out last other tree species holding together stream structural integrity and habitat diversity, and (4) a Douglas-fir, Jeffery pine, western white pine, or red alder or tanoak replacement stand will likely begin providing large wood recruitment to streams within 80 to 200 years.

Reducing POC risk within Riparian Reserves contributes to meeting ACS Objectives by decreasing tree mortality, thereby maintaining stream shade and habitat, bank stability, and maintaining the physical integrity of the aquatic system. Maintaining these elements would result in maintaining populations of native plant, invertebrate, and vertebrate riparian-dependent species.

Phytophthora ramorum

In the mid-1990s, abrupt die-off of large numbers of tanoak (*Lithocarpus densiflorus*) and coast live oak (*Quercus agrifolia*) trees was observed on hillsides in California's Marin County. The cause of the die-off was unknown and local residents and the press coined the phrase "Sudden Oak Death" to describe the rapid onset of tree mortality they observed (Goheen et al., 2006). In 2000, University of California researchers identified a previously unknown *Phytophthora* species, as the causal organism after isolating it from cankers (localized areas of dead cambium) on dying trees (Rizzo et al., 2002).

Soon it was recognized that the same pathogen was causing leaf blight, stem cankers and tip dieback on nursery-grown rhododendrons and viburnums in Europe and the pathogen was formally named *Phytophthora ramorum* (Werres et al., 2001). Scientific evidence suggests that *P. ramorum* is a non-native pathogen in both North America and Europe, which has been separately introduced; however, its origin is unknown (Ivors et al., 2004; Rizzo and Garbelotto 2003; Rizzo et al., 2002).
To date, millions of oaks and tanoaks in California have been killed on an estimated 2 million infested acres (Meentemeyer et al., 2008).

Phytophthora ramorum was first discovered in southwest Oregon (Curry County) forests in 2001, where it was killing tanoak (*Lithocarpus densiflorus*) and infecting Pacific rhododendron (*Rhododendron macrophyllum*) and evergreen huckleberry (*Vaccinium ovatum*) (Goheen et al., 2002). At that time there were nine infested forest sites ranging in size from 0.5 to 11 acres and totaling 40 acres on non-industrial private forest lands, industrial private forest lands and federal forest land administered by the Coos Bay District, Bureau of Land Management. *Phytophthora ramorum* probably was present at one location as early as 1998 (Hansen et al., 2008).

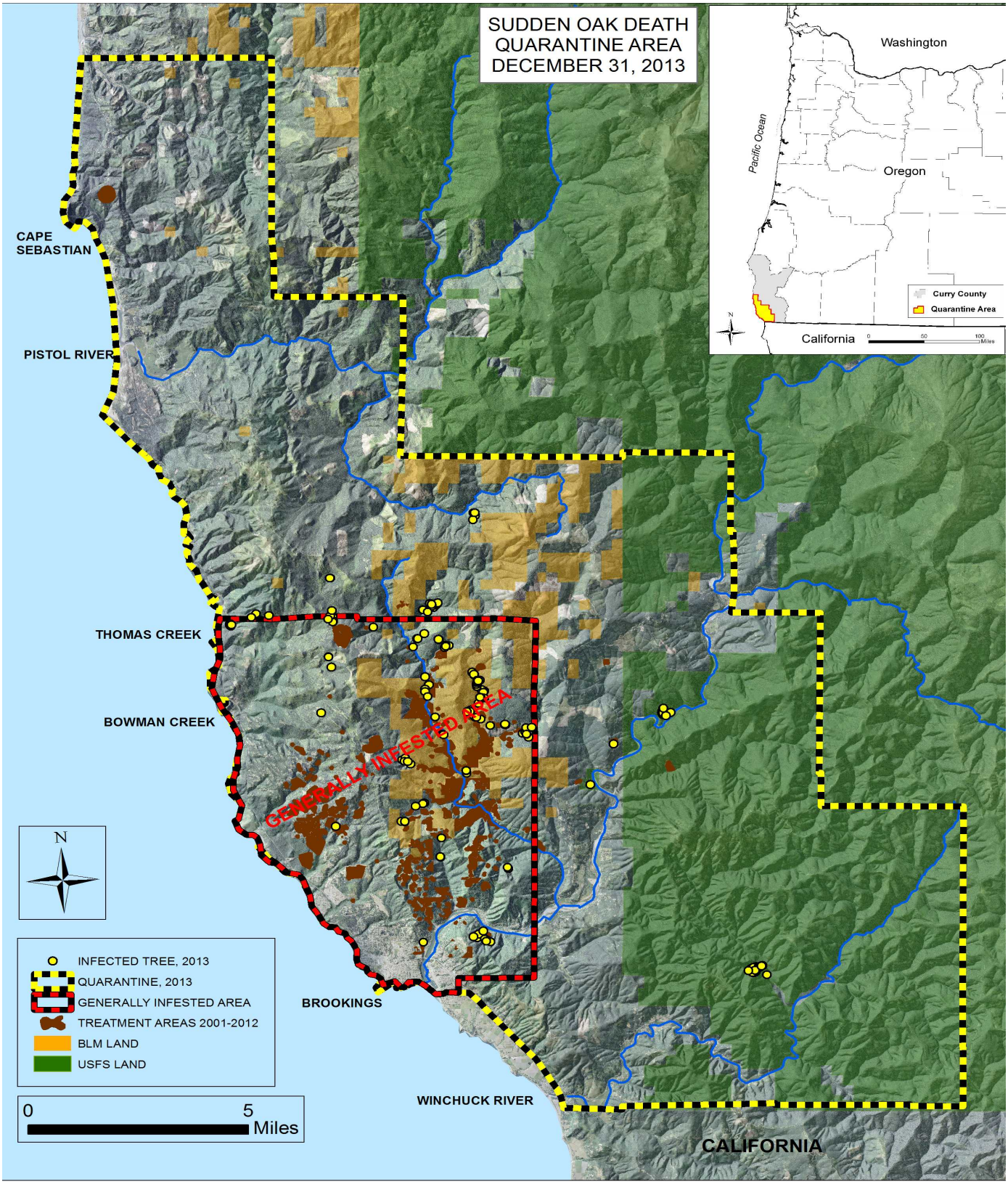
Treatments to eradicate the pathogen from infested sites began in Curry County during fall of 2001 and involved cutting, piling and burning infected plants and all nearby host vegetation. The use of injected herbicide to prevent sprouting of tanoaks was included, where possible, in the treatment prescription after 2003. Upon completion of burning most sites have been planted with non-host or conifer seedlings. To date, eradication treatments have been completed on approximately 4,500 acres and host removal on approximately 1,450 acres. Treatments effectively eliminated disease on more than 50 percent of sites, but the disease continues to slowly spread (A. Kanaskie, 2014).

The number of new infested sites found each year increased slowly between 2001 and 2009 and appeared to stabilize at approximately 60 per year. At this level of disease and funding, the eradication program was marginally sustainable. In 2010, disease levels began exceeding the capacity to apply eradication treatments to all infested sites. Since then, sites on private land nearest the quarantine boundary have been assigned the highest priority for treatment while sites near the center of the quarantine area have been left untreated. All sites on Federal land continue to be treated, regardless of location (A. Kanaskie, 2014).

In 2011 and 2012, disease continued to intensify and spread primarily near the center of the quarantine area and close to the coastline. A few new infestations were found outside of existing quarantine area as well, triggering an expansion of the quarantine to 202 mi^2 in March 2012, and then to 264 mi^2 in March 2013 (current quarantine area). The latest revision of the Quarantine Area (December 31, 2013) established a Generally Infested Area (GIA) within the quarantine boundary where *P. ramorum* has persisted or intensified and eradication is no longer required by the state; see Map III-4, below.
In addition to the Quarantine Area, Map III-3 shows location of sites infested with *Phytophthora ramorum* in southwest Oregon that were discovered in 2013. Brown blotches indicate past eradication areas. Note that sites are enlarged for visibility. In 2013, no new infested sites were found outside of the quarantine area. Several new infested sites were found outside of the GIA and those are being treated regardless of ownership (A. Kanaskie, 2014).

Initially, two infested sites were identified on the Forest, one in 2006 and one in 2008. These sites were located approximately 1,000 to 1,500 feet from established roads; one was located approximately 200 feet uphill from a non-motorized hiking trail (Redwood Nature trail). Both sites, combined treatment area approximately 35 acres, have been treated by herbicide injection, cutting, piling, and burning.

Map III-4. Sudden Oak Death Quarantine Area (December 2013)



Additional detections within a tributary to Wild and Scenic portion of the Chetco River include Wilson Creek; with 5 acres of treatments completed February 2013. Also within the Wild and Scenic portion of the Chetco River, the Nook West site was detected; 28 acres of chemical treatment was applied in fall 2013, the remainder of treatments- cut/pile/ burn are to be accomplished spring/fall 2014.

Within a drainage of the Winchuck River, the Wheeler Creek 1 site (46 acres) was treated in fall 2013. The Wheeler Creek 2/3 sites (extension of WC 1), have an additional 51 acres of treatments scheduled to start May 2014. The East Fork Winchuck site (7 acres) was treated in fall 2013.

Most *Phytophthora* species are root pathogens; however, *P. ramorum* predominantly affects aboveground plant parts such as leaves, needles, boles, green twigs and woody stems (Davidson et al. 2003, Hansen et al. 2008). Over 100 plant species are known hosts including native forest species such as tanoak, oaks in the red oak group such as California black oak (*Quercus kelloggii*), Douglas-fir (*Pseudotsuga menziesii*), coast redwood (*Sequoia sempervirens*), Pacific rhododendron, evergreen huckleberry, and Pacific madrone (*Arbutus menziesii*) as well as important commercial nursery species such as rhododendron, camellia, Pieris and laurel. The most current host list is posted at http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/. In Oregon, the list of native plants that have been found infected in the wild is much shorter; tanoak, evergreen huckleberry and Pacific rhododendron are usually the only infected species (Goheen et al., 2006).

Phytophthora ramorum is well adapted to the mild, wet conditions of the Pacific Coast. The pathogen produces small sacs (sporangia) of swimming spores (zoospores) that readily break off and can be spread in rain splash and wind. Multiple generations of spores may be produced during wet weather periods at any time of year (Hansen et al., 2008). The pathogen spreads from tree to tree as zoospores or sporangia in water: rain splash, drip and stem flow (Hansen et al., 2008). Longer distance spread in forests is facilitated by turbulent transfer of sporangia dislodged from upper crown infections in clouds and wind-driven rain (Hansen et al., 2008).

Phytophthora ramorum also makes thick-walled resting spores (chlamydospores) in infected plant parts that allow it to survive heat and drought and persist for months to several years in soil and plant debris collected adjacent to stumps of known infested trees (Davidson et al., 2008, Fichtner et al., 2007, Goheen et al. ,2006). It has been shown that soil propagules of *P. ramorum* can be picked up and carried via soil adhering to hikers' shoes and on mountain bike tires (Cushman and Meentemeyer, 2008). *Phytophthora ramorum* can be detected in stream water using floating leaf baits; however, no observations have been made in Oregon that suggests streamwater as the source for new infections (E. Hansen, pers. com. 2009). *Phytophthora ramorum* can also be moved over extreme long distances (continental, global scales) in infected nursery stock (Goheen et al., 2006).

b. Effects Mechanisms and Analysis Framework

Phytophthora lateralis

Phytophthora lateralis is spread via water or soil. A typical spread scenario involves infested soil being transported into an un-infested area on a vehicle or piece of equipment or, potentially, in infested water being transported in the tanks of fire engines or helicopter buckets during suppression activities. The infested soil falls off of the vehicle or spores are delivered via water and the pathogen first infects POC near the site of introduction. New spores from that infection are then washed downhill in surface water infecting additional hosts. This is especially lethal along drainages and creeks where infested water is channeled and flows near concentrations of healthy POC.

Infection by PL is greatly favored by cool conditions and requires the presence of water around POC roots for at least several hours (Zobel et al., 1985). Optimal temperatures for infection are between 50 and 68 degrees F (Trione 1974). Most POC are infected by the pathogen in the cool, wet parts of the year. Very little infection occurs in the dry, warm summer months. When evaluating the likelihood of PL spread in new areas, consideration needs to be given to a number of factors influencing PL spread and establishment. The management Direction for Port-Orford-cedar (POC) management on the Rogue River–Siskiyou National Forest is described in the Record of Decision (ROD) and Land and Resource Management Plan Amendment for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI 2004) and provides the Forest Service with a Risk Key to address additional appreciable risk of PL spread. If the Risk Key is triggered by a proposed project, the decision maker is provided a suite of management practices that will reduce the spread of PL to acceptable levels.

"Uninfested 7th field watersheds" are defined as watersheds with greater than 50 percent Federal ownership and with greater than 100 Federal acres in stands that include POC (not including plantations where POC did not previously occur), where at least the Federal lands are uninfested or essentially uninfested with PL. Uninfested POC stands within these watersheds are referred to as POC cores. POC cores are not necessarily contiguous acres. Analysis done for the FSEIS of the Record of Decision and Land Resource Management Plan for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI, 2004) using existing Geographic Information Systems (GIS) stand mapping indicated there were 162 uninfested 7th field watersheds in Oregon, 144 on the Rogue River-Siskiyou National Forest. Stands with any level of POC are included.

Watersheds no longer qualify for POC cores if 5 percent or more of the POC core area becomes infested with PL. Because these watersheds sometimes empty into a larger stream that is infested, infestations within the lowest 2 acres of the watershed (and lowest 200 feet of stream) do not count against the current uninfested status or the 5 percent (USDA-FS 2004).

Post Biscuit fire POC mapping and inventory updates show that twenty-eight of the original uninfested 7th field watersheds do not have 100 acres of POC. These twenty eight seventh field watersheds will continue to be managed as POC cores. One seventh field watershed (12J07F) has approximately 2.5 acres of infested POC and about 75 acres of healthy POC. A map of all seventh field watersheds can be found at: http://www.fs.fed.us/r6/rogue-siskiyou/projects/foresthealth/poc/08-map-2.pdf

One seventh field watershed (07L14W) was removed from the POC core list. This watershed exceeds the five percent infection criteria from the POC ROD (USDA-FS 2004). In this seventh field watershed, post Biscuit Fire mapping shows approximately 26 acres of infected POC and 168 acres of healthy POC. Infection percent for this seventh field watershed is 13.4%. The two new PL locations were identified in 2004 as part of the post Biscuit Fire POC mapping update. It is not possible to tell exactly when or how the area became infested. The new PL areas are located in the northeast quarter of section 29, Township 36 South, Range 12 West.

Phytophthora ramorum

The spread of *P. ramorum* poses a potentially serious threat to the forest ecosystem function, wildlife habitats, fire behavior, landscape aesthetics, and the horticultural and timber industries. (Goheen et al., 2006; Rizzo and Garbelotto, 2003; Appiah et al., 2004; Hansen et al., 2008).

Rizzo and Garbelotto (2003) speculate that the "broad host range of *P. ramorum*, the variability of symptoms between different hosts, and the pathogen's aerial dispersal suggest that it has the potential to cause a cascade of long-term landscape changes."

In the California counties where Sudden Oak Death (SOD) was first discovered, the disease has already adversely affected ecosystem functions, increased fire and safety hazards and reduced property values in developed areas (Rizzo and Garbelotto, 2003; Appiah et al., 2004; Goheen et al., 2006).
Federal (7 CFR Part 301, http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/regulations.shtml) and State (ORS 603-052-1230 and ORS 603-052-1250, http://egov.oregon.gov/ODA/PLANT) regulations are in place to protect natural resources and horticultural industries from human-assisted spread of *P. ramorum*. These regulations restrict the interstate and intrastate movement of regulated and restricted articles from designated quarantine areas. Regulated articles, which may be moved from quarantined areas contingent upon the application of certain phytosanitary measures, include soil and nursery stock (except acorns and seeds), unprocessed wood and wood products (including firewood, logs, and lumber), and plant products (including wreaths, garlands, and greenery) of designated host plant species. Specifically, Federal and State regulations prohibit the movement of soil from known infested sites or from within five meters of known infected plants unless it has been sterilized.

Restricted articles from quarantined areas, which are prohibited from moving outside the quarantine area except under permit, include bark chips, forest stock, and mulch of designated host plant species. The regulations also include provisions for the issuance of certificates and compliance agreements, as well as provisions regarding treatments for regulated articles and inspection and sampling protocols for nurseries shipping host plants interstate. Water is not currently a regulated article.

Currently, motorized vehicle use does not influence the spread or intensification of *P. ramorum* on the Rogue River-Siskiyou National Forest. Infested sites are not near or adjacent to roads or motorized trails.

Should *P. ramorum* be confirmed on other sites on the Rogue River-Siskiyou National Forest, decisions related to motorized vehicle use shall comply with federal and state regulations regarding this pathogen.

c. Direct and Indirect Effects of Alternatives

Phytophthora lateralis

Potential for the spread of *Phytophthora lateralis*, the pathogen that causes Port-Orford-cedar root disease is not simply a function of how many acres are entered. Rather, it is a function of a number of factors including acres entered with healthy POC, acres entered with PL, management performed on these acres, season of activity on these acres, and sequencing of units containing POC and PL to name a few. For a full discussion on the factors affecting pathogen spread and factors affecting risk of infection, refer to the FSEIS of the Record of Decision and Land Resource Management Plan for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI, 2004), incorporated herein by reference.

Employing a planned combination of management practices can reduce the probability of long-distance spread more than a single practice. No priority is assumed by the order of management practices listed under Mitigation Measures Common to All Alternatives, Chapter II, section K, 6, b.

Therefore, an integrated program using a combination of public education, road closures, road management measures, vehicle and equipment washing treatments, roadside sanitation[29], timing of activities during dry seasons, using certified clean or Clorox® bleach-treated water, regulation of special use activities such as cedar bough collecting, has a suggested probability of pathogen spread between zero and two percent per activity (USDA -USDI 2004).

Application of the Risk Key and the resultant management practices will make this project consistent with the mid-and large-scale geographic and temporal-scale effects described by the analysis in the FSEIS and the Record of Decision and Land Resource Management Plan Amendment for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI, 2004). Appendix F of this FSEIS contains information specific to where the Risk Key applies to this project.

Alternative 1
Under this alternative, the existing condition would continue. No changes would be made to the current National Forest transportation system and no cross-country travel prohibition would be put into place. This would provide 86,211 acres of Measurably Contributing (MC-POC) and infested POC areas open for motorized use.

The potential for new areas of PL spread would be the greatest under this alternative. This is because Alternative 1 does not prohibit cross-country travel. All POC populations, except for specially designated areas closed to motorized travel, would be considered high risk sites as they all would potentially be within 50 feet of an OHV accessible area.

However, due to steep topography and heavy vegetation associated with most of these areas, it is estimated that substantially less acres are capable of supporting this use. Based on the analysis assumptions at FSEIS Chapter III, section B, 1, it is not anticipated that this use would measurably change. Therefore, the potential for importing PL onto sites with healthy POC and exporting PL off infested sites would not change from the current condition. More discussion concerning effects of this alternative is described in the FSEIS of the Record of Decision and Land Resource Management Plan for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI, 2004) as Alternative 1. These effects are incorporated by reference.

Impacts Common to Alternatives 2, 3, 4, and 5
Under these alternatives, cross-country travel would be prohibited. This would close 86,211 acres MC-POC and infested POC areas open for motorized use. Eliminating motorized use off designated routes would help protect healthy populations of MC-POC. Therefore, Alternatives 2, 3, 4, and 5 would reduce the current level of impacts and have less effect than Alternative 1 on the potential for PL spread. In Alternatives 3, 4, and 5 there would be a decrease in allowable motorized use of roads and trails. However, these alternatives only propose minor decreases in motorized use within areas containing POC.

[29] Roadside sanitation is not included as a Mitigation Measure in this document because vegetation altering practices requires reinitiation of formal consultation with the Fish and Wildlife Service pursuant to the programmatic consultation completed on February 17, 2004, to implement the Record of Decision for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest 2004. The mitigation measures listed in this document are within the reasonable range of cost-effective management practices available to reduce PL spread.

In addition to cross-country travel closure, the Port-Orford Cedar Risk Key is a site-specific analysis tool to help determine where risk reduction management practices would be applied.
Only those roads or trails that trigger the POC Risk Key because there is a proposed change in motorized use from the current condition were analyzed. The Risk Key analysis and a more complete list of tables highlighting those proposed road and trail changes are documented and found in Appendix F of this FSEIS.

Alternative 2
In general, Alternative 2 would designate the existing motorized travel routes, except for cross-country travel. Therefore, aside from reducing potential PL spread by closure of cross county travel, the potential for importing PL onto sites with healthy POC and exporting PL off infested sites would not change from the current condition (Alternative 1) as discussed above.

Alternative 3
In general, Alternative 3 would reduce risk to POC that measurably contributes to meeting management objectives on the Rogue River-Siskiyou National Forest by designating roads, trails, or areas for motorized vehicle use compared to the current situation. Designating specific areas for motorized use reduces the potential to export PL off infested sites and import PL onto uninfested sites as the area utilized for motor vehicle use declines.
There are three proposed changes in Alternative 3 that would introduce additional appreciable risk:

1) 0.05 mile of new motorized trail (Woodruff) in Township 36 South, Range 13 West, section 9. Access to the new trail from the west passes through a PL infested area;

2) 4.8 miles of Maintenance Level 1 roads in the Signal Butte area being proposed for conversion into motorized trails; and

3) 2.7 miles of a Maintenance Level 1 road to access Biscuit Hill are being proposed for conversion into a motorized trail.

These proposed road-to-trail conversions pass through both healthy and PL infested areas of POC. While this is a proposed change from the current condition, these areas currently receive OHV use due to the accessibility of the area's Maintenance Level 1 roads and openness of the terrain.

By implementing a combination of management practices contained in the mitigation section of Chapter II of this document, the effects would be consistent with those described in the January 2004, FEIS for Port-Orford-cedar management in Southwest Oregon. Therefore, no additional effects, direct or indirect are anticipated from the proposed changes. In addition, since these areas are currently receiving use by OHVs without the implementation of mitigation measures to abate the spread of PL, the proposed road and trail changes that would trigger the Risk Key and resultant management practices could decrease the likelihood of PL spread.

Table III-16 below summarizes the change of motorized use within MC-POC and PL areas by alternatives.

Table III- 16. Comparison of alternatives – *Phytophthora lateralis* and Port-Orford-cedar

Measurable Contributing (MC) and *Phytophthora lateralis (*PL) infested Areas of Port-Orford-Cedar (POC)	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of Cross-Country Travel (within PL infested POC)	9,697	0	0	0	0
Acres of Cross-Country travel (within MC-POC)	76,514	0	0	0	0
Miles of Open Roads (intersecting PL infested POC)	426.9	426.9	424.7	420.2	424.7
Miles of Open Roads (intersecting MC-POC)	892.8	892.8	871.7	852.6	871.7
Miles of Motorized Trails (intersecting PL infested POC)	8.7	8.7	6.1	6.0	6.1
Miles of Motorized Trails (intersecting MC-POC)	54.6	54.6	42.3	14.7	39.2

Alternative 4

In general, this alternative has the greatest potential to reduce the spread of PL. This is because Alternative 4 proposes the most restrictive use of motorized vehicles within MC-POC and PL areas. All of the items in Alternative 3 requiring implementation of one or more of the POC Management practices are not present in Alternative 4. Therefore, no appreciable additional risk to POC that measurably contribute to meeting management objectives would occur within this alternative. Risk is reduced compared to Alternative 3 because the potential for PL spread decrease due to overall reductions in motorized vehicle associated with this alternative.

Alternative 5

Under Alternative 5, only one of the proposed changes in Alternative 3 requiring implementation of one or more of the POC Management practices is included: 4.8 miles of Maintenance Level 1 roads being converted to motorized trails. These proposed road to trail conversions pass through both healthy and PL infested areas of POC. Risk is reduced compared to Alternative 3 as potential for PL spread is lessened due to an overall reduction in motorized opportunities in MC-POC and PL areas.

In addition, as stated above, this area is currently receiving OHV use due to the accessibility of the area's Maintenance Level 1 roads and openness of the terrain. Therefore, the proposed road to trail changes would trigger the Risk Key and resultant management practices, which could decrease the likelihood of PL spread.

Phytophthora ramorum

All alternatives shall comply with federal and state regulations regarding *P. ramorum*. Soil from infested sites shall not be transported outside the currently designated quarantine area unless subjected to approved and officially verified sterilization treatment. Movement of restricted or regulated plant materials to locations outside the designated Quarantine Area shall comply with current regulations.

The current understanding of the role water-based propagules play in pathogen survival and spread is not well understood. Infested water is currently not a restricted article; however, to reduce the potential risks of spreading the pathogen, any water taken from infested streams for purposes such as dust abatement or construction for use outside the Quarantine Area shall be treated with Chlorox® according to label directions.

d. Cumulative Effects

The Rogue River–Siskiyou National Forest is within the North Coast and Siskiyou Risk Regions for POC. Of the 48,019 POC acres on the Powers Ranger District, 2,453 acres (5.1 %) are infested. Twenty percent of the sites in the North Coast Risk Region are considered to be high risk (25,250 acres). At this time approximately fifteen percent of the risk region is considered infested (18,900 acres). This level of infestation on the Powers Ranger District is below the infestation level for the Risk Region as a whole. In 100 years, the predicted amount of infested acres is predicted to increase to 17 percent of high-risk sites (approximately 20,800 acres).

For the Gold Beach and Wild Rivers Ranger Districts, there are approximately 99,551 acres of POC of which 10,649 acres are infested (10.7%). In this risk region, forty percent of the acres are considered to be at high risk (approximately 46,550 acres). Eleven percent of the Risk Region (12,800 acres) is considered infested. The current level of infestation is slightly below the eleven percent infested acres for the Risk Region as a whole. In 100 years, the predicted amount of infested acres is predicted to increase to 20 percent of high-risk sites (approximately 23,600 acres).

On the National Forest System lands, future projects would employ mitigation measures that are designed to reduce the potential for the spread of PL. It is unknown to what extent projects on private lands would lead to increased PL spread. It is not expected that the identification of motorized routes would add to the incremental increase of PL spread beyond the 100 year predictions above. Prohibiting cross-country motorized travel is expected to contribute to a reduction in PL spread and meet management objectives.

These estimates cover all management activity for the Forest Service and BLM. A more complete discussion of risk and rate of spread can be found in the FSEIS for Management of Port-Orford-cedar in Southwest Oregon, Siskiyou National Forest (USDA, USDI, 2004).

9. Terrestrial Wildlife Listed Species

Effects of motorized vehicle use on wildlife species federally listed as Threatened or Forest Service Sensitive species

A Biological Evaluation process was conducted for, Proposed, Endangered, Threatened, or Sensitive (PETS) terrestrial wildlife species for this designation process; all information and findings are included within this Final SEIS. It is Forest Service policy to minimize adverse effects to the habitat of listed Threatened or Endangered species and to minimize adverse effects to designated Critical Habitat for listed species as well as to protect individual organisms from harm or harassment as appropriate.

The purpose of this evaluation is to determine and document the possible effects that the proposed activity and alternatives would have on any PETS wildlife species (FSM 2672.4). A second objective of this evaluation is to ensure these species receive full consideration in the decision-making process, to maintain species viability and meet defined recovery goals.

The Biological Evaluation process (FSM 2672.43) provides a description of office analysis, and mitigation activities necessary to ensure proposed management actions will not likely jeopardize the continued viability of:

- Species listed or proposed to be listed as Endangered or Threatened by the USDI Fish and Wildlife Service.
- Species listed as Sensitive by the USDA Forest Service Region 6 (USDA Forest Service 2008, FSM 2670.44).

a. Background

The US Fish and Wildlife Service (FWS) designates Proposed, Endangered or Threatened species under authority of the Endangered Species Act (ESA) of 1973 (Public Law 93-205), as amended. The Forest Service in the Pacific Northwest Region (FS Region 6) identifies and designates Sensitive species. This evaluation discloses impacts to those PETS species that: 1), are known or are suspected to occur inside the action area based on confirmed sightings or geographic range, 2), have suitable habitat in or near the action area, and 3), would be affected by the proposed action or other alternatives. Furthermore, this process identifies conservation measures included in proposed actions that would eliminate, reduce, avoid or compensate for unwanted effects to listed species.

Section 7 of the Endangered Species Act (ESA) also directs each Federal agency to insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any Threatened or Endangered species or result in the destruction or adverse modification of their critical habitat. The ESA also directs each Federal agency to confer or consult with the appropriate Secretary on any action, which is likely to jeopardize or affect the continued existence of any species or its critical habitat.

In compliance with Section 7 of the Endangered Species Act (ESA)(1973 *et seq*.) and the Forest Service Biological Evaluation process for Proposed, Threatened, Endangered, and Sensitive (PETS) terrestrial wildlife species, the list of species potentially occurring within the RRSNF was reviewed.

The January 31, 2008 Pacific Northwest Region (R6) listing of species applicable to the RRSNF was reviewed in regard to potential effects on any of these Sensitive species by actions associated with this proposal. Pre-field and reconnaissance results and determinations are summarized below. Tables III-17 and III-18 displays the process and which of the steps were necessary to complete the impact evaluation for each PETS wildlife species considered.

Table III- 17. Steps in the biological evaluation process – threatened terrestrial species

FWS Listed Threatened Wildlife Species & Habitat	Pre-Field Review Existing Sighting or Habitat?	Field Reconnaissance Species/Habitat Present?	Conflict Determination Potential Conflict?	Effects Analysis Needed?
Northern spotted owl	YES	YES	YES	YES
Spotted owl Critical Habitat	YES	YES	YES	YES
Marbled murrelet	YES	YES	YES	YES
Marbled murrelet Critical Habitat	YES	YES	YES	YES
Gray Wolf	YES	YES	NO	NO
Oregon Spotted Frog	NO	YES	NO	NO

Table III- 18. Steps in the biological evaluation process – sensitive terrestrial species

FS Sensitive Wildlife Species	Pre-Field Review Existing Sighting or Habitat?	Field Reconnaissance Species/Habitat Present?	Conflict Determination Potential Conflict?	Effects Analysis Needed?
American peregrine falcon	YES	YES	YES	YES
Bald eagle	YES	YES	YES	YES
Tricolored Blackbird	NO	NO	NO	NO
Harlequin duck	YES	YES	YES	YES
Lewis' woodpecker	YES	YES	YES	YES
White-headed woodpecker	YES	YES	YES	YES
Purple Martin	YES	YES	NO	NO
Northern waterthrush	NO	NO	NO	NO
California wolverine	NO	NO	NO	NO
Pacific fisher	YES	YES	YES	YES
Pacific pallid bat	YES	YES	YES	YES
Townsend's big-eared bat	YES	YES	YES	YES
Pacific fringe-tailed myotis	YES	YES	YES	YES
Northwestern pond turtle	YES	YES	YES	YES
Oregon spotted frog	YES	YES	YES	YES
Foothill yellow-legged frog	YES	YES	YES	YES
Siskiyou mountains salamander	YES	YES	YES	YES
California slender salamander	YES	YES	YES	YES
Black salamander	YES	YES	YES	YES
Siskiyou short-horned grasshopper	YES	YES	YES	YES
Coronis fritillary	YES	YES	YES	YES
Mardon skipper	YES	YES	YES	YES
Insular blue butterfly	YES	YES	YES	YES
Gray-Blue Butterfly	YES	YES	YES	YES
Hoary elfin	YES	YES	YES	YES

FS Sensitive Wildlife Species	Pre-Field Review Existing Sighting or Habitat?	Field Reconnaissance Species/Habitat Present?	Conflict Determination Potential Conflict?	Effects Analysis Needed?
Johnson's hairstreak	YES	YES	YES	YES
Franklin's bumblebee	YES	YES	YES	YES
California Shield-Backed Bug	NO	NO	NO	NO
Siskiyou hesperian	YES	YES	YES	YES
Pristine springsnail	YES	YES	YES	YES
Crater Lake tightcoil	YES	YES	YES	YES
Pacific walker	YES	YES	YES	YES
Robust walker	YES	YES	YES	YES
Traveling sideband	YES	YES	YES	YES
Chace Sideband	YES	YES	YES	YES
Green sideband	YES	YES	YES	YES
Scale lanx	YES	YES	YES	YES
Highcap lanx	YES	YES	YES	YES
Oregon shoulderband snail	YES	YES	YES	YES
Klamath rim pebblesnail	NO	NO	NO	NO
Evening field slug	YES	YES	YES	YES
Western ridged mussel	YES	YES	YES	YES

Species background and accounts for FWS Threatened wildlife species and Critical Habitats, and FS Sensitive wildlife species, considered as part of this Biological Evaluation, are contained in Appendix C to this FSEIS, incorporated by reference.

b. Effects Mechanisms and Analysis Framework

See the assumption discussion at the beginning of Chapter III (section B, 1) for a general list of assumptions used in this analysis.

Available literature indicates that public wheeled motor vehicle use of roads and trails affects wildlife, directly and indirectly, in a wide variety of ways. Although there is a considerable body of research describing effects of motorized roads and trails on wildlife, these interactions are complex, variable, and information gaps remain (Gaines et al., 2003; Trombulek and Frissell, 2000; USDA Forest Service 1998). Road and trail-related effects can be categorized in a variety of ways; for this analysis they have been placed into the following three categories: effects resulting from human-caused mortality, effects resulting from changes in behavior, and effects resulting from habitat modification.

Human-caused mortality can be the result of collisions, hunting, trapping, poaching, negative human interactions, and collection. Death or injury from a vehicle hitting or running over an animal is well documented and affects the vast majority of terrestrial species, though to varying degrees (Trombulak and Frissell, 2000). In general, road mortality increases with traffic volume and speed, and road kill on native surface forest roads is generally not significant for large mammals (USDA FS 1998). Small mammals and herptiles are more vulnerable because individuals are inconspicuous and slow-moving. Amphibians may be especially vulnerable to road mortality because their life histories often involve migration between wetland and upland habitats (Trombulak and Frissel, 2000; USDA FS 1998).

Raptors are also vulnerable to collisions on forest roads due to their foraging behaviors, but the most substantial documented mortality has been along highways. Roads and motorized trails open areas to increased poaching or illegal shooting and losses from incidental trapping. These factors can be substantial for species with low population numbers for which even low rates of additive mortality may affect population stability. On the RRSNF, the current magnitude of these impacts or their influence upon populations is largely unknown.

Changes in behavior can include displacement or avoidance, impacts on breeding behavior, and physiological impacts. Gaines et al. (2003) reviewed literature on road- and trail-associated effects upon wildlife and found that alteration of use of habitats in response to roads or road networks was the most common interaction reported. Fifty to sixty percent of the 29 focal species reviewed were impacted in this manner (Gaines et al., 2003). Studies have documented shifts in an animal's home range area, shifts in foraging patterns, and disturbance of nesting or breeding behaviors resulting from motorized road or trail use and associated increased human recreation activity facilitated by motorized access (Foppen and Reijnen, 1994; Johnson et al., 2000; Rost and Bailey, 1979). Recreation activities (hiking, camping, fishing, shooting, etc.) that are associated with the access provided by motorized routes, result in indirect disturbance and displacement effects that often exceed the direct influence of the roads and trails. Many species avoid areas in proximity to roads or trails, or exhibit flight behavior within a certain distance of route use, though studies documenting the magnitude and duration of behavioral responses are limited. Road usage by vehicles has a substantial role in determining an animal's road avoidance behavior.

Black bear, for example, crossed roads with low traffic volume more frequently than roads with high traffic volume, and almost never crossed interstate highways (Brody and Pelton, 1989). Perry and Overly (1977) documented displacement of deer up to 800 meters from major roads, and from 200 to 400 meters from secondary and primitive roads.

Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees), have the potential to disrupt normal behavior patterns. Studies of the effects of human disturbance upon wildlife have revealed that the immediate postnatal period in mammals and the breeding period in birds are time periods when individuals are most vulnerable to disturbance. Intrusion-induced behaviors such as nest abandonment and decreased nest attentiveness have led to reduced reproduction and survival in species that are intolerant of intrusion (Knight and Gutzwiller, 1995). Foppen and Reijnen (1994), for example, found that the reproductive success of forest bird species declined in areas fragmented by roads. Wasser et al. (1997) found that stress hormone levels were significantly higher in male northern spotted owls (but not females) when they were located less than 0.25 miles from a major logging road compared to spotted owls in areas greater than 0.25 miles from a major logging road. Chronic high levels of stress hormones may have adverse consequences on reproduction or physical condition of birds, though these effects are not well understood.

Wildlife response to noise disturbance is complex, being neither uniform nor consistent. Delaney et al. (1999) reviewed literature on the response of owls and other birds to noise and concluded that birds generally flush in response to disturbance when distances to the source are less than about 200 feet and when sound levels are in excess of 95 decibels and the tendency of a bird to flush from a nest declines with experience or habituation to the noise, although the startle response cannot be completely eliminated by habituation.

Habitat modification includes habitat loss, fragmentation, edge effects, snag and down log reduction, routes for competitors, movement barriers. Road and trail networks remove habitat but also have a broader effect than just the conversion of a small area of land to route surfaces. Andren (1994) suggested that as landscapes become fragmented, the combination of increasing isolation and decreasing patch size of suitable habitat is adversely synergistic, compounding the effects of simple habitat loss. In particular, species associated with old forest habitats may be impacted by such effects. A decrease in interior forest patch size results in habitat loss and greater distance between suitable interior forest patches for sensitive species such as the northern spotted owl and American marten.

Additional habitat modification occurs as an indirect effect of managing roads or trails for public wheeled motor vehicle use. Trees posing a potential safety hazard ("hazard trees") are removed along roads. These trees are typically snags that are within a tree-height distance from the road. This safety policy results in a largely "snag free" zone of 200 to 300 feet from a road's edge, also affecting the recruitment of large down wood within this zone. Few hazard trees are typically removed along trails.

Major highways are known to create movement barriers for a number of wildlife species, particularly wide-ranging carnivores and ungulates, and are suspected of being a major factor in the decline of some forest carnivores, such as fisher and marten (Brody and Pelton, 1989; USDA FS 2001). The slower speed and lower traffic volume roads and trails that are being evaluated in the alternatives are less likely to create barriers to movement. However, the extent to which denser networks of roads and trails might result in barriers to movement for some wildlife species is unknown (USDA FS 2001).
The following discussions are specific to those species on the RRSNF that have the potential to be affected.

Threatened Species and Critical Habitat

Spotted Owl Effects Mechanisms

The spotted owl was listed as threatened on June 26, 1990, due to widespread loss and adverse modification of suitable habitat across the owl's entire range and the inadequacy of existing regulatory mechanisms to conserve the owl (USDI FWS 1990).

There has been little data regarding the impacts of noise on spotted owls. However, the US Fish and Wildlife Service has recently analyzed the available data on spotted owls, murrelets and other species and has consulted species experts who have worked extensively with spotted owls to determine the extent to which above-ambient noises affect spotted owls. The results of this analysis indicate that spotted owls may flush from their nest or roost or may abort a feeding attempt of their young when the following activities occur up to the distances specified in Table III-19. This data has been used by the USFWS in biological opinions and it is the USFWS's current understanding of harassment distances based on the best available science. Consequently, the distances will be incorporated into this analysis as current guidance for harassment distances for various activities as it relates to adverse effects to the spotted owl from harassment due to disturbance. If the FWSs understanding of these distances change, adjustments to these distances may be recommended in the future.

Table III- 19. Harassment distances from various activities for Spotted Owls

Type of Activity	Distance at which spotted owl may flush or abort a feeding attempt
OHVs, chainsaws	65 yards
Heavy equipment	35 yards

The risk to spotted owls from noise disturbance is tied to the timing of the activity and is highest when adults are defending young or eggs in a nest or are feeding and protecting recently fledged juveniles. During this period, the separation of adults and their young could result in death or injury to the young as a result of predation. Disclosure of the locations of specific spotted owl core areas are not usually provided in NEPA documents for species protection from deliberate human disturbance.

The leading known causes of mortality in juvenile spotted owls are starvation and predation by great horned owls (Miller 1989). The time period when adults or offspring are unable to move away from threats or noises is between the time that the eggs are laid and when the young can fly, which is generally about two weeks after the young fledge from the nest. After the young are able to fly, it is assumed that adults and young may move, but would stay together if annoyed by noise. The timing of these development benchmarks (nesting and fledging) varies geographically, although spotted owls are generally believed to start laying their eggs around the beginning of March. In Oregon, data based on fledge dates indicate June 30th is the date by which almost all juveniles are capable of flight. This March 1 –June 30 period of vulnerability is called the "critical nesting period."

Marbled Murrelet Effects Mechanisms

USFWS listed the marbled murrelet as 'Threatened' under the Endangered Species Act in 1992 (USDI FWS 1992). The primary reasons postulated for the decline in marbled murrelet numbers included a loss of nesting habitat and poor reproductive success (USDI FWS 1997). Predation via corvids and or rodents is also considered a threat to reproductive success. Critical habitat for marbled murrelets was designated in 1996 and corresponds primarily to areas designated as Late-Successional Reserve in the Northwest Forest Plan (USDA and USDI BLM 1994; USDI FWS 1996).

The results of the same analysis by the FWS indicates that murrelets may flush from their nest or roost or may abort a feeding attempt of their young when the following activities occur up to the distances specific in Table III-20. These distances are somewhat different than the distances for spotted owls due to the available scientific data.

In addition, a visual harassment distance of a minimum of one hundred yards is included and is based on an effort by the Services' Regional Office to quantify both visual and auditory harassment to murrelets (USDI 2003). This data has been used by the FWS in two biological opinions and it is the Service's current understanding of harassment distances based on the best available science. Consequently, it will be incorporated into this analysis as current guidance for harassment distances for various activities as it relates to adverse effects to the murrelets from harassment due to disturbance. If the Services' understanding of these distances change, adjustments to these distances may be recommended in the future.

Table III- 20. Harassment distances from various activities for Marbled Murrelet

Type of Activity	Distance at which murrelets may flush or abort a feeding attempt
OHVs, chainsaws	100 yards
Heavy equipment	100 yards

Above-ambient noises further than these distances from murrelets are expected to have either negligible effects or, if the sound reaches no murrelet, no effect to murrelet. The types of reactions that murrelets could have to noise that the FWS considers having a negligible impact include flapping of wings, the turning of a head towards the noise, attempting to hide, assuming a defensive stance, etc.

The risk to murrelets from noise disturbance is tied to the timing of the activity and is highest when adults have eggs in a nest or are feeding and protecting recently fledged juveniles. During these periods the separation of adults and their young could result in death or injury to the young as a result of predation. The leading known causes of mortality in juvenile murrelets are starvation and predation by corvids (Miller 1989).

The timing of these development benchmarks (nesting and fledging) varies geographically, although murrelets generally start laying their eggs around the beginning of April. In Oregon, August 5th is the date by which data indicate that all juveniles are capable of flight and most have likely fledged and returned to the ocean sites.

Gray Wolf Effects Mechanisms

Life history information for the gray wolf is contained in the publication Wolf Biology and Ecology (USFWS 1994). Wolf recovery programs are occurring in Idaho, Montana, and Wyoming, and wolf numbers there have expanded greatly.

Another effort is being pursued in Oregon (ODFW 2010). A Federal recovery plan for wolves was completed for the Northern Rocky Mountains (USFWS 1987).

Gray wolves are generalists that use a broad range of elevations and habitats. Mortality is higher for wolves when road densities are >1 mile per square mile because of potential conflicts with the increased human presence in those areas (Thiel 1985, Wisdom et al. 2000). However, they may inhabit areas with greater road densities if those habitats are adjacent to relatively unroaded areas (Mech 1989).

Wolves generally den in areas near forest cover and ungulates for prey that are away from human activity. Denning is from mid-April to July and wolves are sensitive to disturbance during that time. They use rendezvous sites for resting and gathering areas after the pups are mobile enough to leave the den. Rendezvous sites are often around meadows near forested stands that provide resting areas under trees. Home ranges have been estimated at 19-687 square miles, and probably depend on the availability of ungulates for food (Wisdom et al. 2000). Ungulates comprise 85-95% of their diet, although beaver, snowshoe hare, and other small animals may make up the remainder. Carrion may additionally be a food source (Mech 2003, Witmer et al. 1998).

Roads and trails can alter wolf movement and use of the landscape (Whittington et al 2004). Although low-use roads and low-use trails may be used as travel pathways for wolves, they tend to avoid contact with humans near high-use roads/trails.

Strategies for wolf conservation include limiting accidental or intentional shooting, allowing for seclusion at den and rendezvous sites, maintaining a dependable yearlong source of available prey, and providing sufficient space with minimal exposure to human activities (USFWS 1987).

Oregon Spotted Frog Mechanisms

The Oregon spotted frog is found from extreme southwestern British Columbia south through the Puget Trough, and in the Cascades Range from south-central Washington at least to the Klamath Basin in southern Oregon. Oregon spotted frogs occur in lower elevations in British Columbia and Washington and are restricted to high elevations in Oregon (Pearl et al.2010). In addition, Oregon spotted frogs currently have a very limited distribution west of the Cascade crest in Oregon, are considered to be extirpated from the Willamette Valley in Oregon (Cushman et al. 2007), and maybe extirpated in the Klamath and Pit River basins of California (Hayes 1997).

Oregon spotted frogs occur on the Fremont-Winema National Forest on the Williamson River (Williamson River Unit), Sevenmile Creek and Fourmile Creek (Upper Klamath Lake Unit), and potential habitat at Buck Lake (Upper Klamath Unit). In addition, an adult Oregon Spotted Frog was recently detected near Wood River Day Use Area (T. Adams pers. obs 2013). Oregon spotted frog has not been confirmed on the Rogue River-Siskiyou Forest although surveys were conducted in 2007 on the High Cascades RD in high potential areas.

c. Direct and Indirect Effects of Alternatives

Direct and indirect effects are analyzed on National Forest lands within the areas proposed for change under the Action Alternatives. The direct and indirect effects reflect the existing condition, which includes routes covered by the Federal Highway Safety Act, County Roads, and State and Federal Highways already designated for public use. The analysis includes NFS roads and trails, or routes mapped through the route inventory process that are proposed to be designated for motorized use.

Threatened Species and Critical Habitat

Northern Spotted Owl

2012 Northern Spotted Owl Critical Habitat Designation
Critical habitat for the northern spotted owl was originally designated in 1992 in the *Federal Register* and includes the primary constituent elements that support nesting, roosting, foraging, and dispersal. Designated critical habitat also includes forest land that is currently unsuitable, but has the capability of becoming NRF habitat in the future (57 Fed. Reg. 1796 (1992)). Critical habitat was revised for the northern spotted owl and the final designation was published by the USFWS in the *Federal Register* and signed on August 12, 2008 (73 Fed. Reg. 47326 (2008)) and became effective on September 12, 2008. The 2008 USFWS's Critical Habitat Unit (CHU) delineation was challenged in court and the 2008 designation of northern spotted owl CHU was remanded and the USFWS was ordered to revise the CHU designation. On February 28, 2012, the Service released the proposed critical habitat in the form of maps and the draft form of the federal register publication. The proposed rule was published in the *Federal Register* on March 8, 2012 (77 Fed. Reg. 14062 (2012)). The final CHU rule was published in the *Federal Register* on December 4, 2012 and became effective January 3, 2013 (77 Fed. Reg. 71876 (2012)).

In the final CHU the Service defined the following elements of Primary Constituent Elements;

- Sites for Breeding, Reproduction, and Rearing of Offspring (Nesting Cover or Shelter (Roosting)
- Food or Other Nutritional or Physiological Requirements (Foraging)
- Habitats That Are Representative of the Historical Geographical and Ecological Distributions of the Northern Spotted Owl

(1) Forest types known to support the northern spotted owl across its geographic range

(2) Forest types as described in the Rule are of sufficient area, quality, and configuration, or that have the ability to develop these characteristics, to meet the home range needs of territorial pairs of northern spotted owls throughout the year.

(a) Nesting Habitat
(b) Roosting Habitat

(c) Foraging Habitat
(d) Dispersing

2011 Spotted Owl Recovery Plan
On August 2011, the US Fish and Wildlife Service released the final spotted owl recovery plan (USDI Fish and Wildlife Service 2011). The plan describes four primary recovery criteria and 36 recovery actions.

The information provided above and summarized by Courtney et al. (2004 and 2008) and the Final Revised Spotted Owl Recovery Plan (USDI Fish and Wildlife Service 2011) does not alter analysis or change the effects determinations for any of the Action Alternatives. The concerns for spotted owls related to a population decline and the increase in barred owls are less in southwest Oregon than in other areas within the range of the spotted owl because the population in South Cascades is stable and the barred owl population is not as robust as in the northern portions of the range of the spotted owl (Courtney et al., 2004; 2008; Anthony 2005 and 2006).

Above-ambient noises further than the distances shown in Table III-19 for spotted owls are expected to have either negligible effects or no effect to spotted owls. The types of reactions that spotted owls could have to noise that the FWS considers to have a negligible impact, include flapping of wings, the turning of a head towards the noise, hiding, assuming a defensive stance, etc. (USFWS 2003). OHV manufacturers and OHV groups have been working to reduce noise emissions from many models of recreational vehicles. However, many models (particularly 2-cycle) still produce decibel levels similar to chainsaws.

The Action Alternatives would require activities to occur beyond the harassment distances prescribed in Table III-19. If potentially new disturbing activities are implemented during the spotted owl critical nesting season (March 1 – June 30) within the prescribed distances in Table III-19 of occupied or unsurveyed spotted owl habitat, those activities may adversely affect spotted owls by causing adults to flush from their nest site, abandon a nest, or cause juveniles to prematurely fledge, interrupt foraging activity, or result in increased predation due to less protection when the adult flushes.

After June 30, it is presumed that most fledgling spotted owls are capable of sustained flight and can avoid harmful disturbances.

Effects to spotted owls due to disturbance under **Alternatives 1, 2, and 4** would result in a **no effect (NE)** determination for disturbance or habitat modification. This determination is based on the fact that no new trail construction/reconstruction would occur and no Maintenance Level 1 roads would be converted to motorized trails. There would be no change in the amount of use that existing roads and trail receive, with the exception of Alternative 4, where motorized use that currently exists on approximately 114 miles of trail would be prohibited. Also, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public.

Effects to spotted owls due to disturbance could occur under **Alternatives 3 (Proposed Action) and 5** and would result in a "**may effect**, **not likely to adversely affect (NLAA)"** determination assuming mitigation measures are applied.

This determination is due to the proposed trail construction/reconstruction and conversion of Maintenance Level 1 roads to motorized trails under this alternative. It is assumed that there would be no measurable change in the amount of use these routes currently receive. However, at this time there is no information that would allow the FS to meaningfully measure, detect, or evaluate potential effects. Therefore, though any effects may be discountable, an NLAA determination is made for disturbance to spotted owls.

The Letter of Concurrence from the US Fish and Wildlife Service (copy included in FSEIS Appendix C) issued November 5, 2009, is in response to the Forest's request for informal consultation for travel management activities. The USFWS agreed with the assessment that "disturbance will be reduced within the core areas or nest patches of seven spotted owl known sites on the Gold Beach and Wild Rivers Ranger Districts." In addition, the USFWS concurred with the Forest that "the potential disturbance of spotted owls associated with 32 acres of spotted owl NRF habitat, *may affect, is not likely to adversely affect* the spotted owl due to disturbance because the Forest will implement mandatory PDCs that restrict activities during the critical breeding season, or will conduct protocol surveys to ensure spotted owls are not breeding in the area."

Northern Spotted Owl Critical Habitat
Due to the potential for vegetation clearing (it is estimated that several conifer trees less than 8 inches in diameter would be cut) on the proposed Penn Sled trail, a "**may affect, not likely to adversely affect (NLAA)**" determination is made for designated CHU for **Alternatives 3 (Proposed Action) and 5**, assuming Mitigation Measures are implemented. This determination is due to habitat potentially being degraded by construction/reconstruction activities.

For **Alternatives 1, 2, and 4**, spotted owl habitat and dispersal opportunities overall would not be reduced from current conditions because there are no other actions proposed that would impact vegetation in the designated CHU. In the absence of large-scale disturbance (wildfire, insects, and disease) the densities of northern spotted owls would likely remain stable, notwithstanding other threats identified by the Sustainable Ecosystems Institute Report (Courtney et al. 2004) which include barred owls and West Nile Virus.

Marbled Murrelet
None of the **Action Alternatives** would remove or modify any murrelet habitat. The only proposed trail construction/reconstruction within the range of the murrelet occurs within a meadow where the trail follows an old wagon road. No habitat is present within this meadow.

Disturbance related effects would be the similar for the murrelet as described for the spotted owl. **Alternatives 1, 2, and 4** would result in a **no effect (NE)** determination for disturbance or habitat modification.

Effects to the murrelet due to disturbance could occur under the **Alternatives 3 (Proposed Action) and 5** and would result in a "**may effect**, **not likely to adversely affect (NLAA)"** determination assuming mitigation measures are applied. In addition, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

This determination is due to the proposed trail construction/reconstruction and conversion of Maintenance Level 1 roads to motorized trails under this alternative. It is assumed that there would be no measurable change in the amount of use these routes currently receive. However, at this time there is no information that would allow the Forest Service to meaningfully measure, detect, or evaluate potential effects. Therefore, though any effects may be discountable, an NLAA determination is made for disturbance to spotted owls.

The Action Alternatives would require activities to occur beyond the harassment distances prescribed in Table III-20. If new or increased potentially disturbing activities are implemented within the prescribed distances (Table III-20) of occupied or unsurveyed murrelet habitat during the murrelet critical nesting season (April 1 – Aug 5), those activities would likely to adversely affect murrelets by causing adults to flush from their nest site, nest abandonment, premature fledging, interruption of feeding attempts, or increased predation due to less protection when the adult flushes. After August 5, it is presumed that most fledgling have returned to the ocean and disturbance from proposed actions within the prescribed distances shown in Table III-20. Between August 6 and September 15, project activities would not adversely affect murrelets, if daily timing restrictions are applied until September 15.

Marbled Murrelet Critical Habitat
Critical habitat for marbled murrelets was designated in May 1996 (61 Fed. Reg. 26256 (1996)). The Service has designated approximately 3.9 million acres of land as critical habitat, of which 78 percent (3.0 million acres) is located on Federal lands within the area covered by the NWFP boundary. For all **Action Alternatives**, there is a **"no effect (NE)"** determination made. No habitat within a designated CHU would be altered or affected.

Gray Wolf
Currently, the only wolves reported in or adjacent to the project area are located on the High Cascades portion of the Forest. For all **Action Alternatives**, there is a **no effect (NE)** determination made because no proposed changes to the road or trail system on the High Cascades District will occur. Within the area covered by the 1990 RRNF LRMP, lands identified as Big Game Winter Range (MS 14) would employ seasonal restrictions to reduce impacts to big game within winter range areas as the need is identified. These seasonal restrictions are employed on the High Cascades and Siskiyou Mountains Ranger Districts, in all areas of Big Game Winter Range. These seasonal restrictions are employed so there will be no effect to deer and elk populations and therefore no impact to wolves.

Oregon Spotted Frog
The only potential for spotted frogs based on habitat is in the extreme southern portion of the High Cascades District. For all **Action Alternatives**, there is a **no effect (NE)** determination made because no proposed changes to the road or trail system on the High Cascades will occur.

Forest Service Sensitive Species

Table III-18 identifies R-6 Sensitive Species known or suspected to occur on the RRSNF. The following species were determined to have no conflict with the **Action Alternatives** because there are no known sightings or habitat potentially affected by analyzed actions, or the action area was determined to not be within the range of the species: **Northern waterthrush, California wolverine, Shield-back bug, and Klamath rim pebblesnail.** The determination for these species is **"No Impact."**

Based on known or suspected species occurrence or suitable habitat the following species were analyzed and were determined to be unaffected by actions associated with the **Action Alternatives**: **American peregrine falcon, bald eagle, harlequin duck, Townsend's big-eared bat, pallid bat, fringe-tailed bat, northwestern pond turtle, foothill yellow-legged frog, Siskiyou short-horned grasshopper, coronis fritillary, insular blue butterfly, hoary elfin, Johnson's hairstreak, Franklin's bumblebee, Siskiyou hesperian, pristine springsnail, Crater Lake tightcoil, pacific walker, robust walker, scale lanx, highcap lanx, and evening fieldslug. Due to a lack of direct or indirect impacts to the species or their habitats from the proposed actions**, the determination for these species is **"No Impact."**

Based on known or suspected species occurrence or suitable habitat the following species were analyzed and were determined to potentially incur effects, as described below. These effects are essentially similar for all Action Alternatives. For more information on all Sensitive Species that occur on this Forest please visit (http://www.fs.fed.us/r6/sfpnw/issssp/).

Lewis' Woodpecker and White-Headed Woodpecker
Effects to Lewis' woodpecker and white-headed woodpecker due to disturbance under **Alternatives 1, 2, and 4** would result in a "**no impact"** determination. This determination is based on the fact that no new trail construction/reconstruction would occur and no Maintenance Level 1 roads would be converted to motorized trails. There would be no change in the amount of use that existing roads and trails receive, with the exception of Alternative 4, where motorized use that currently exists on approximately 114 miles of trail would be prohibited.

Generally, the new trail construction on the Siskiyou Mountains Ranger District is on a north-facing aspect where both ponderosa pine and oak habitats are very limited. Under **Alternatives 3 (Proposed Action) and 5**, roads "open" to the public are reduced by approximately 31 miles. However, approximately 23 miles of Maintenance Level 1 roads would be converted to motorized trails. In addition, Under **Alternatives 2, 3 (Proposed Action), 4 and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

Effects to these woodpecker species due to disturbance could occur under **Alternatives 3 and 5** and would result in a "**may adversely impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide"** determination. This determination is due to the proposed trail construction/reconstruction and conversion of Maintenance Level 1 roads to motorized trails. It is assumed that there would be no measurable change in the amount of use these routes currently receive. However, at this time there is no information that would allow the Forest Service to meaningfully measure, detect, or evaluate potential effects. Therefore, though any effects may be discountable, a "may impact individuals" determination (MIIH) is made for disturbance to Lewis' woodpecker and white-headed woodpecker.

Pacific Fisher
Effects to the Pacific fisher due to disturbance under **Alternatives 1, 2, and 4** would result in a "**no impact"** determination. This determination is based on the fact that no new trail construction or reconstruction would occur and no Maintenance Level 1 roads would be converted to motorized trails.

There would be no change in the amount of use existing roads and trail receive, with the exception of Alternative 4, where motorized use that currently exists on approximately 139 miles of trail would be prohibited. In addition, Under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

Effects to the Pacific fisher due to disturbance could occur under **Alternatives 3 (Proposed Action) and 5** and would result in a "**may adversely impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide"** determination. This determination is due to the proposed trail construction/reconstruction and conversion of Maintenance Level 1 roads to motorized trails under these alternatives. It is assumed that there would be no measurable change in the amount of use these routes currently receive. However, at this time there is no information that would allow the Forest Service to meaningfully measure, detect, or evaluate potential effects. Therefore, though any effects may be discountable, a "may impact individuals" determination (MIIH) is made for disturbance for Pacific fisher.

Siskiyou Mountains, California Slender, and Black Salamanders
Under **Alternatives 1, 2, and 4**, there is no trail construction proposed nor is there any conversion of Maintenance Level 1 roads to motorized trails. For these alternatives, there is a determination of "**no impact".**

Under **Alternatives 3 (Proposed Action) and 5**, the construction/reconstruction of 1.2 miles of trail through potential habitat on the Siskiyou Mountains Ranger District would affect approximately 1 acre of habitat for these species. In addition to potential habitat loss, there is a potential for direct mortality on individuals of these species from crushing by OHVs on both the new trail construction/reconstruction and where Maintenance Level 1 roads are converted to motorized trails on the Gold Beach RD. However, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment and direct mortality potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

Therefore, a "**may impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide"** determination (MIIH) is made.

Traveling/Chace Sideband, and Oregon Shoulderband
Under **Alternatives 1, 2, and 4**, there is no trail construction proposed nor is there any conversion of Maintenance Level 1 roads to motorized trails. For these alternatives, there is a determination of **"no impact."**

Under **Alternatives 3 (Proposed Action) and 5**, the construction/reconstruction of 1.2 miles of trail through potential habitat on the Siskiyou Mountains RD would affect approximately 1 acre of habitat for these species. In addition to potential habitat loss, there is a potential for direct mortality on individuals of these species from crushing by OHVs on both the new trail construction/reconstruction and where Maintenance Level 1 roads are converted to motorized trails on the Gold Beach RD. However, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment and direct mortality potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

Therefore, a "**may impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide"** determination (MIIH) is made.

Mardon Skipper
Under **Alternatives 1, 2, 4, and 5,** there is no trail construction proposed within any meadow. For these alternatives, there is a determination of **"no impact."**

Under **Alternative 3 (Proposed Action)**, the construction/reconstruction of 0.5 miles of trail through potential habitat on the Gold Beach RD would affect some meadow habitat for this species. Therefore, a "**may impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide"** determination (MIIH) is made. It is recommended that an additional survey of this site be conducted prior to any reconstruction. If surveys are conducted and no individuals are found, a **"no impact"** determination is warranted.

Summary
A summary of the determination for Threatened and Forest Service Sensitive species is displayed in Tables III-21 and III-22 below.

Table III- 21. Effects determination - threatened terrestrial species

FWS Listed Threatened Wildlife Species & Habitat	Effects Determination				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Northern spotted owl	NA	NE	NLAA	NE	NLAA
Northern spotted owl Critical Habitat	NA	NE	NE	NE	NE
Marbled murrelet	NA	NE	NLAA	NE	NLAA
Marbled murrelet Critical Habitat	NA	NE	NE	NE	NE
Gray Wolf	NA	NE	NE	NE	NE
Oregon Spotted Frog	NA	NE	NE	NE	NE

Codes for determinations:
NA – not applicable NE – no effect NLAA – may effect, not likely to adversely affect

Table III- 22. Effects determination – Forest Service sensitive terrestrial species

FS Sensitive Wildlife Species	Effects Determination				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
American peregrine falcon	NA	NI	NI	NI	NI
Bald eagle	NA	NI	NI	NI	NI
Harlequin duck	NA	NI	NI	NI	NI
Lewis' woodpecker	NA	NI	NI	NI	NI
White-headed woodpecker	NA	NI	NI	NI	NI
Northern waterthrush	NA	NI	NI	NI	NI
California wolverine	NA	NI	NI	NI	NI
Pacific fisher	NA	NI	NI	NI	NI

FS Sensitive Wildlife Species	Effects Determination				
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Pacific pallid bat	NA	NI	NI	NI	NI
Townsend's big-eared bat	NA	NI	NI	NI	NI
Pacific fringe-tailed myotis	NA	NI	NI	NI	NI
Northwestern pond turtle	NA	NI	NI	NI	NI
Oregon spotted frog	NA	NI	NI	NI	NI
Foothill yellow-legged frog	NA	NI	NI	NI	NI
Siskiyou mountains salamander	NA	NI	**MIIH**	NI	**MIIH**
California slender salamander	NA	NI	**MIIH**	NI	**MIIH**
Black salamander	NA	NI	**MIIH**	NI	**MIIH**
Siskiyou short-horned grasshopper	NA	NI	NI	NI	NI
Coronis fritillary	NA	NI	NI	NI	NI
Mardon skipper	NA	NI	**MIIH**	NI	NI
Insular blue butterfly	NA	NI	NI	NI	NI
Hoary elfin	NA	NI	NI	NI	NI
Johnson's hairstreak	NA	NI	NI	NI	NI
Franklin's bumblebee	NA	NI	NI	NI	NI
Siskiyou hesperian	NA	NI	NI	NI	NI
Pristine springsnail	NA	NI	NI	NI	NI
Crater Lake tightcoil	NA	NI	NI	NI	NI
Pacific walker	NA	NI	NI	NI	NI
Robust walker	NA	NI	NI	NI	NI
Traveling sideband	NA	NI	**MIIH**	NI	**MIIH**
Chace Sideband	NA	NI	**MIIH**	NI	**MIIH**
Green sideband	NA	NI	NI	NI	NI
Scale lanx	NA	NI	NI	NI	NI
Highcap lanx	NA	NI	NI	NI	NI
Oregon shoulderband snail	NA	NI	**MIIH**	NI	**MIIH**
Klamath rim pebblesnail	NA	NI	NI	NI	NI
Evening field slug	NA	NI	NI	NI	NI
Western ridged mussel	NA	NI	NI	NI	NI

Codes for determinations:
NA – not applicable
NI – no impact
MIIH – may impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability range wide

d. Cumulative Effects

Present and foreseeable future actions that may affect terrestrial wildlife species or habitats on the Forest include: wildland fire, fuels treatments, livestock grazing, dam maintenance, minerals management, developed and dispersed recreation, invasive species, timber harvest and vegetation treatments, reforestation, restoration, road management, and special uses.

All of these activities would be designed to meet the direction provided within the Northwest Forest Plan and the local Land and Resource Management Plans (i.e., Forest Plans), and in accord with Aquatic Conservation Strategy objectives (NWFP 1994, Rogue River NF LRMP 1990, and Siskiyou NF LRMP 1989).

None of the alternatives would result in substantial direct or indirect adverse effects to terrestrial wildlife species. Thus, implementation of the project is not expected to result in detrimental cumulative effects to terrestrial wildlife species or habitat.

All routes that are being considered for designation within the alternatives of this project currently exist and are receiving some amount of use. Further, it is assumed that because of this existing use, regardless of which alternative is selected, detrimental effects to terrestrial wildlife habitat and populations from the motorized route network would either be reduced or maintained when compared to the current condition.

10. Management Indicator Species

Effects of motorized vehicle use on species identified as LRMP Management Indicator Species, especially deer and elk within Big Game Winter Range areas

The National Forest Management Act (NFMA) requires that each Forest identify management indicator species in the planning process and that "fish and wildlife habitats will be managed to maintain and improve habitat of selected management indicator species." By monitoring the habitat changes or trends of these particular indicator species, the effects of management activities on the associated animal communities can theoretically be determined. Since the habitats of these indicator species cover the majority of the vegetative seral stages on the Forest, it is assumed that meeting the requirements of these species will assure that the needs of associated species will be met over time.

Management indicators representing overall objectives for wildlife, fish, and plants may include species, groups of species with similar habitat relationships, or habitats that are of high concern (FSM 2621.1).

a. Background

Five forest wildlife species and one group were selected as Management Indicator Species (MIS), as detailed in the 1990 Rogue River Land and Resource Management Plan. Indicator species were intended to serve as habitat surrogates used to suggest qualitatively the condition of the habitat they represent.

Black-tailed deer and **Roosevelt elk** habitat will be managed to provide adequate forage, hiding cover, and thermal cover conditions throughout summer and winter range. Three species represent mature and old-growth forest habitat conditions: **pine marten**, **pileated woodpecker**, and **spotted owl**. Habitat for **woodpeckers** (besides pileated) is managed based on land allocations and represent snag habitat.

The 1989 Siskiyou NF LRMP identified eight management indicator species. These include the **bald eagle** (habitat along major rivers), **osprey** (habitat along large rivers), **spotted owl** (old-growth forest), **pileated woodpecker** (mature forest), **pine marten** (mature forest), **black-tailed deer** (early forest successional stages), **Roosevelt elk**, (early forest successional stages), and **woodpeckers** (wildlife trees or snags).

Species background and accounts, results of surveys and monitoring for Forest MIS species are contained in Appendix C to this FSEIS, incorporated by reference.

b. Effects Mechanisms and Analysis Framework

See the discussion at the beginning of Chapter III (section B, 1) for a general list of assumptions used in this analysis.

Black-tailed Deer and Roosevelt Elk
Deer and elk are likely to be affected by the following road or motorized trail-associated factors: collisions, hunting, poaching, displacement or avoidance, disturbance at a specific site (Gaines et al., 2003).

Mortality from vehicle collisions on highways and other surfaced roads is often substantial, but collisions on native surface routes with lower speeds and traffic volumes, such as the routes that are being evaluated in this project, is probably slight.

Greater human access can increase opportunities for hunting as well as poaching of deer and elk. Since hunting levels for deer are controlled through tag limits established by Oregon Department of Fish and Wildlife, an increase in hunting opportunity or hunter success is unlikely to impact deer populations (deVoss et al., 2003). Hunting limits also take into account estimates of the amount of illegal kill and road kill occurring.

In general, studies show that deer and elk will move away from, or flush, from an approaching person and will usually allow a person in or on a vehicle to get closer than a person on foot (Freddy et al., 1986; Wisdom et al., 2005).

In northeast Oregon, movement rates and flight responses in deer were not as substantial as in elk; however deer tended to seek dense cover when disturbed, which may reduce forage opportunities and a reduction in opportunities to put on needed fat for winter. Wisdom et al. found that mule deer showed little measurable flight response to experimental OHV treatments but cautioned that deer may well be responding with fine-scale changes in habitat use (i.e., avoidance), rather than substantial increases in movement rates and flight responses. Several studies have found that deer avoid areas in proximity to roads.

Road density can also have adverse effects on deer. These include loss of habitat, increased harvest from both legal and illegal hunting, and vectors for invasive/non-native species. High road densities and the associated traffic have been shown to decrease habitat quality and increase vulnerability for deer. During winter, when big-game species are on winter ranges, forage availability and value is generally low due to senescence of grasses and forbs. During this period open roads and the associated traffic have even greater detrimental effects on big-game due to their inability to escape harassment (disturbance) and both legal and illegal hunting pressure due to deep snow.

Elk experience higher levels of stress when exposed to increased road density. Physiological indicators of stress, such as fecal glucocorticoids, have been observed in elk exposed to increased road density and traffic on roads (Millspaugh et al., 2001). Energetic costs of moving away from disturbance associated with roads may be substantial (Cole et al., 1997).

During periods of deep snow, disturbance associated with roads likely increases energetic costs even more. In elk, if body fat is reduced below 9% as animals enter the winter period, the probability of surviving the winter is reduced (Cook et al., 2004).

American Marten

Motorized routes can impact marten in a number of ways. Gaines et al. (2003) found marten likely to be affected by the following road and motorized trail-associated factors: collisions, displacement or avoidance, habitat loss or fragmentation, snag reduction, down log reduction, edge effects, and movement barrier or filter.

Buskirk and Ruggerio (1994) identified collisions with motor vehicles as a source of marten mortality. However, collisions are much less likely to occur along the slower-speed native surface routes that are being evaluated in this project.

Robitaille and Aubrey (2000), studying marten in an area of low road density and traffic (primarily logging roads), found that marten use of habitat within 300 and 400 meters of roads was significantly less than habitat use at 700 or 800 meters distance. Although marten were detected in proximity to roads in their study, significantly less activity occurred within these zones.

Martens are known to be sensitive to changes in overhead cover, such as can result from roads or trails (Hargis and McCullough, 1984; Buskirk and Ruggiero, 1994). Roads and trails can fragment habitat, and could thus affect the ability of marten to use otherwise suitable habitat on either side of the route.

High levels of coarse woody debris (snags, downed logs, root masses, large branches) is an essential component of marten habitat, especially during the winter months when marten require such structures for cover and hunting opportunities under the snow. In addition, large logs with cavities provide rest and den sites for marten. Activities that remove coarse woody debris are therefore likely to degrade marten habitat (Buskirk and Ruggiero, 1994).

Hazard tree removal along roads will reduce numbers of snags and, in turn, down logs within a distance of about 60 meters alongside roads. Motorized routes provide access to woodcutters, also reducing amounts of down wood within roadside corridors. These effects within 60 meters of roads may, however, be incidental to the displacement and avoidance factors that apparently influence marten use of habitat within a greater distance of motorized routes.

Northern Spotted Owl

Refer to Terrestrial Wildlife Listed Species Issue (section E, 9, this Chapter) for background discussion and effects mechanisms related to the northern spotted owl. Alternatives 3 and 5 may impact individuals, but is not likely to result in a loss of viability nor cause a trend to Federal listing or a loss of species viability range wide because of the potential for some lessened disturbance related to traffic effects.

Pileated Woodpecker and Other Woodpeckers

Cavity nesting birds include the pileated woodpecker, as well as other woodpeckers. Nesting habitat for this group of MIS is provided in forested vegetation types with snags larger than 15 inches diameter. Road and motorized trail-associated factors likely to affect these species are edge effects and the reduction of snags and down logs. Cavity nesting birds are typically more secure from nest predation than other forest birds, and recreational disturbance is not known to be a limiting factor as it is for some other forest bird species (Gaines et al., 2003).

Snag and log reduction occurs as an indirect effect of managing roads or trails for public use. Trees posing a potential human safety hazard ("hazard trees") are removed along roads open for public use, as well as along roads receiving concentrated use during implementation of a specific project. Hazard trees are typically dead or dying trees that occur within a tree-height distance from the road. This safety policy results in a reduction in snags within a zone of about 200 to 300 feet from a road's edge. Wisdom and Bate (2008) found that human access can have substantial effects on snag density. In their study area on the Flathead National Forest in Montana, stands adjacent to roads had snag densities three times lower than the snag densities within stands not adjacent to roads. The amount of down wood is also influenced within this zone, both by the removal of hazard trees that would become future down wood, and by the access provided for woodcutters. Down wood is important as a foraging substrate, providing insects required by species like the pileated woodpecker.

Bald Eagle and Osprey
Bald eagles could be affected by the following road and motorized trail-associated factors: displacement and avoidance, disturbance at a specific site (nest site), and reduction of snags.

Reported responses of bald eagles to human activities have included spatial avoidance of activity and reproductive failure (Anthony et al., 1995). Bald eagles seem to be more sensitive to humans afoot than to vehicular traffic (Grubb and King, 1991; Hamann et al., 1999). Anthony and Isaacs (1989) found that the mean productivity of bald eagle nests was negatively correlated with their proximity to main logging roads, and the most recently used nests were located in areas farther from all types of roads and recreational facilities when compared to older nests in the same territory. Nest site protection through area closures is one of the primary ways that the Forest Service and land management entities have implemented measures to avoid the potential for nest failures due to human disturbances.

c. Direct and Indirect Effects of Alternatives

Black-tailed Deer and Roosevelt Elk
Variables such as the amount and frequency of traffic, and the spatial distribution of roads in relation to deer use, influence the degree of negative effects that roads have on deer use in forested habitats (Perry and Overly, 1977; Johnson et al., 2000; deVos et al., 2003). Under all alternatives, there would be no change to existing levels of road density across the affected watersheds though Alternatives 3 and 4 would reduce the amount of roads and trails open to motorized traffic. However, the coupling of the diverse array of vegetative conditions with undulating terrain results in a low likelihood of deer and or elk being unable to efficiently locate and use effective security cover. Forage production, in the form of grasses – forbs – shrubs, would not be changed under any alternative.

Under **Alternative 1** there would be no change over current conditions. Under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. In addition, Alternative 4 would reduce the miles of trails open to motorized vehicles.

Within the area covered by the 1990 RRNF LRMP, lands identified as Big Game Winter Range (MS 14) would employ seasonal restrictions to reduce impacts to big game within winter range areas as the need is identified. These seasonal restrictions are employed on the High Cascades and Siskiyou Mountains Ranger Districts, in all areas of Big Game Winter Range. These seasonal restrictions are employed so there will be no effect to deer and elk populations and therefore no impact to wolves.

Due to either no change or an overall reduction in the potential for disturbance under all alternatives, the proposed actions may impact individuals, but is not likely to result in a loss of viability nor cause a trend to Federal listing or a loss of species viability range wide because of the potential for some lessened disturbance related to traffic effects.

Northern Spotted Owl
Refer to Terrestrial Wildlife Listed Species Issue (section E, 9, this chapter) for background discussion and effects on northern spotted owls.

American Marten
American marten are associated with mature habitats that generally provide relatively high levels of canopy closure, large snags, and downed wood. The Forest contains high-quality late-successional habitat that appears to be suitable for marten. Surveys that are designed to detect forest carnivores have been conducted.

Marten are common on the High Cascades Ranger District. Activities that remove coarse woody debris are more likely to degrade marten habitat (Buskirk and Ruggiero, 1994).

Ongoing hazard tree treatment (felling) along open Forest roads will continue to reduce numbers of snags. Motorized routes provide access to woodcutters, also potentially reducing amounts of down wood within roadside corridors. These effects within 60 meters of roads may, however, be incidental to the displacement and avoidance factors that apparently influence marten use of habitat within a greater distance of motorized routes.

Under **Alternative 1 (No-Action)**, there would be no change in the current condition. Areas that are within 100-200 feet of the road prism generally have reduced suitability for den and rest sites due to previous hazard tree felling and firewood removal.

Under **Alternatives 3 (Proposed Action), 4, and 5**, there is an overall decrease in the total "open" roads for vehicular and OHV traffic across the Forest. Areas that are within 200-300 feet of the road prism would continue to have reduced suitability for den and rest sites due to previous hazard tree felling. In addition, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment and direct mortality potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public.

Activities associated with project implementation such as new trail and play area construction, and conversion of Maintenance Level 1 roads to trails are likely to have the greatest potential effects on marten during the denning and early kit rearing periods because resident marten in those areas may not be habituated to the activities proposed.

However, under **Alternatives 3, 4, and 5**, there is an overall decrease in the total "open" roads for vehicular and OHV traffic across the Forest. Therefore, these alternatives may impact individual marten, however, implementation of any of the Action Alternatives is not likely to result in a loss of viability on the planning area (Forest), nor cause a trend to Federal listing or a loss of species viability range wide. Alternative 4 would have less impact than Alternatives 3 and 5 because motorized use of some trails would be prohibited.

Pileated Woodpecker and other Woodpeckers
Refer to Terrestrial Wildlife Listed Species Issue (section E, 9, this Chapter) for background discussion and effects on woodpeckers.

There would be no change from the current level of disturbance for Pileated woodpecker and other woodpeckers under **Alternatives 1, 2, and 4**.

Effects to these woodpecker species due to disturbance could occur under the **Alternatives 3 and 5.** This is due to the proposed trail construction/reconstruction and conversion of Maintenance Level 1 roads to motorized trails under this alternative. It is assumed that there would be no measurable change in the amount of use these routes currently receive.
In addition, under **Alternatives 2, 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the mount of roads open to the public.

The proposed actions in Alternatives 3 and 5 may impact individuals, but is not likely to result in a loss of viability nor cause a trend to Federal listing or a loss of species viability range wide because of the potential for disturbance related to traffic effects. to pileated and other woodpeckers on the Rogue River-Siskiyou National Forest.

Bald Eagle and Osprey
Bald eagles were listed as Endangered in Oregon and elsewhere by the US Fish and Wildlife Service in 1967 (USDI FWS 1967). In 1995, bald eagles were down listed to threatened status (USDI FWS 1995). The bald eagle was removed from the federal list of endangered and threatened plants and wildlife by a ruling published in the Federal Register on July 9, 2007 and effective August 8, 2007 (72 FR 37346). Bald eagles continue to be protected under the Bald and Golden Eagle Protection Act of 1940.

Bald eagle habitat on the Rogue River-Siskiyou NF is protected and managed in accordance with the Pacific Bald Eagle Recovery Plan (USDI FWS 1986), and Standards and Guidelines 4-3 and 4-4 of the Siskiyou National Forest Land and Resource Management Plan (USDA 1989). As part of the recovery plan, key nesting habitat areas have been identified on the Rogue River-Siskiyou NF along the Rogue, Illinois, and Sixes Rivers (USDI FWS 1986).

Osprey are closely associated with open water (lakes, rivers, and streams). It breeds in the Forest's major habitat types but only when adjoining open water. Osprey are regularly observed along the major rivers across the Forest.

Motorized use minimally occurs in proximity to large open water or major rivers. Motorized use designation would not impact nest trees. Bald eagles and osprey are often seen in proximity to human inhabited areas and impacts from disturbance are not anticipated. As such, no adverse impact is expected. No further discussion is being made in this analysis.

d. Cumulative Effects

Present and foreseeable future actions that may affect MIS species or habitats on the Forest include: wildland fire, fuels treatments, livestock grazing, dam maintenance, minerals management, developed and dispersed recreation, timber harvest and vegetation treatments, reforestation, restoration, road management, and special uses.

All of these activities would be designed to meet the direction provided within the Northwest Forest Plan and the local Land and Resource Management Plans (i.e., Forest Plans), and in accord with Aquatic Conservation Strategy objectives (NWFP 1994, Rogue River NF LRMP 1990, and Siskiyou NF LRMP 1989).

None of the alternatives would result in substantial direct or indirect adverse effects to MIS species. Thus, implementation of the project is not expected to result in detrimental cumulative effects to wildlife MIS species or habitat.

All routes that are being considered for designation within the alternatives of this project currently exist and are receiving some amount of use.

Further, it is assumed that because of this existing use, regardless of which alternative is selected, detrimental effects to terrestrial wildlife MIS habitat and populations from the motorized route network would either be reduced or maintained when compared to the current condition.

11. NWFP Survey and Manage or Rare and Uncommon Terrestrial Wildlife

Effects of motorized vehicle use on other special or rare and uncommon terrestrial wildlife species and neotropical birds

Special species considered include Survey and Manage Species, flammulated owl, great gray owl, pygmy nuthatch, and Oregon red tree vole, and habitat for neotropical migratory birds.

a. Background

Survey and Manage Species

Siskiyou Mountains Salamander (*Plethodon stormi)*
Evening Fieldslug (*Deroceras hesperium)*
Klamath Rim Pebblesnail (*Fluminicola)*
Fredenburg Pebblesnail (*Fluminicola)*
Oregon Megomphix
Chace Sideband (*Monadenia chaceana)*
Yellow Base Sideband *(Pristiloma arcticum crateris)*
Blue Gray Taildropper *(Prophysaon Coeruleum)*

Rare and Uncommon Species

Flammulated owl (*Otus flammeolus)*
Great gray owl (*Strix nebulosa)*
Pygmy nuthatch (*Sitta pygmaea)*
Oregon Red Tree Vole (*Arborimus longicaudus*)

Neotropical Migratory Birds

Vaux's swift, pileated woodpecker, Brown creeper; red crossbill; varied thrush, Hermit warbler; Hammond's flycatcher; Pacific-slope flycatcher; Wilson's warbler; winter wren, Black-throated gray warbler, Hutton's vireo, Olive-sided flycatcher; western bluebird; orange-crowned warbler; rufous hummingbird, Band-tailed pigeon, California quail, western screech-owl, Nutall's woodpecker, oak titmouse, wrentit, California thrasher, black-chinned sparrow

While not a MIS or Survey and Manage species, the RRNF LRMP requires seasonal protection for northern goshawk nest sites (LRMP page IV-238). There are no known nest sites for goshawk associated with any routes being considered for motorized use across the Forest and nest protection measures are not necessary.

Species background and accounts for Survey and Manage, rare and uncommon terrestrial wildlife species and neotropical birds are contained in Appendix C to this FSEIS, incorporated by reference.

b. Direct and Indirect Effects of Alternatives

Flammulated Owl

This species is closely associated with the mixed forest habitat type but it requires ponderosa pine in its habitat. This species is closely associated with multi-story, moderate-closed canopy structural conditions. There would be no effect to canopies of mixed or ponderosa pine forests or habitat under any alternative.

In addition, under **Alternatives 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. However, due to the potential of disturbance to nesting owls from noise associated with passenger vehicle and OHV traffic, all alternatives may impact but not adversely impact this species.

Great Gray Owl

The range for this species includes the Forest and there are several documented locations, primarily on the High Cascade Ranger District and two locations on the Siskiyou Mountains Ranger District. As there is no habitat disturbing activities occurring as a result of any of the action alternatives, there would be no threat to the habitat or persistence of the Great Gray Owl on the RRSNF. As the camping corridors and pull off areas would not involve any canopy removal or disturbance, and as roadside maintenance is considered "routine maintenance" there would be no buffers applied to the known sites of Great Gray Owls occurring within the camping and road pull off corridors. There would be no effect to suitable habitats for great gray owl habitat under any alternative. In addition, under **Alternatives 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. However, due to the potential of disturbance to nesting owls from noise associated with passenger vehicle and OHV traffic, all alternatives may impact but not adversely impact this species.

Pygmy Nuthatch

This species is associated with the Forest's habitat types and is considered to require ponderosa pine as a habitat component. This species is present within the Forest. There would be no effect to suitable habitats for pygmy nuthatch habitat under any alternative.

In addition, under Alternatives 2, 3 (Proposed Action), 4, and 5, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. However, due to the potential of disturbance from noise associated with passenger vehicle and OHV traffic, all alternatives may impact but not adversely impact this species.

Oregon Red Tree Vole

The Oregon red tree vole is a nocturnal, arboreal mammal specialized in feeding on needles of Douglas-fir and other coniferous trees (Maser 1998). The species is endemic to western Oregon (Verts 1998) primarily in coniferous forests of western Oregon (Csuti et al., 1997; Maser 1998). There would be no effect to Douglas-fir forests or vole habitat under any alternative. As there are no habitat disturbing activities that will occur as a result of any of the action alternatives, there would be no threat to the persistence of the red tree vole on the RRSNF. As the camping corridors and pull off areas would not involve any canopy removal or disturbance, and as roadside maintenance is considered "routine maintenance" there would be no buffers applied to the known sites of red tree vole nests occurring within the camping and road pull off corridors. In addition, under **Alternatives 2, 3 (Proposed Action), 4 and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. However, due to the potential of disturbance from noise associated with passenger vehicle and OHV traffic, all alternatives may impact but not adversely impact this species.

Evening Fieldslug

The evening fieldslug is found near perennially wet meadows in and amongst forested habitats in microsites that include a variety of low vegetation, wood litter and debris and rocks (Burke and Duncan 2005). This species is only suspected on the forest and has never been documented here. This species is a low mobility slug for which very little is known. It is always found in wet meadow habitat in and amongst forests, areas in which there have been instances of resource damage from cross country travel in the past. As **all action alternatives** would prohibit cross country travel, this should limit the chances of direct effects to this species.

There are no known sites for this species within any of the camping corridors or road pull off areas in any Alternatives.

Cumulative effects of road maintenance should not be additive in its effects for the evening fieldslug because it would occur whether or not this project is implemented. As there is no habitat disturbing activities occurring as a result of any of the action alternatives, there would be no threat to the persistence of the evening fieldslug on the RRSNF.

Oregon shoulderband

The Oregon shoulderband is a terrestrial mollusk (snail) associated with talus/rocks and woody debris in dry conifer, mixed conifer/hardwood vegetation types (Weasma and Duncan 2004). During the wet seasons, individuals may be found away from rock refugia, foraging for green vegetation and fruit, feces, old leaves, leaf mold, and fungi (Weasma and Duncan 2004). This species is only known to occur on the High Cascades Ranger District on the RRSNF. This snail is associated with rocky habitats, and as such, is not likely to be directly impacted by vehicles during dry seasons; however, they may be impacted while foraging away from rock outcrops in the wet seasons. Therefore, under **all action alternatives**, the closure of the Forest to cross country travel would benefit this species by reducing the potential for direct mortality or altering microclimates by disturbing rocks or downed wood by OHVs.

There are several known sites within the road pull off corridors common to all action alternatives. Within these corridors during the wet season, direct mortality could occur to foraging snails by vehicles traveling to campsites or parking areas. Cumulative effects of ongoing road maintenance should not be additive in its effect to this species as it would occur whether or not this project is implemented. As there is no habitat disturbing activities occurring as a result of any of the action alternatives, there would be no threat to the persistence of the Oregon shoulderband on the RRSNF. Any known sites that occur within the parking pull off areas are buffered by one site potential tree (150ft) and would be marked as unavailable for camping and parking on the MVUM. The site potential tree buffer would maintain the microsite conditions of talus, rocks and downed wood that are utilized by this species.

Chace sideband

The chace sideband is a terrestrial mollusk (snail) associated with dry conifer and mixed conifer/hardwood forests and open talus or rocky areas (Weasma and Duncan 2005). During the wet seasons, individuals may be found away from rock refugia, foraging for green vegetation and fruit, feces, old leaves, leaf mold, and fungi (Weasma and Duncan 2005). This species is known to occur on the North RRSNF, on the high cascades RD. 17 sites are known for the RD and all will be confirmed and protected if in an area that could result in mortality.

This snail is associated with rocky habitats, and as such, is not likely to be directly impacted by vehicles during dry seasons; however they may be impacted while foraging away from rock outcrops in the wet seasons. Therefore, **under all action alternatives**, the closure of the Forest to cross country travel would be beneficial for this species by reducing the potential for direct mortality or by altering microclimates by disturbing rocks or downed wood by OHVs. Within these corridors during the wet season, direct mortality could occur to foraging snails by vehicles traveling to campsites or parking areas. Cumulative effects of ongoing road maintenance should not be additive in its effect to this species as it would occur whether or not this project is implemented. As there is no habitat disturbing activities occurring as a result of any of the action alternatives, there would be no threat to the persistence of the chace sideband on the RRSNF. The 17 sites occurring within the camping corridors and pull off areas are buffered by one site potential tree (150 ft.) and would be marked as areas of no camping/parking on the MVUM. This would protect the species microhabitat conditions.

Crater Lake Tightcoil

The Crater Lake tightcoil is a small (2.75 mm diameter) mostly aquatic mollusk found in perennially moist areas in conifer forests and meadows among rushes, mosses and other surface vegetation, or under rocks and woody debris within 10m of perennially open water (Burke and Gowan 2005). Movement of this species is believed to be mostly passive; as adults and eggs may be carried by mud particles by vertebrates such as waterfowl or ungulates (Burke and Gowan 2005).

Their habitats are often snow covered for much of the winter months due to the elevations at which they are found. This species has only been found on the High Cascades Ranger District on the RRSNF. This species is associated with perennially wet habitats where cross country travel is not likely to currently occur. However, there is a chance that some cross country travel could be impacting this species as they can occur as far as 10m away from water, so the prohibition of all cross country travel should be a benefit for this species. Being that no resource damage would be allowed within these camping corridors, and that this species is found within perennially moist habitats, this habitat should be not be impacted. Cumulative effects of ongoing road maintenance should not be additive in its effect to this species as it would occur whether or not this project is implemented. As there is no habitat disturbing activities occurring as a result of any of the **action alternatives**, there would be no threat to the persistence of Crater Lake tightcoil on the RRSNF. There are no known sites within a camping corridor.

Neotropical Migratory Birds (Landbirds)
Effects to landbirds are variable depending on the habitat associations of the individual species and effects to habitats previously described (see FSEIS Appendix C). There would be no effect to forested conditions under any alternative.

OHV trail development could create possible adverse impacts on nesting success and abundance of breeding bird via disturbance. Areas within 100 meters of OHV trails may provide reduced-quality habitat to nesting songbirds, particularly for species that suffer substantial losses of annual fecundity due to abandonment or desertion of individual breeding attempts. Limitation of OHV trail development in breeding areas of rare or endangered birds could minimize conflicts over land use between recreation and wildlife conservation.

In those areas with reductions in open roads or trails, a beneficial effect on landbird breeding and nesting can be expected. The converse would be true in those areas where Maintenance Level 1 roads are opened to OHV use, in any area with new trails or play areas, and in areas where mixed use is proposed due to increases in traffic, although effects would likely be reduced in areas with already open roads.

In addition, under **Alternatives 3 (Proposed Action), 4, and 5**, harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public. However, due to the potential of disturbance from noise associated with passenger vehicle and OHV traffic, all alternatives may impact but not adversely impact neotropical landbirds.

c. Cumulative Effects

Present and foreseeable future actions that may affect special or rare and uncommon terrestrial wildlife species or habitats on the Forest include: wildland fire, fuels treatments, livestock grazing, dam maintenance, minerals management, developed and dispersed recreation, timber harvest and vegetation treatments, reforestation, restoration, road management, and special uses. All of these activities would be designed to meet the direction provided within the Northwest Forest Plan and the Land and Resource Management Plans (i.e., Forest Plans), and in accord with Aquatic Conservation Strategy objectives (NWFP 1994, Rogue River NF LRMP 1990, and Siskiyou NF LRMP 1989).

None of the alternatives would result in substantial direct or indirect adverse effects to special or rare and uncommon terrestrial wildlife species or habitats. Thus, implementation of the project is not expected to result in detrimental cumulative effects.

All routes that are being considered for designation within the alternatives of this project currently exist and are receiving some amount of use. Further, it is assumed that because of this existing use, regardless of which alternative is selected; detrimental effects to special or rare and uncommon terrestrial wildlife species or habitats from the motorized route network would either be reduced or maintained when compared to the current condition.

Table Summary of Effects by Alternative

Significant Issue to Wildlife	Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4	Alternative 5
Terrestrial Wildlife Listed Species	Determination for listed species	N/A	Effects to the northern spotted owl and marbled murrelet due to disturbance could occur under and would result in a "may effect, not likely to adversely affect (NLAA)" determination. No effect to Critical Habitat for spotted owls and murrelets, No effect to Gray Wolf or Spotted Frog			
Management Indicator Species	Harassment to big game (deer and elk) within winter range areas	No change	No change to the current condition	Harassment potential would be decreased due to the reduced potential for noise and human activities through the elimination of cross country travel and the reduction in the amount of roads open to the public		
	Effects to other MIS species	No change	No change to the current condition	Neither of the alternatives would result in substantial direct or indirect adverse effects to other MIS species		
Survey and Manage Species	Effects to Survey and Manage species	No change	No change to the current condition	Due to the potential of disturbance to from noise and use associated with passenger vehicle and OHV traffic, alternatives may impact but not adversely impact these species		

12. Fisheries and Aquatic Species

Effects of motorized vehicle use on fish (native and anadromous) and other aquatic species

A Biological Evaluation of the Action Alternatives was conducted to evaluate potential effects on fish species listed under the Federal Endangered Species Act, Forest Service Sensitive fish species, and on other native fish species; all information and findings are summarized in this section. A complete Aquatic Biota Biological Evaluation is included as FSEIS Appendix G (incorporated by reference). The Biological Evaluation process (FSM 2672.43) is intended to conduct and document activities necessary to ensure proposed actions will not likely jeopardize the continued existence or cause adverse modification of habitat.

a. Background

The Forest is located in several geologic provinces in SW Oregon: Klamath Mountains, Coastal Franciscan and Cascade Mountains (Western and High Cascades). Anadromous and resident fish populations have occupied the Forest lands for many thousands of years during periods of variable climate and periodic floods, large and smaller area fires, wind storms and tectonic movements that caused aquatic and riparian habitat changes. These fish inhabit diverse habitats on the Forest in streams, ponds, lakes, and reservoirs at elevations from near sea level to more than 5,000 feet elevation.

Anadromous fish occupy over 700 miles of streams and rivers on the Forest; including two races of Chinook salmon, Coho salmon, two races of steelhead and sea-run cutthroat trout. Coho salmon and its critical habitat on the Forest are listed as threatened under the Endangered Species Act for the Southern Oregon/Northern California Coasts (SONCC) and Oregon Coast (OC) Coho Salmon Evolutionary Significant Units (ESU).

Coho salmon and Chinook habitat on this Forest are listed as threatened for Essential Fish Habitat (EFH) under the Magnuson-Stevens Act (16 U.S.C. 1855(b)).

Resident trout and other species occupy approximately 2,000 miles of streams on the Forest. The preponderance of anadromous fish habitat is found in the western portion of the Forest (Siskiyou Mountains and Coast Range) due to natural and human-made migration barriers in portions of the eastside of the Forest, e.g., Lost Creek Dam and Applegate Dam.

The Forest contains portions of six designated Wild and Scenic Rivers, including the: upper Rogue, lower Rogue, Chetco, Illinois, Elk, and North Fork Smith Rivers; five of which have fisheries Outstanding and Remarkable Values; excluding upper Rogue located above Lost Creek Lake reservoir, an anadromous fish barrier. Lake habitats are also abundant on the Forest, particularly at Fish Lake, Applegate Lake, and within the Sky Lakes and Red Buttes Wilderness Areas, where many high elevation lakes are stocked with trout.

This project involves the identification of a motorized travel system for the Forest. Following completion of the MVUM, motorized travel on the Forest would be restricted to designated routes and areas only. In general, this project is merely designating permitted vehicle use on the existing system of routes within the Forest. Accordingly, the baseline (i.e., pre-project) condition includes all adverse impacts to aquatic biota populations and habitat from this existing route network.
The magnitude and extent of road and trail impacts to fish population and fisheries habitat is highly variable depending on site specific characteristics. General effects of roads and motorized trails on the fisheries resource are described below.

Threatened, Endangered, Sensitive, and Proposed Fish Species (TESP)

In compliance with Section 7 of the Endangered Species Act (ESA) and the Forest Service Biological Evaluation process for TESP fish species, the list of species potentially occurring within the Forest was reviewed. Lists for the Rogue River-Siskiyou National Forest (RRSNF) and the Pacific Northwest Region (R-6) were reviewed[30] in regard to potential effects on any of these species by actions associated with the Motorized Vehicle Use project. Pre-field and reconnaissance results are summarized below.

Table III- 23. Potentially affected aquatic species, status, and habitats assessed

Species/Habitat		Pre-field Review	Field Surveys
Common name	Scientific Name	Existing Sighting or Potential Habitat (Yes*/No**)	Habitat or Species Confirmed (Yes*/No**)
ESA Threatened Species			
SONCC Coho Salmon	*Oncorhynchus kisutch*	Yes	Yes
OC Coho Salmon	*O. kisutch*	Yes	Yes
S. DPS North American Green Sturgeon	*Acipenser medirostris*	No	No
S. DPS Pacific Eulachon	*Thaleichthys pacificus*	No	No
ESA Critical Habitat (CH)			
SONCC Coho Salmon	*O. kisutch*	Yes	Yes
OC Coho Salmon	*O. kisutch*	Yes	Yes
MSA Essential Fish Habitat (EFH)			
Coho Salmon	*O. kisutch*	Yes	Yes
Chinook Salmon	*O. tshawytscha*	Yes	Yes
R6 Forester's Sensitive Species			

[30] Pacific Northwest Regional Forester's Sensitive Species List updated December 2011, USDA 2011

Species/Habitat		Pre-field Review	Field Surveys
Common name	Scientific Name	Existing Sighting or Potential Habitat (Yes*/No**)	Habitat or Species Confirmed (Yes*/No**)
Fish			
SONCC Chinook Salmon	*O. tshawytscha*	Yes	Yes
PC Chum Salmon	*O. keta*	No	No
OC steelhead	*O. mykiss*	Yes	Yes
Mollusk			
Western ridged mussel	*Gonidea angulata*	No	No
Highcap lanx	*Lanx alta*	No	No
Scale lanx	*L. klamathensis*	No	No
Robust walker	*Pomatiopsis binneyi*	No	No
Pacific walker	*P. californica*	No	No
Insect			
Haddock's Rhyacophilan caddisfly	*Rhyacophila haddock*	No	No
A caddisfly	*Namamyia plutonis*	No	No

***Yes** – The proposed project's potential effects on these species will be further analyzed in this document.
****No** – No further analysis is necessary, and a determination of "No Impact" is rendered.

Oregon Coast Coho Salmon and Critical Habitat (Threatened)

Oregon Coast (OC) Coho ESU was listed as threatened on August 10, 1998 (63 FR 42587). This listing was reevaluated and National Marine Fisheries Service (NMFS) determined listing OC Coho was not warranted on January 17, 2006. The listing was once again reevaluated and NMFS determined a listing of threatened was warranted on February 4, 2008 (73 FR 7816). OC Coho Salmon critical habitat was designated as threatened also on February 11, 2008 (73 FR 7816). Final protective regulations for OC Coho Salmon were issued on February 11, 2008 (73 FR 7816). On April 28, 2009 NMFS announced that it was initiating a status review of OC Coho. On May 26, 2010, NMFS affirmed the listing of the OC Coho Salmon as Threatened (75 FR 29489).

Critical habitat is defined in Section 3(5)(A) of the ESA as "the specific areas within the geographical area occupied by the species Oregon Coast Coho on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection." Section 7 of the ESA prohibits the destruction or adverse modification of designated critical habitat (CCH). Table G-5 lists streams with OC Coho presence and/or CCH within the Action Area. The Action Area for this project is all land within the boundaries of the Rogue River-Siskiyou National Forest. This area encompasses nearly 2 million acres, most of which is administered by the RRSNF.

The lateral extent of OC CCH is limited to the ordinary high water mark (i.e., bankfull elevation). On the RRSNF, the South Fork Coquille River, though occupied by OC Coho, is exempt from critical habitat designation due to economic benefits of exclusion outweighing the benefits of designation. Further, marine habitats are not included as critical habitat due to the difficulty in identifying specific areas critical to the species. The habitat indicators addressed in this BE that are pertinent to aquatic habitat health, also represent the primary constituent elements of proposed CH for OC Coho Salmon. Table G-5 in FSEIS Appendix G, lists watersheds with OC Coho presence, CCH and/or EFH within the Action Area.

NMFS developed a list of Primary Constituent Elements (PCEs) that are essential for the conservation of OC Coho, and which are based on the life history of the Coho Salmon. These PCEs are: freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, nearshore marine areas, and offshore marine areas.

These PCEs in concert with OC Coho distribution data, were used to delineate the spatial extent of the critical habitat. The lateral extent of this designation is limited to the ordinary high water mark (i.e., bankfull elevation). In FSEIS Appendix G, the PCEs for the conservation of OC Coho are cross referenced with the respective Habitat Indicators in Table G-6.

SONCC Coho Salmon and Critical Habitat (Threatened)

CCH for SONCC Coho Salmon was designated by NMFS on May 5, 1999 (64 FR 24049). CCH is defined in Section 3(5)(A) of the ESA as "the specific areas within the geographical area occupied by the species ... on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection." Critical habitat was designated (64 FR 24049, May 5, 1999) to include all river reaches accessible to listed Coho Salmon between Cape Blanco, Oregon, and Punta Gorda, California. Critical habitat consists of the water, substrate, and adjacent riparian zones of estuarine and riverine reaches (including off-channel habitats).

Accessible reaches are those within the historical range of the ESU that can still be occupied by any life stage of Coho Salmon. Inaccessible reaches are those above specific dams or above long-standing, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years). Table G-7 in FSEIS Appendix G, lists watersheds with SONCC Coho presence, CCH and/or EFH within the Action Area.

The list of Primary Constituent Elements (PCEs) essential for the conservation of the SONCC Coho ESU include, but are not limited to, spawning sites, food resources, water quality and quantity, and riparian vegetation (64 FR 24050, May 5, 1999). Specifically, the adjacent riparian area is defined as the area adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. NOAA Fisheries defines 10 essential habitat features to include substrates, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions (64 FR 24059, May 5, 1999). In FSEIS Appendix G, the PCEs for the conservation of the SONCC Coho ESU are cross referenced with the respective Habitat Indicators, in Table G-8.

Coho and Chinook Salmon Essential Fish Habitat

Interim final rules for Essential Fish Habitat (EFH) under the Magnuson-Stevens Act (16 U.S.C. 1855(b)) were published in the Federal Register/ Vol. 62, No. 244, December 19, 1997 and final rules published in the Federal Register/ Vol. 67, No. 12, January 17, 2002. These rules are pertinent to Chinook salmon and Coho salmon habitat within the Southern Oregon Coastal Basin. Essential Fish Habitat (EFH) has been defined by NMFS as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." This definition includes all waters historically used by anadromous salmonids of commercial value. EFH within the Action Area is the same as CCH, except on NFSL within the South Fork Coquille Watershed where OC Coho Salmon reside.

SONCC Chinook Salmon (Sensitive)
On the RRSNF, Southern Oregon and Northern California Coastal (SONCC) Chinook salmon occur within the Rogue, Pistol, Chetco, Winchuck, and Smith River basins, as well as several smaller coastal front drainages (e.g. Hunter Creek). The SONCC Evolutionarily Significant Unit (ESU) was determined to be not warranted for listing under the Endangered Species Act, by the National Marine Fisheries Service on September 16, 1999 (64 FR 50394). This ESU is listed as a Sensitive Species on the USFS Region 6 Special Status Species List.

OC Steelhead (Sensitive)
On the RRSNF, Oregon Coast (OC) steelhead occurs within the South Fork Coquille, and Sixes River drainages. The OC steelhead trout distinct population segment (DPS) was proposed as threatened under the ESA on August 9, 1996 (61 FR 41541), but was found not warranted for listing. OC steelhead is currently listed as a species of concern by NMFS and as a Sensitive Species by the USFS Region 6.

Southern North American Green Sturgeon (Threatened)
On April 7, 2006, NMFS published a final rule listing the Southern DPS Green Sturgeon as Threatened under the ESA (71 FR 17757). Further, critical habitat for the southern DPS was designated in October 2009 (74 FR 52300). Southern DPS North American Green Sturgeon do not occur or have suitable habitat within proximity to any of the proposed changes included within any of the Action Alternatives. Distribution of this species is limited to the Rogue River estuary, approximately 6 miles downstream of the Forest Boundary at its closest point. As such, a **No Effect** determination is rendered and this species will not be discussed further within this document.

Southern Pacific Eulachon (Threatened)
On March 18, 2010, NMFS published a final rule listing the Southern DPS Pacific Eulachon as Threatened under the ESA (75 FR 13012). Further, critical habitat for the Southern DPS was designated in October 2011 (76 FR 65324). Southern DPS Pacific Eulachon do not occur or have suitable habitat within proximity to any of the proposed changes include within any of the Action Alternatives. Eulachon are rare within estuaries along southern Oregon coast, including the Rogue River estuary (Monaco et al. 1990). Distribution of this species is limited to estuaries (i.e., Chetco River, Hunter Creek, Rogue River, Euchre Creek, etc.) and immediately adjacent freshwater areas along the southern Oregon coast. These occupied habitats are located more than 5 miles downstream of the Forest boundary. Thus, a **No Effect** determination is rendered and this species will not be discussed further within this document.

Other Species
PC Chum Salmn, western ridged mussel, highcap lanx, scale lanx, robust walker, pacific walker, Haddock's rhyacophilan caddisfly, *Namamyia plutonis* are not know to occur or have suitable habitat within proximity (see list below) to any of the proposed changes included within any of the Action Alternatives. As such, a **No Impact** determination is rendered and these species will not be discussed further within this document.

b. Effects Mechanisms and Analysis Framework

Native fish, particularly salmonids, on the Forest require cool clean water, gravels with little fine sediment for spawning, shade along streams from vegetation and diverse habitats for successful growth during periods of their life history in fresh water. Large wood plays several important roles in fish habitat: for shade along streams, large mass to create habitat when wood enters the water, and in the formation and maintenance of stream channels. Large wood also has an ecological role associated with slope stability, soil retention, stream channel scouring, organic matter for primary aquatic production and formation of large stream features (fans, wood complexes and blockages, large sediment deposits) during storm episodes. Fish habitat on the Forest is generally lacking in diversity and complexity where past management activities, e.g., wood removal and road building have simplified instream diversity. Here, fish habitat is lacking the quality and quantity of pool habitat and spawning gravels expected within the range of historical conditions. Some areas, particularly in the Siskiyou Mountains, naturally lack the expected numbers of large wood pieces per mile due to channel steepness and intensity of storms. Historically in SW Oregon, fire, floods and landslides have routinely changed in-stream habitats, with large changes occurring during episodic events.

Comparing past stochastic episodes with management of the Forest the past several decades indicates a change of disturbance patterns from irregular and episodic to more chronic patterns of anthropogenic disturbance from timber harvest, mining, road construction and maintenance, livestock grazing, and suppression of fire. Timber harvest and associated road development and road traffic have greatly decreased since the mid to late 1980s. Tree-growth and healing of eroded areas has passively recovered and placed stream networks in most watersheds on a recovery trajectory within the National Forest. Roads continue to have a chronic sediment and drainage effect on fish populations and water quality in many watersheds and mining instream is a chronic disturbance in many streams on the west side of the Forest.

High recreation use in specific local riparian areas also creates some chronic disturbance. Watershed restoration has occurred intensively on the Forest since the Northwest Forest Plan, 1994. Stream, riparian, and upland restoration is a process being implemented on high priority watersheds on the Forest.

At the landscape scale, it is well documented that motorized routes modify the frequency, timing, and magnitude of disturbance to aquatic systems. The current motorized travel system on the Forest includes over 5,200 miles of motorized routes. Many of these routes are located within proximity to occupied fish habitat. The overriding adverse effect of this motorized travel system on the fisheries resource is via sediment input to stream systems, Riparian Reserve fragmentation, and to a lesser degree fragmentation of aquatic habitats due to impassable or partially impassable road/stream crossings. These conditions have contributed to decreased distribution and abundance of native salmonid stocks, particularly anadromous salmon and steelhead.

This analysis evaluates the potential direct and indirect effects of the Action Alternatives on SONCC coho salmon, SONCC coho critical habitat, OC coho salmon, OC coho salmon critical habitat, EFH, and FS Sensitive aquatic species. Some changes in motorized vehicle use are proposed where certain roads and trails cross fish-bearing habitat, including coho critical habitat. There is potential to affect individual coho, coho critical habitat, EFH, and Sensitive fish habitat (i.e., SONCC Chinook, OC steelhead).

Coho critical Habitat and EFH are the same within the boundaries of the Rogue River-Siskiyou National Forest, so any potential effect to one (i.e., critical habitat) would obviously result in an effect to the other (i.e., EFH). Further, coho critical habitat and EFH fully encompass the distribution of SONCC Chinook salmon and OC steelhead. This analysis will discuss effects to coho critical habitat for feasibility and readability, recognizing that the same effect would apply to EFH and Sensitive fish habitat (i.e. SONCC Chinook, OC Steelhead).

For the purposes of this analysis, effects to listed fish species and sensitive aquatic biota will be disclosed for all changes proposed to the existing transportation system open to the public. For all other existing routes, where there is no change proposed a continuation of the existing use does not constitute a new effect.

c. Direct and Indirect Effects of Alternatives

The NMFS "matrix of pathways and indicators" (NMFS 1996), was used to help determine the effects of the Action Alternatives (Alternatives 2, 3, 4, and 5). This process was intended to be utilized when considering project level effects at the watershed scale. All Action Alternatives would result in an overall **neutral** effect to the following indicators: *temperature, sediment, chemical contamination/nutrients, physical barriers, substrate, large woody debris, pool frequency/quality, off-channel habitat, refugia, width/depth ratio, stream bank condition, floodplain connectivity, change in peak/base flows, increase in drainage network, road density, disturbance history, and Riparian Reserves*. This is due to the project activities occurring at sites that are currently part of the RRSNF travel route network, and in general they merely involve an administrative change in the type of use (e.g. mixed-use, non-motorized, etc.) that an existing route would receive.

There is no ground disturbing action from these actions. Road maintenance currently occurs and will continue. Any ground disturbing activity that may occur in the upcoming years (e.g. culvert replacement), would be covered under a different effects analysis and consultation process.

The only exception to a neutral effect with the above indicators involves the on-the-ground construction of the Penn Sled Trail (included in Alternatives 3 and 5) on the Siskiyou Mountains Ranger District, and the Woodruff Trail Connector (Alternative 3) on the Gold Beach Ranger District, and the elimination of motorized use of the Mule Creek Trail (#920) (Alternative 4) on the Siskiyou Mountains Ranger District. Effects to S*ediment* and *Pool Frequency/Quality* for these three actions are disclosed within the respective alternative effects section within this document.

The actions of the project can be divided into three Project Elements and are described below:

1) *Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use (Alternative 2, 3, 4, and 5).*
2) *Close Areas to Cross-Country Motorized Travel (Alternatives 2, 3, 4, and 5).*
3) *Convert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, Prohibit Motorized Public Use, and Construct Motorized Trail (Alternatives 3, 4, and 5)*.

This analysis evaluates the potential direct and indirect effects of All Alternatives on SONCC Coho, SONCC Coho critical habitat, OC Coho, OC Coho critical habitat, Coho and Chinook EFH, SONCC Chinook Salmon, and OC steelhead.

This analysis will discuss effects to CCH fish habitat for feasibility and readability, recognizing that CCH fully encompasses not only listed CCH, but also EFH and the distribution of SONCC Chinook Salmon and OC steelhead within the project area.

No Action Alternative
Under the No Action Alternative, no administrative or on-the-ground changes to the existing transportation system would occur. Current aquatic habitat conditions and trends would continue. The Rogue River LRMP (1990), Siskiyou LRMP (1989), and Northwest Forest Plan (1994) would continue to guide land management actions across the Forest. The direction provided within these plans is adequate to protect and maintain aquatic biota populations and habitat throughout the Forest. Any impact to the aquatic biota populations and habitat from the existing route network would continue. Route proliferation would continue to result within areas where cross-country travel is permitted.

Effects Common to All Action Alternatives (2, 3, 4, and 5)

Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use

These Forest Plan amendments are exclusively an administrative action. As such, there is **no causal** mechanism from these amendments to any of the habitat indicators. There is no on-the-ground construction, restoration or rehabilitation action included in this action.

Closing Areas to Cross-Country Motorized Travel

There is **no causal** mechanism from *Closing Areas to Cross-Country Motorized Travel* to any of the indicators, since this action involves an administrative change in the type of use that certain areas of the Forest would receive. There is no on-the-ground construction, restoration or rehabilitation action included in this action.

The Motorized Vehicle Use project would eliminate cross country motorized travel across the Forest, with the exception of the existing Woodruff Play Area on the High Cascades Ranger District (outside of CCH/anadromous habitat). This action would involve approximately 275,000 acres of land where cross country motorized travel is currently allowed. These areas are scattered across the Forest, and occur within and outside of anadromous fish occupied watersheds.

Specific sites where *Closing Areas to Cross-Country Motorized Travel could occur* are included in Table III-24. It is assumed that **areas currently open to cross-country motorized travel that are not included in Table III-24 are either receiving no or extremely low motorized use due to topographic limitations and/or recreation opportunities.** Note that Alternative 4 excludes all these routes. Accordingly, cross-country motorized closure of these areas (included in all Action Alternatives) provides no mechanism for direct and indirect effects to aquatic species and CCH.

Convert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, and Prohibit Motorized Public Use

These actions occur on all Ranger Districts and are in proximity to SONCC CCH. There is no causal mechanism for C*onvert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, and Prohibit Motorized Public Use* to all the Habitat Indicators and Watershed Condition Indicators because the affected routes are currently part of the RRSNF travel route network, and the action only involves an administrative change to the type of use (e.g. mixed-use, non-motorized, etc.) that an existing route would receive. There is no ground disturbing action from this activity. Road maintenance currently occurs and will continue. Any ground disturbing activity that may occur in the upcoming years (e.g., culvert replacement), would be covered under a different effects analysis and consultation process.

Dispersed Camping Limitations

All Action Alternatives also reduce motorized access for dispersed camping to 300 feet or less off of open roads. Dispersed recreation is a common activity across the Forest that can result in detrimental impacts to adjacent aquatic habitats. These effects may include increased sediment influx into water bodies from bank damage and user-created crossings, reduced riparian plant composition and structure, and increased risk of aquatic nuisance species transfer and introduction (Gucinski et al., 2001). Each of these effects has the potential to reduce fisheries habitat condition and population structure at the site scale. This reduction could lead to improvement of existing high quality fisheries habitat. These benefits are not expected to occur at magnitudes where the effects are measurable when compared to the ongoing natural sediment production, and that which would continue to occur as a result of the remaining road and trail system. The FSEIS has incorporated an additional prohibition to require a 30-foot setback for motorized vehicles engaged in dispersed camping at any existing site near a stream course, wetland, or water body (see Chapter II, section F, 3, a).

Alternative 2 - Direct and Indirect Effects
There are no direct effects to CCH from any action included in Alternative 2, because no ground disturbing action would occur within CCH.

Indirect effects to CCH from Alternative 2 would not occur. The rationale for this finding is disclosed within the "Effects Common to All Action Alternatives" section.

Alternative 3 (Proposed Action) - Direct and Indirect Effects
There are no direct effects to CCH from any action included in Alternative 3, because no ground disturbing action would occur within CCH.

Indirect effects to CCH from *Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use, Closing Areas to Cross-Country Motorized Travel, and* C*onvert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, and Prohibit Motorized Public Use,* would not occur. The rationale for this finding is disclosed within the "Effects Common to All Action Alternatives" section.

Construct Motorized Trail

Woodruff Trail Connector – Rogue River Watershed
Approximately 0.5 miles of new motorized trail construction would occur within the Rogue River watershed, west of Quosatana Creek. The nearest CCH habitat is located 1.65 miles downstream of the proposed route, within Quosatana Creek. This action would potentially create a long-term sediment source within the Quosatana Creek subwatershed, with potential to indirectly impact water quality within a tributary to Quosatana Creek, and to a lesser extent (immeasurable) mainstem Quosatana Creek. The influx of additional sediment into tributaries of and mainstem Quosatana Creek could result in a persistent adverse impact to instream habitat; though these effects would be immeasurable and indiscernible due to the existing roaded nature of the subwatershed, and its existing sediment load. Further, no effect to fish behavior would occur, as the sedimentation effects would be immeasurable.

Forest Trail #957 (Penn Sled) – Upper Applegate River Watershed
The trail is in a low precipitation area with no riparian crossings. The new trail segment does not cross a Riparian Reserve, and would have no impact on water quality (Joplin 2011).

This action would have no direct or indirect effect on CCH, as it is located upstream of the Applegate Dam; which is permanent barrier to anadromous fish species. Consequently, the Penn Sled Trail is located outside the range of CCH.

Alternative 4 - Direct and Indirect Effects
There are no direct effects to CCH from any action included in Alternative 4, because no ground disturbing action would occur within CCH.

Indirect effects to CCH from *Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use, Closing Areas to Cross-Country Motorized Travel, and* C*onvert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail (excluding trail #920 which is discussed below), Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, Prohibit Motorized Public Use* would not occur. The rationale for this finding is disclosed within the "Effects Common to All Action Alternatives" section.
Prohibit Motorized Use of an Existing Trail

Forest Trail #920 (Mule Creek) – Upper Applegate River Watershed
Trail #920 follows the majority of the main channel of Mule Creek up to the headwaters. This results in abundant tributary crossings near their confluence with the mainstem Mule Creek. The trail also intercepts many first order tributaries on its way to join Trail #919 at the ridge. The Squaw-Elliott Watershed Analysis states that Mule Creek typically becomes dry by June of most years and remains so until the autumn rains. This would tend to reduce the level of effect of motorized impact; however, motorized use following the channel so closely is inconsistent with ACS objectives maintaining and protecting stream bank integrity and aquatic vegetation. Mule Creek also is CCH near its confluence with the Applegate River; trail generated sediment is likely to be readily flushed into anadromous habitat (CCH located within 100 feet of the trail at its closest point). Prohibiting motorized use would alleviate some stream channel degradation, even if pedestrian use continues (Joplin 2011).

Table III- 24. Cross-country areas current and projected use; alternatives 2, 3 & 5

Trail/Area Name	Watershed	CCH or EFH Present (Yes/No)	Current			Projected	
			Current Status	Current Level of Use	Cross-country user created route or FS Road/Trail?	Status Under All Action Alternatives	Projected Level of Use
Johnson Creek	South Fork Coquille River	Yes	Open to motorized use	Low (Weekend mining use during mining season)	User created routes	Closed to motorized use	None, unless approved via NOI or POO
Around 8 Dollar Mountain (old mining roads that should have been closed that people are using)	Josephine Creek-Illinois River	Yes	Open to motorized use	Low-Medium	User created routes	Closed to motorized use	None
Sourdough Camp (off the McGrew Trail) – (hill climb)	NF Smith River	Yes	Open to motorized use	Low	User created routes	Closed to motorized use	None
Red Flat Trail	Hunter Creek	No	Open to motorized use	Low	User created route	Closed to motorized use	None
Willow Lake Play Area	Big Butte Creek	No	Open to motorized use	Low-Medium	User created area	Closed to motorized use	None
Applegate Lake (French Gulch, Copper, Squaw) – (seasonal usage with people cruising in the flats of the lake bed when water is drawn down)	Headwaters Applegate River	No	Open to motorized use	Low	User created area	Closed to motorized use	None
Stringtown area (dispersed site where people park and travel up hillside)	Headwaters Applegate River	No	Open to motorized use	Low	User created route	Closed to motorized use	None
Spalding Pond (a lot of user created routes around a dispersed camping area)	Briggs Creek	No	Open to motorized use	Low	User created routes	Closed to motorized use	None
Signal Buttes	Hunter Creek, Rogue River	Yes	Open to motorized use	Low	Road (ML1) includes a user created route	ML 1 routes open to motorized use	Low
Kimball Hill	Rogue River	Yes	Open to motorized use	Low	Road (ML1)	Open to motorized use	Low

Low = used a couple times per year, **High** = used regularly during the summer

Elimination of motorized use along Trail #920 could result in an immeasurable indirect beneficial effect to CCH within Mule Creek, associated with reduced sediment influx. Though the continued presence of the trail and use by non-motorized traffic would continue create sediment, similar to the existing condition.

Alternative 5 (Preferred Alternative) - Direct and Indirect Effects
There are no direct effects to CCH from any action included in Alternative 5, because no ground disturbing action would occur within CCH.

Indirect effects to CCH from *Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use, Closing Areas to Cross-Country Motorized Travel, and* C*onvert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, and Prohibit Motorized Public Use,* would not occur. The rationale for this finding is disclosed within the "Effects Common to All Action Alternatives" section.

Construct Motorized Trail

Forest Trail #957 (Penn Sled) – Upper Applegate River Watershed
The trail is in a low precipitation area with no riparian crossings. The new trail segment does not cross a Riparian Reserve, and would have no impact on water quality (Joplin 2011).

This action would have no direct or indirect effect on CCH, as it is located upstream of the Applegate Dam; which is permanent barrier to anadromous fish species. Consequently, the Penn Sled Trail is located outside the range of CCH.

Comparison of Alternatives

The **No Action** Alternative would not alter the existing travel management system on the Forest. Thus, a neutral effect to TES aquatic species or habitat would occur.

All of the Action Alternatives, 2 through 5, would have a similar neutral effect from "*Enact Forest-wide plan amendments to make the plans consistent with the Travel Management Rule and current historical motorized use" and* "C*onvert Maintenance Level 1 Road to Motorized Trail, Prohibit Motorized Use on an Existing Trail, Prohibit Motorized Mixed Use, Designate Motorized Mixed Use, and Prohibit Motorized Public Use".* These Forest Plan amendments are exclusively an administrative action. There is no on-the-ground construction, restoration or rehabilitation included in this action. The affected routes are currently part of the RRSNF travel route network, and the action only involves an administrative change to the type of use (e.g. mixed-use, non-motorized, etc.) that an existing route would receive. Road maintenance currently occurs and will continue. Any ground disturbing activity that may occur in the upcoming years, i.e., culvert replacement, would be covered under a different effects analysis and consultation process.

All of the Action Alternatives**, 2 through 5,** would result in No Effect to TES aquatic species from the "*close area to motorized cross-country travel*" action. Areas that are currently receiving cross country motorized use are not affecting CCH.

Specific to **Alternative 3**, the construction of new motorized trail (Woodruff Trail) in the Quosatana Creek subwatershed could result in new sediment delivery to CCH. Though, given the extensive roaded nature of the subwatershed, sediment effects from this new trail segment on TES aquatic species would be immeasurable and indiscernible, given the ongoing sediment load within the subwatershed.

Specific to **Alternative 4,** elimination of motorized use along Trail #920 could result in an immeasurable beneficial effect to Coho critical habitat within Mule Creek, associated with reduced sediment influx; though the continued presence of the trail and use by non-motorized traffic would maintain the current sediment regime, similar to the existing condition.

Effects to the TES aquatic species are overall similar under all of the Action Alternatives, 2 through 5. This is due to a similar range of site specific activities, locations and associated effects included in the alternatives. The differences in effects of the activities between Action Alternatives are minimal and would create no measurable positive or negative sediment delivery difference on TES aquatic species and habitat.

Conclusions and Determinations

Alternative 1 – No Action
Alternative 1 would have no direct, indirect or cumulative effects to SONCC Coho Salmon, SONCC Coho CH, OC Coho Salmon, OC Coho CH, Coho and Chinook Essential Fish Habitat, Southern DPS North American Green Sturgeon, Southern DPS Pacific Eulachon, SONCC Chinook Salmon, OC steelhead, PC Chum Salmon, western ridged mussel, highcap lanx, scale lanx, robust walker, pacific walker, Haddock's rhyacophilan caddisfly, or the *Namamyia plutonis*.

Alternative 2 and 5
Based on a review of best available science and professional judgment, it is determined that Alternative 2 and Alternative 5 would result in no effects to OC and SONCC Coho Salmon, OC and SONCC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon on the RRSNF. Thus, a **No Effect** determination is rendered for SONCC Coho Salmon, SONCC Coho Salmon critical habitat, OC Coho Salmon, OC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon.

These alternatives would have **No Effect** to Essential Fish Habitat for Coho Salmon and Chinook Salmon. Further, Alternative 2 and 5 would have **No Impact** to SONCC Chinook Salmon, OC steelhead, PC Chum Salmon, western ridged mussel, highcap lanx, scale lanx, robust walker, pacific walker, Haddock's rhyacophilan caddisfly, or the *Namamyia plutonis*.

Alternative 3 – Proposed Action
It is determined that Alternative 3 (excluding the Woodruff Trail connector) would result in no effects to OC and SONCC Coho Salmon, OC and SONCC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon on the RRSNF. Thus, a **No Effect** determination is rendered for SONCC Coho Salmon, SONCC Coho Salmon critical habitat, OC Coho Salmon, OC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon. This alternative would have **No Effect** to Essential Fish Habitat for Coho Salmon and Chinook Salmon. Further, Alternative 3 would have No Impact to SONCC Chinook Salmon, OC steelhead, PC Chum Salmon, western ridged mussel, highcap lanx, scale lanx, robust walker, pacific walker, Haddock's rhyacophilan caddisfly, or the *Namamyia plutonis*.

Construction of the Woodruff Trail connector would create a new sediment source within the Quosatana Creek subwatershed, which is CCH and occupied by SONCC Chinook Salmon. Accordingly this action **May Affect, Not Likely to Adversely Affect** SONCC Coho Salmon and SONCC Coho CH and EFH for Coho Salmon and Chinook Salmon. Further, this action **May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Toward Federal Listing or Cause a Loss of Viability to the Population or Species** (SONCC Chinook Salmon).

Alternative 4

It is determined that Alternative 4 would result in positive effects to SONCC Coho Salmon and SONCC Coho Salmon critical habitat on the RRSNF. Thus, a **Beneficial, May Affect, Not Likely to Adversely Affect** determination is rendered for SONCC Coho Salmon, and SONCC Coho Salmon critical habitat. This determination is exclusively linked to prohibiting motorized use on Forest Trail #920 within Mule Creek, and the potential decrease in upland erosion and sediment influx into stream channels that could result from this action. Alternative 4 would result in no effects to OC Coho Salmon, OC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon on the RRSNF. Thus, a **No Effect** determination is rendered for OC Coho Salmon, OC Coho Salmon critical habitat, Southern DPS North American Green Sturgeon, and Southern DPS Pacific Eulachon.

This alternative would have a **Beneficial Effect** to Essential Fish Habitat for Coho Salmon and **No Effect** to Essential Fish Habitat for Chinook Salmon. Further, Alternative 4 would have **No Impact** to SONCC Chinook Salmon, OC steelhead, PC Chum Salmon, western ridged mussel, highcap lanx, scale lanx, robust walker, pacific walker, Haddock's rhyacophilan caddisfly, or the *Namamyia plutonis*.

Table III- 25. Summary of conclusions and determination of effects (aquatic species)

Species and/or Habitat	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
SONCC Coho	NE	NE	NLAA	B-NLAA	NE
SONCC Coho CH	NE	NE	NLAA	B-NLAA	NE
OC Coho	NE	NE	NE	NE	NE
OC Coho CH	NE	NE	NE	NE	NE
S. DPS North American Green Sturgeon	NE	NE	NE	NE	NE
S. DPS Pacific Eulachon	NE	NE	NE	NE	NE
EFH – Coho	NE	NE	NLAA	B-NLAA	NE
EFH – Chinook	NE	NE	NLAA	NE	NE
SONCC Chinook	NI	NI	MIIH	NI	NI
OC steelhead	NI	NI	NI	NI	NI
PC Chum	NI	NI	NI	NI	NI
Western ridged mussel	NI	NI	NI	NI	NI
Highcap lanx	NI	NI	NI	NI	NI
Scale lanx	NI	NI	NI	NI	NI
Robust walker	NI	NI	NI	NI	NI
Pacific walker	NI	NI	NI	NI	NI
Haddock's rhyacophilan caddisfly	NI	NI	NI	NI	NI
Namamyia plutonis	NI	NI	NI	NI	NI

NE = No Effect
B-NLAA = Beneficial, Not Likely to Adversely Affect
NI = No Impact
MIIH = May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species
BI = Beneficial Impact

d. Cumulative Effects

Cumulative effects are those that result from the incremental accumulations of all land management activities across all ownerships. On the RRSNF, historic land management activities such as hydraulic mining, diking, channelization, riparian timber harvest, dam construction, large wood removal, flow alteration, floodplain development, and road construction have had an enduring and significant impact on salmonid production. Since adoption of the Northwest Forest Plan in 1994, many of the streams on public land are likely recovering from prior management activities due to current management guidelines and policies. For example, Gallo et al. (2005) and Reeves et al. (2006) assessed 250 sixth-field watersheds in the Pacific Northwest and found a general increase in stream habitat quality in the first 10 years after the adoption of the Northwest Forest Plan, particularly in Key Watersheds and Late-successional Reserves (LSR).

Several recent past and foreseeable future projects on the RRSNF have dealt with road generated sediment, and sediment influx into fish bearing habitats. These include the Applegate-McKee Legacy Roads Project (2010), Copper-Salmon Legacy Roads Project (2012), Sucker Creek Legacy Roads Project (planning in progress), and multiple small scale road decommission projects, as well as ongoing road maintenance activities. With the exception of the *trail construction* included in Alternative 3, and the *prohibiting of motorized use of an existing trail* in Alternative 4, all actions included under the Action Alternatives would result in no effect to fish and aquatic habitats across the forest. Thus, there is no mechanism for actions included in the alternatives to result in cumulative effects to fish and fish habit in concert with projects listed above.

The proposed trail construction in Alternative 3 could result in adverse cumulative sedimentation effects within the affected watersheds, through an expansion of the road and motorized trail system. The beneficial effect of elimination motorized use of Mule Mountain Trail (#920) on fish habitat would be cumulative with the reduction of road generated sediment and sediment influx into fish bearing habitats associated with the Applegate-McKee Legacy Roads Project.

13. Visuals

Effects of motorized vehicle use on scenic quality

The scenic resources on the Rogue River-Siskiyou National Forest were inventoried under the Forest Service's Visual Management System (VMS) during the late 1970s and have been updated as specific projects were identified. This motorized vehicle use designation project is analyzed utilizing the VMS in order to maintain the integrity of the original inventory and established Visual Quality Objectives (VQOs). The relative condition of the visual resource of an area was divided into three separate data layers within the VMS. These individual layers were combined to create relative values for scenery and were used during the forest planning process to establish VQOs.

a. Background

Scenic Management Guidelines
Basic inventories for developing the VQOs of an area include:

Landscape Variety Class (A = Distinctive; B = Common; and C = Minimal) is a determination of the importance of the scenic quality of the natural landscape.

Sensitivity Level (Level 1 = High; 2 = Average; and 3 = Low) is a measure of the people's concern for scenic quality.

Distance Zones is a measurement of the landscape seen from the viewing point (foreground is up to one-half mile; middleground is up to five miles; and background is to the remaining seen area).

Forested foreground scenery viewed from sensitivity level one roads and trails would be expected to exhibit a late seral character as well as a multi-storied stand of conifers. The immediate foreground should display a diversity of species and age groups including hardwoods and the shrub/groundcover layer.

Attention to details, such as minimizing ground disturbance, reducing stump heights, and managing to view large trees is necessary to maintain the sense of a natural system and the traveling public's scenic expectations. Form, lines of individual trees, and color are the dominant characteristics of the seen landscape in foregrounds.

Middleground and background areas should appear in a near natural state with openings of sizes and shapes that would reflect natural processes. Texture and lines in the landscape are important in these views (USDA 1974).

In 1995, the Visual Management System was implemented and supersedes the Visual Management System which was utilized and incorporated into the individual Rogue River-Siskiyou National Forest Management Plans (1989 & 1990). Both systems have maintained and enhanced the visual character of National Forest and Grasslands since 1974. The newer Scenery Management System, also referred to as Landscape Aesthetics, is a further refinement for integrating the benefits, values, desires and preferences regarding aesthetics and scenery for all levels of land management planning on the Forest.

Implementation of all projects on the Rogue River-Siskiyou National Forest will incorporate the Scenery Management System. Although, very similar, the Visual Management System is utilized for the effects analysis of motorized vehicle use on scenic quality for Forest settings.

Scenic Analysis Area

Portions of the Forest are visible from several important viewpoints in and around the greater Ashland, Medford, Grants Pass, and Gold Beach areas as well as from Interstate 5, Highways 199, 62, and 140, and Forest roads and trails.

The majority of the visual land allocations as associated with the Forest Plans are to Foreground Partial Retention and Middleground Partial Retention. These areas, as seen from selected travel routes and use areas are to be managed so that, to the casual observer, results of activities are evident but are visually subordinate to the landscape. A management system is adopted which introduces some alteration of standard vegetation treatments (4-66 – 4-143, Siskiyou LRMP; 4-33 – 4-308, Rogue River LRMP).

Land management allocations on the Forest and their associated VQOs are presented in Table III-26 below. See FSEIS Chapter I for reference to the goal and description of the allocation, for the allocation reference number.

Table III- 26. Visual quality objectives and land management allocations

LRMP	Preservation	Retention	Partial Retention	Modification	Maximum Modification
Siskiyou	MA 1, 2, 3, 4, 5, 6, 7, 8, 9, 11	MA 10, 11, 12	MA 11, 13	MA 11, 14	---
Rogue River	MS 13, 25	MS 3, 5, 6, 8, 10, 11, 12, 15, 19, 26	MS 7, 9, 22	MS 4, 14, 16, 17, 18	MS 1, 20, 21, 23

The North Fork of the Smith River and the Illinois River, described in Section 19a Wild and Scenic Rivers were identified as having segments "that would have measurable change because of a reduction or increase in motorized use."
Management activities in designated Wild and Scenic River (WSR) areas are governed by the Wild and Scenic Rivers Act of 1968 to protect the outstanding remarkable values (ORVs), one of which may be scenery. Rivers and creeks that have been determined to be eligible for Wild and Scenic designation have also been considered in this analysis.

b. Direct and Indirect Effects of Alternatives

The scenic quality of the Forest would not be directly affected by the **No-Action Alternative or Alternative 2.** The existing condition would persist with no additional motorized roads, trails, or areas constructed; however, cross-country travel would continue under the **No-Action Alternative**. This would provide for no restrictions on river crossings. Ongoing cross-country travel and unrestricted river crossings could adversely affect or diminish scenic quality in those areas capable of cross-country travel based on vehicle encounters incurred in Wild sections of the WSRs and stream crossings in other segments of the WSRs and eligible corridors.

Under **all action alternatives** the removal of cross-country travel would remove these potential impacts to WSRs by prohibiting stream crossings outside of designated trails.

The scenic quality of the Forest could slightly be directly affected by **Alternative 3 (Proposed Action) and Alternative 5**. Approximately 2 miles of trails would be authorized. New motorized trails would include construction of a 0.5 mile connection to the Woodruff Trail (MA 14 (Siskiyou LRMP)) under Alternative 3 and relocating a small portion of the 1.2 miles of the Penn Sled Trail (MS 14, 20, 21; Rogue River LRMP) under Alternatives 3 and 5. Both of these trails would run through Management areas that allow either Modification or Maximum Modification of visuals, thereby permitting the proposed construction and associated maintenance.

The Penn Sled Trail already exists as a historical motorized trail with trail tread intact. Thus, direct effects would involve minor impacts related to simple maintenance. New trail construction or maintenance would involve a minimal amount of vegetation disturbance including light brushing and a limited number of conifers (less than 8 inches in diameter) removed. The Proposed Action would be compliant with the Forest's visual Standards and Guidelines.

Alternative 3 would remove 2.0 miles of public motorized use within the Scenic section of the Illinois WSR. Because the 2.0 mile section is located in the Eight Dollar Mountain area where private developments and roads occur, the potential enhancement would be slight. No changes in the Scenic ORB for the North Fork of the Smith River would occur under this alternative.
Additionally, this alternative would remove 2.5 miles of motorized use on roads and trails within eligible river corridors. Allowing the roads to revegetate would result in a slight enhancement of scenic qualities in these limited areas (i.e. Silver Creek, Canyon Creek and Rough and Ready Creek).

The scenic quality of the Forest would not be directly affected by **Alternative 4.** This alternative would not result in any new trails, roads, or areas constructed. While, 106 miles of motorized trails would not be included in the designation of this alternative, merely removing trails from use would not result in a concurrent improvement in visual or scenic quality.

Alternatives 4 and 5 would provide the most potential to enhance to WSRs because of reductions (5.4 and 4.1 miles, respectively) within eligible corridors. See descriptions in Section 19 Wild and Scenic Rivers for a detailed narrative of effects. In general, the result would be a slight potential for enhancement to scenic resources for areas adjacent to the travel corridors.
As for designated WSRs, because of reductions (7.5 and 4.9 miles, respectively) scenic quality in the Wild Section of the Illinois River could be enhanced due to reduced motorized use adjacent to the river. However, in both instances the proximity of road and private developments within the vicinity of these areas limits potential enhancement.

The scenic quality of the Forest would be indirectly affected only by the Proposed Action. In the foreseeable future the Proposed Alternative would minimally enrich visuals by converting Maintenance Level 1 roads to trails. Thereby, allowing natural processes to re-establish vegetation on the roadbeds or by Forest managers actively designing a more natural, closed-in, and winding trail corridor. While Alternative 4 would remove 106 miles of trails out of motorized use, these trails would still be maintained for non-motorized use and thus would visually remain consistent with the current condition.

c. Cumulative Effects

None of the alternatives would result in substantive cumulative effects. While, the Proposed Action would remove a few small diameter trees and incur a minimal amount of brushing, these actions would be insignificant and visually unnoticeable. Therefore the effects of the alternatives would not combine with past, present, or foreseeable projects to warrant an adverse cumulative effect stemming from visuals or scenic quality.

14. Sound Level

Effects of motorized use on human hearing and human solitude

In regard to sound, the identification of roads, trails, and areas for motorized use could affect the public in two main ways. First, physically, sound can have detrimental effects to human hearing, possibly leading to Noise-Induced Hearing Loss (NIHL). Second, sound can become noise and impose an unfavorable effect on recreationists seeking solitude.

a. Background

Sound is defined as a vibration in the air that can be heard and measured. Noise is defined as a sound that has characteristics that may irritate or annoy a listener, interfere with the listener's activity, or in some other way be distinguished as unwanted (Harrison 1980).

Sound Laws

The US Environmental Protection Agency (EPA) adopted federal sound limits for new off-highway motorcycles, except competition machines, and three-wheeled ATVs beginning with the 1983 model year (Subpart D of 40 CFR 205.152). Sound limits are currently 80 decibels (dB) for vehicles displacing less than 170cc and 82 dB for those over 170cc, based on a precise, engineering acceleration test measured from a pass by assessment at a distance of 50 feet. Four-wheeled OHVs, however, are not regulated by the EPA noise standards because these products were not manufactured when the EPA regulations were promulgated.

To provide assurance that these products also comply with the EPA sound limits, the major manufactures and the American National Standards Institute (ANSI) developed a voluntary standard (ANSI/SVIA-1-2001) that recommends to the EPA off-highway motorcycle sound limits for four-wheeled OHVs.

The EPA Office of Noise Abatement and Control was eliminated shortly after the EPA adopted the motorcycle noise regulations, however manufactures are still required by federal law to certify their products or pay heavy fines (Motorcycle Sound Working Group (MSWG) 2005).

To address the need for an in-use enforcement tool, the Motorcycle Industry Council (MIC) worked with the Society of Automotive Engineers (SAE) to develop quick, easy, and economical stationary sound test procedures. Stationary sound test procedures for determining excessively loud off-highway motorcycles and OHVs are now widely used by nine states, including Oregon (MSWG 2005).

Table III- 27. Oregon vehicle standards: allowable noise limits

Vehicle	Model Year	Stationary: Maximum Noise Level at 20 inches	Moving: Maximum Noise at 50 feet
Motorcycles	Pre 1975	102 dB	85
Motorcycles	After 1975	99 dB	82
Front Engine (SUV, Truck, Car)	All	95 dB	78
Mid & Rear Engine (quad, sandrail)	All	97 dB	78

(OAR 2008) & (OPRD 2008)

b. Effects Mechanisms and Analysis Framework

Sounds from motor vehicles can have detrimental effects to human hearing. Sounds that are too loud or loud sounds that last a long time can result in damage to the inner ear causing NIHL. Sensitive hair structures, called hair cells, are small sensory cells that convert sound energy into electrical signals that travel to the brain. Once damaged, hair cells cannot grow back (NIDCD 2008).

Noise-induced hearing loss can be caused by a one-time exposure to an intense "impulse" sound, such as the crack of a motorcycle revving up, or by continuous exposure to loud sounds over an extended period of time. The loudness of sound is measured in units called decibels. Sources of sound emitting from

120 to 150 decibels can cause NIHL. Long or repeated exposure to sound at or above 85 decibels can also cause hearing loss. The louder the sound, the shorter the time period before NIHL can occur. Some sounds are so loud (140+ decibels); any exposure to them at close range can cause permanent damage and hearing loss. Sounds of less than 75 decibels, even after a long exposure, are unlikely to cause hearing loss. Distance from the sound is equally important as the duration.
Table III-28 shows the accepted standards for recommended permissible exposure times for continues average noise before possible damage to human hearing can occur (NICD 2008).

Table III- 28. Human decibel exposure time guidelines

Continuous decibels (dB)	Permissible Exposure Time
85	8 hours
91	2 hours
97	30 minutes
100	15 minutes
106	< 4 minutes
109	< 2 minutes
112	< 1 minute
115	< 30 seconds

Sounds can result in immediate hearing loss and be accompanied by tinnitus or the ringing, buzzing, or roaring of ears or head. These symptoms cans subside over time. Hearing loss and tinnitus may be experienced in one or both ears, and tinnitus may continue constantly or occasionally throughout a lifetime. Noise-induced hearing loss from both impulse and continuous sounds can be prevented by regularly using hearing protection such as earplugs, earmuffs, or riding helmets. (National Institute on Deafness and Other Communication Disorders [NIDCD] 2008)

Sounds from motor vehicles can also have detrimental effects on non-motorized recreation users and those seeking solitude, especially on trails. Sound levels or loudness are not good predictors of annoyance because some sounds are considered intrusive even at low levels. According to Herbert Kariel, studies show that it is a combination of the physical characteristics of sounds themselves and their socio-psychological aspects which determines their evaluation as pleasing, annoying, or acceptable.

Socio-psychological aspects of sounds are those that deal with their interpretation and the effect of sound on the individual. When a sound is heard, people interpret, evaluate, and attach meaning and significance to it. People judge its appropriateness for the setting, whether it is potentially harmful or helpful, and how it relates to past experience. Sounds which are interpreted as aiding or benefiting an activity are evaluated positively, while those deemed as interfering with or being detrimental to an activity are considered displeasing or annoying.

In addition, sounds over which people feel they have no control or which are unpredictable, are considered annoying. Sounds such as motorized vehicles, deemed as annoying by many non-motorized users (hikers), distract from the quality of the recreational experience. Conflict frequently arises between those who wish to enjoy and preserve quiet areas, where natural sounds predominate, and those whom wish to use mechanized equipment in such environments (Kariel 1990). On the RRSNF, user conflicts have been documented most noticeably on the Boundary Trail, and to a lesser extent, on other trails where motorized use (primarily motorcycles) is allowed.

c. Direct and Indirect Effects of Alternatives

Physical Effects of Sound

Direct effects associated with the Action Alternatives would be negligible. Motorcycles possess the loudest legal decibel (82 dB) of all vehicles included in Table III-28 at a distance of 50 feet. 85 dB being the threshold at which prolonged exposure greater than eight hours could result in hearing loss without the use of hearing protection.

Thus, a person would have to stand no further than 50 ft. from a motorcycle for longer than eight hours to be at risk. At a closer distance of 20 inches, such as when a motorcycle passes a hiker on a trail, the hiker could experience legal sound levels of 102 dB. At this distance, the hiker would have to remain at no further than 20 inches from the motorcycle for more than 10 minutes to risk NIHL. Users, such as hikers, typically experience only a few minutes at most of decibels over 85 as vehicles pass them on roads or trails. Therefore, their risk of hearing damage is minute.

Those whom are at the greatest risk of loud sounds above 85 dBs are the riders/drivers themselves as all vehicles (Table III-28) at a distance of 20 inches are above the 85 dB threshold. The Forest recognizes that the rider/driver of some vehicles may be more than 20 inches from the engine due to the design of the vehicle and thus be at less risk.

Wearing a helmet is Oregon law for all riders under the age of 18; observations by Forest Staff indicate that wearing helmets is the norm across the Forest, thus protecting riders from harmful sounds.

There are no foreseeable consequences that occur later in time or farther removed in distance from the point of a sounds origin. Therefore, there are no indirect effects of the alternatives in regards to physical sound. While users at a different location may hear vehicle use off in the distance, no physical damage stemming from the sound from a motor vehicle is foreseeable.

Social Effects of Sound

The direct effects of the **No Action Alternative** and **Alternative 2** would neither exacerbate nor improve the current user conflict stemming from sound related annoyance and social impacts of motor vehicle use. Alternative 1 would continue to allow cross-country travel of motor vehicles on 275,000 acres. Both Alternatives would allow use to continue on 246 trail miles, perpetuating the annoyance and interference of solitude for non-motorized users. The same number of miles of roads and trails would exist across the forest and thus have no effect or change over present conditions.

Direct effects of the **Alternative 3 (Proposed Action)** would slightly reduce user conflicts and social impacts related to what some consider the annoying sound of motor vehicles. Under this alternative, cross-country travel would be limited to two designated off-highway vehicle play areas. Total miles of open road would decrease by 7 miles. Total motorized trail mileage would decrease by approximately 17 miles. Thus, while the addition and subtraction of road and trail miles would be relatively insignificant, cross-country travel would be eliminated from 275,000 acres outside of the play areas, resulting in a potential reduction of annoying sounds and user conflicts between motorized and non-motorized users.

User conflicts would continue to occur on most motorized trails, including the Boundary Trail. These conflicts would cease on the Bigelow Lake Trail, (which connects to Boundary), and on other trails located across the Forest (see FSEIS Chapter II, District Specific Elements of Alternative 3).

The direct effects of **Alternative 4** are similar to the Proposed Action for road closures. However, this alternative proposes to close 114 miles of trails currently open to motorized use. Thus, it would have a potentially greater effect than the Proposed Action on reducing conflicts stemming from the noise associated with motorized vehicle use between motorized and non-motorized trail users.
The entire Boundary Trail system, a large portion of the Briggs Valley system, and a number of other trails would be closed to motorized use (see FSEIS Chapter II, District Specific Elements of Alternative 4). Alternative 4 represents the highest potential for solitude (for non-motorized users) of all alternatives.[31]

Direct effects of the **Alternative 5** would slightly reduce user conflicts and social impacts related to what some consider the annoying sound of motor vehicles. Under this alternative, cross-country travel would be limited to one designated off-highway vehicle play area. Total miles of open road would decrease by 7 miles. Total motorized trail mileage would decrease by approximately 25 miles. Thus, while the addition and subtraction of road and trail miles would be relatively insignificant, cross-country travel would be eliminated from 275,000 acres outside of the play areas, resulting in a potential reduction of annoying sounds and user conflicts between motorized and non-motorized users.
User conflicts would continue to occur on most motorized trails, including the Boundary Trail. These conflicts would cease on the Bigelow Lake Trail, (which connects to Boundary), and on other trails located across the Forest.

Total trail mileage on the Forest is 1,190 miles. Of that total, 236 miles would be motorized in Alternatives 1 and 2, 218 miles in Alternative 3, 130 miles in Alternative 4, and 207 miles in Alternative 5. All alternatives provide opportunities for solitude on a high number of Forest trails.

The indirect effects of the **No Action Alternative** and **Alternative 2** would likely result in some non-motorized users choosing to no longer recreate in areas were annoying sounds from motor vehicles persist. Non-motorized activates would likely be displaced and begin to concentrate in areas where vehicles could not be heard.

The indirect effects of the **Alternatives 3, 4, and 5** would increase the likelihood of non-motorized users finding areas devoid of motor vehicle noise. Utilizing the MVUM, which outlines motorized roads, trails, and areas, non-motorized users would have the ability to predict areas where sounds from motor vehicles could be avoided and where solitude could be found across the Forest. Therefore these alternatives increase the ability of non-motorized users to find areas where noise from motorized use would not distract from their pursuit of a quality recreational experience and thereby reduce user conflicts with motorized user groups.

[31] It is important to note that many motorized users are seeking many of the same experiences as non-motorized users. For example, a motorcyclist may ride to a remote area, turn off the engine, and camp for a quiet night of solitude.

d. Cumulative Effects

Physical sound from motor vehicle operation across the forest, combined with sounds of hikers, campers, aircraft overflights, logging operations, and various management activities could cumulatively add to the impacts of physical sound and/or noise. The difference in cumulative impacts between alternatives cannot be quantified, but does not appear to be substantially different. The Action Alternatives are not likely to create adverse cumulative noise effects considering this and other current and foreseeable activities.

15. Enforcement

Effects of Proposed Actions on the Agency's Ability to Enforce Laws

The Forest Service is responsible for enforcing the Code of Federal Regulations (CFRs) at 36 CFR 261 that applies to the RRSNF. The approximately 1.8 million acres of the Forest provide many challenges to law enforcement officials, ranging from minor infractions such as littering to serious situations like theft of timber, assaults, and drug-related incidents. Managing increased recreation use and related law enforcement issues proves to be a challenging issue on the Forest.

a. Background

Forest Service Law Enforcement and Investigations (LEI) personnel are responsible for protecting the public, employees, natural resources, and other property under the Agency's jurisdiction. Additionally, LEI investigates and enforces applicable laws and regulations that affect the National Forest System (NFS) lands, and prevents criminal violations. The new Travel Management Rule is one such regulation.

The Travel Management Rule requires designation of roads, trails, and areas open to motor vehicle use, and the prohibition of cross-country wheeled motorized vehicle travel by the public. This is a change in public motorized access management from previous conditions where most Forests were managed as "open to cross-country travel." The implementation of designated routes and areas for motorized vehicles would be the responsibility of all Agency employees, especially in the area of education and enforcement.

The law enforcement program is primarily responsible for issuing violations to the Travel Management Rule. The Forest would implement an educational strategy to develop responsible and concerned public land use attitudes working with forest users to prevent violations. Forest law enforcement officers (LEOs) and Forest Protection Officers (FPOs) make regular contacts in the field informing the users of the regulations and need for the prohibition. Violations of the Travel Management Plan are managed under the law enforcement program which is responsible for issuing violations to the Travel Management Rule.

The national LEI budget is funded by appropriated dollars from Congress to provide law enforcement services on the NFS lands. The travel management program is one of many Forest programs to benefit from Federal law enforcement funding. For the past few years, law enforcement funding has increased, and that has translated into an increase in field law enforcement personnel.

Authority and Jurisdiction

The Forest Service exercises its law enforcement authority when violation of laws or regulations occurs on NFS lands or when incidents affect the NFS. The existing authorities for enforcement are completely adequate and no new laws would be needed to implement the Travel Management Rule.

Every National Forest has a law enforcement plan that is updated annually. All Forest Service employees have a duty to know and understand their authorities and responsibilities, and to properly enforce laws and regulations relating to the Forest within their authority and capability. LEI and Agency personnel provide a regular and recurring presence on vast amounts of public land, roads, trails, and areas, and take appropriate action if illegal activity is discovered. Violations involving motorized vehicles are primarily enforced by FPOs, which patrol OHV use, roads, trails, and areas. These include violations such as operating a motor vehicle in violation of Federal regulations and Oregon and California vehicle code; parking improperly, resource damage to soils, vegetation or wildlife; and disorderly or unruly behavior. Forest Service LEOs, have discretion when deciding what type of action to initiate when handling violations to the following Federal laws that pertain specifically to motor vehicle use.

- The Act of June 4, 1897 (Title 16 United States Code 551), is the authority for issuing regulations at Title 36 Code of Federal Regulations, Part 261 (36 CFR 261). Specific OHV travel management regulations are in sections 261.9—Property, 261.13—Motor Vehicle Use, and 261.15—Use of Vehicles Off-Road. These CFRs cover a wide array of misdemeanor infractions.
- The Act of March 3, 1905 (Title 16 United States Code 559) authorizes all employees of the Forest Service to make arrests for violation of the laws and regulations pertaining to national forests. Normally, arrest authority is limited to trained law enforcement personnel. Any employee may take immediate action when necessary to protect life and prevent serious damage to or destruction of property, escape of a suspect, or loss of material evidence when such action can be done with reasonable safety.

The Forest Service has several methods of enforcing compliance with the regulations applicable to the RRSNF. FPOs are the primary personnel involved in enforcing regulation compliance. Forest Service LEOs or Sheriff's office personnel, commonly handle more dangerous violations such as disorderly conduct. The RRSNF currently has approximately 25 FPOs who can write warnings and citations as necessary to solicit compliance. The RRSNF also has six assigned field LEO positions, plus one law enforcement supervisor/program manager.

FPOs typically handle the most common violations. These include violations such as parking improperly, failure to pay fees, pets off of a leash, length of stay, improper motor vehicle use, and camping related offenses. In most cases, the public complies with the requests from FPOs and no citation is issued. FPOs are also typically responsible for installing and maintaining signs, information boards, barriers and physical closures, and providing information about rules and regulations. Many FPOs work seasonally, primarily during the summer, high use season.

LEOs typically issue warnings and citations for all of the above violations as well as for operating a motor vehicle in violation of federal regulations and Oregon vehicle codes. LEOs investigate and cite for cases of damaging or disturbing soils, vegetation, or wildlife as well as dealing with more serious crimes that can occur on the Forest. LEOs also commonly address cases of disorderly or unruly behavior of groups.

A small number of violations refer to nonpayment of fees, parking violations, misuse of trails, and recreation site occupancy violations. Some illegal activities go unnoticed and it is difficult to enforce all laws and regulations. Approximately 25% of a LEO's time is related to enforcement associated with motor vehicle use and travel management.

Cooperation

The Forest Service shares responsibility and cooperates with local, State, and other Federal agencies in the execution of its law enforcement program. The authority for cooperation among agencies, especially as it pertains to travel management, is within the act of August 10, 1971 (Title 16 United States Code 551a), which authorizes the Secretary of Agriculture to cooperate with, and provide reimbursement to, any State or political subdivision thereof, for the enforcement of their laws within NFS. This law does not deprive any State or local law enforcement agency from exercising its criminal and civil jurisdiction on lands that are part of the NFS.

Each Forest maintains close working relationships with many State and local law enforcement agencies that have law enforcement responsibilities within/and or adjacent to the Forest boundary. Forest Service law enforcement personnel cooperate fully with various agencies in carrying out their law enforcement responsibilities by providing assistance, liaison, advice, and information.

Forests maintain cooperative law enforcement agreements with their respective county sheriff's office. In these agreements, both parties recognize that public use of NFS lands is usually located in areas that are remote or sparsely populated and the enforcement of State and local law is related to the administration and regulation of NFS lands. Within the cooperative law enforcement agreements, an operating plan is developed outlining the supplemental work to be performed by the cooperating agency. Relative to the Travel Management Rule, operating plans may provide:

- Supplemental patrols in areas of high use.
- Supplemental patrols on weekends or during particular months of high use.
- Additional officers for large group gatherings or events.
- Vehicle checkpoints for vehicle registration, spark arrestors, and other miscellaneous items.

The RRSNF receives an annual budget to fund $160,000 of the cost of law enforcement personnel and contract deputies through the Jackson and Curry County Sheriff's departments. Currently, there is no current funding for Josephine and Coos Counties.

Grants

The State of Oregon OHV allocation committee provides grant funding opportunities quarterly; law enforcement grant opportunities are offered once a year. The OHV grant process requires that the applicant provide 20-50 percent of the project cost as matching funds. The matching fund component can be met with in-kind services or materials. Appropriated annual funding would be used to meet the 20-50 percent matching funding or in-kind services/materials for requests placed to the State of Oregon OHV Grant opportunities.

Implementation and Tracking

Implementation of the Forest Service law enforcement program is continually adapting as law enforcement personnel assess the changing patterns of visitor use and attitudes, and the trends in

violations, especially for property and resource damage. One method of assessment is the analysis of Law Enforcement and Investigations Management Attainment Reporting System (LEIMARS) data. LEIMARS tracks all known violations of criminal law or regulation on NFS lands (FSH 5309.11, chapter 40 and FSM 5340). Additionally, imbedded in LEIMARS is the case tracking system, which tracks all felony and serious misdemeanor cases. These tracking systems capture and record information on location, volume, damages, and type of violations occurring on NFS lands, provide a retrieval system of data on incidents and violations that is responsive to the needs of all organizational levels, provide agency managers with a means to identify and monitor law enforcement activities, specifically identify problem areas and periods of activity, and provide a method to record and analyze incidents involving violations or suspected violations on NFS lands.

b. Assumptions and Analysis Framework

Based on many years of enforcing OHVs, implementation of the Travel Management Rule from a law enforcement perspective assumes the following to be true. Additionally, these assumptions are based on several case studies in Region 5 (California).

Enforcement Assumptions:

- Enforcement of the laws and regulations related to Travel Management would be enforced equally in authority and weight as with all other Federal laws and regulations.
- It is assumed that most people would want to follow the law.
- As with any change in a regulation on NFS lands, there is usually a transitional period for the public to understand the changes. It is anticipated there would be a higher number of violations to the Travel Management Rule the first few years, then the number of violations would decline as the users understand and comply with the rules.
- The Forest would develop a public involvement plan using education, advice and warnings with the MVUM and TMP rule during the first phase of implementation.
- Users in communities adjacent to the Forest would comply within 1 to 2 years; frequent users, but further away from the Forest, would comply within 2 to 3 years, and infrequent users regardless of distance, may take up to 5 years to comply.
- Law enforcement officer and agency personnel's presence and enforcement actions would positively affect OHV users' behaviors and attitudes.
- The Travel Management Rule and associated MVUM would clearly define the designated routes; therefore, making violations to the rule unequivocal.
- Once the MVUM is published, the implementation of the established dedicated network of roads, trails, and areas with signs, and user education programs, would reduce the number of violations.

Trends in violations related to the Travel Management Rule can be analyzed and appropriate action(s) taken, if needed. Appropriate action(s) may involve one or more techniques or adaptive strategies. In the law enforcement community, this is often referred to as the **"three E strategy" of engineering, education, and enforcement**. With the change in the Travel Management Rule, it is anticipated that the law enforcement program would use a combination of strategies, especially during the first 5 years of the rule's implementation.

Engineering — Education — Enforcement

The **engineering strategy** is designed to prevent or reduce inadvertent violations, resource damage, and crime vulnerability. The strategy's goal is to remove the opportunity to commit a violation.

LEI personnel work with each Forest, particularly the recreation and engineering programs, to implement some or all of the following specific tactics:

- Proper design of improvements and facilities.
- Facility security measures such as installation of barricades, gates, and other natural obstacles.
- Forest signing, both directional and informational will be considered at portal locations, to assist the public to ensure they stay on designated trails, and out of wilderness and other sensitive areas.
- Physically close and rehabilitate decommissioned roads and trails (dependent on available funding).

The engineering portion of this strategy would continue to be implemented partially with this Travel Management Process, as well as with other more site-specific projects, dependent on available funding. The Forest has been accomplishing this by specific projects, project areas or by specific watersheds. Examples include the South Fork Coquille Restoration Plan and the Applegate McKee Legacy Roads project.

The **educational strategy** focuses on specific user groups, school groups, recreation users, and the public. The goal is to develop responsible and concerned public land use attitudes in forest users to prevent violations. Forest LEOs and FPOs make regular contacts in the field informing the users of the regulations and need for the prohibition. The LEI personnel work with the Forest, particularly the recreation and public information programs, to identify and implement some or all of the following specific tactics:

- Have the Motor Vehicle Use Map (MVUM) easily available to public.
- Have route numbers visually marked on the ground.
- Distribute maps and brochures promoting responsible use.
- Conduct environmental interpretation activities in local communities, at schools, and with special interest groups.
- Use of all forms of the media (television, radio, and newspapers), especially prior to, and during, the high use periods.
- Ensure all employees understand the Travel Management Rule and the MVUM.
- Utilize high visibility prevention patrols and public information checkpoints, especially during the peak use periods.
- Encourage cooperating law enforcement agencies to make visitor contacts and provide violator information to Forest officers.
- Issue news releases of arrests and successful prosecutions, including offender names, criminal penalties, and court-ordered restitution.

The **enforcement strategy** is to enact crime prevention measures that are designed to reduce specific criminal activity, deter potential and repeat offenders, maximize enforcement actions and visibility, and increase prosecutorial successes.

All enforcement actions should result in a better understanding of regulations pertaining to the management of NFS lands. LEI personnel would work with each Forest to identify and implement some or all of the following specific tactics:

- Schedule officers to work during the identified problem periods, including holidays and weekends.
- Utilize high profile “saturation patrols” and stationary surveillance posts in identified problem areas.

- Utilize the most effective and efficient means of patrol, including foot, horseback, all-terrain vehicle, watercraft, and aircraft.
- Enlist the aid of volunteers.
- Initiate an awards program.
- Supplement patrols with cooperating law enforcement agencies in areas of concern.
- Use technical investigative equipment (cameras, monitors, sensors) to assist officers with detecting and monitoring violations at known or suspected violation sites.
- Conduct planned and approved compliance checkpoints.
- Follow-up on complaints to document violations, damages, and identify suspect vehicles or persons.
- Require cooperating law enforcement agencies to assist with reporting and/or enforcing violations within their authority.
- Patrol with other cooperating law enforcement agency officers.
- Conduct unpredictable patrol schedules.
- Conduct special enforcement actions (unmarked vehicle deployment, surveillance, traffic check-points, etc.).
- Utilize LEIMARS and State motor vehicle data, to identify repeat offenders for enhanced prosecution.
- Pursue court-ordered restitution or civil collections for resource and property damages.

Measure of Success
Measuring the success of the Travel Management Rule from a law enforcement perspective would be done using the LEIMARS database. An analysis of the data may alert a Forest to a particular problem area for violations, such as a group campsite area that may be surrounded by flat meadow areas inviting riders to potentially violate the regulation. A successful program would see a positive change in the following measures:

- Measure 1: A reduction in the number of off-route travel violations.
- Measure 2: A reduction in the number of resource damage violations.

c. Direct and Indirect Effects of Alternatives

Under **Alternative 1, No Action**, LEOs and FPOs would continue to enforce laws and regulations to the best of their abilities. However, illegal activities would continue to occur due to a limited number of personnel who must cover a broad geographic range from the coast to the Cascades.

Under **Alternatives 2, 3, 4, and 5 (the Action Alternatives)** the RRSNF would incorporate one or more techniques or adaptive strategies associated with the "three E strategy" of engineering, education, and enforcement. The Forest would utilize grant funding as well as agency appropriated funds to increase staff patrols. Utilizing uniformed staff and volunteers, the Forest would seek to increase compliance with the new rules and regulations, increase agency visibility, and increase visitor safety on public lands.

The premise is that an educated vehicle operator is a responsible operator. LEOs and FPOs would communicate with visitors, hand out maps, and remind visitors of responsible driving practices. Ethics and principles in programs such as "*Leave No Trace, Right Rider"* and *"TREAD Lightly!"* would be promoted through this program. Grant funding would provide for better law enforcement through an increased presence, but motorized use violations would continue to occur, especially when LEOs are assigned to cases that involve more serious types of criminal activity.

Implementation of the Travel Management Rule and publication of the MVUM would initially confuse some Forest visitors. Currently, most areas on the Forest are "open unless posted closed." Under the Rule areas are closed unless posted open.
It would be the responsibility of the user to obtain and use the MVUM. Amendment of the Forest Plan and publication of the MVUM would increase the ability to cite those who cause resource damage.
In the short term, enforcement issues are expected to increase due to the new regulations. In the long term, it is expected that Forest visitors would become accustomed to the MVUM, which would clearly show where motorized use is allowed.

It is impossible to predict the public's compliance rate with new travel regulations, though certain issues like the complexity of regulations and the clarity of permissible uses certainly has an effect on people's willingness and ability to comply. Public attitude and compliance assumptions based on the State of California Off-Highway Motor Vehicle Recreation Division data suggest that most Forest users want to do the right thing and would obey the rule, once they understand the rule and the MVUM. User compliance is anticipated to be: 95 percent of the users would be fully compliant; 2 to 3 percent of the users think about and may violate a law; and 1 to 2 percent of the users would violate the law.

Alternative 2 more closely follows current regulations on motorized use so it would be more enforceable in the short term than Alternatives 3, 4, and 5 where more change is proposed. Alternative 4 has the greatest amount of change from the current condition and would be the most difficult to enforce in the short term, particularly on motorized trails that are proposed for closure in this alternative. The Action Alternatives involve changes in culture from historic access and freedoms on the Forest that some users enjoyed. A well-designed implementation and monitoring plan for realizing those changes is an important component for successful implementation of the new direction.

d. Cumulative Effects

The enforcement issue and narrative describes a managerial human social situation as opposed to environmental effects; therefore, cumulative effects discussions are not relevant to this analysis.

16. Mining Access

Effects of proposed actions on access for prospecting, locating, and developing mineral resources

a. Background

In general, locatable minerals include both metallic minerals (gold, silver, lead, copper, zinc, nickel, etc.), nonmetallic minerals (fluorspar, mica, certain limestones and gypsum, tantalum, heavy minerals in placer form, and gemstones) and certain uncommon variety minerals. Prospecting and extraction of locatable minerals are permitted and administered on National Forest land under the 1872 Mining Law, as amended. While administration of the general mining law is the responsibility of the Bureau of Land Management, a Memorandum of Understanding between the BLM and the Forest Service allows joint administration of the mining law on National Forest lands. Surface use of National Forest lands is subject to regulations developed in 1974; these regulations specify orderly development of the land surface and subsequent land reclamation.

More than any other metallic mineral, gold has been the most sought-after mineral on the Forest, with a prospecting and production history (from both placer and lode deposits) dating back to 1850. Between 1850 and 1965, Oregon produced 58 million fine ounces of gold and 54 million fine ounces of silver. Most of this production was in southwestern and northeastern Oregon, the Siskiyou portion of the National Forest playing a significant role in this production. Gold placer activity is concentrated heavily along the Illinois River and Josephine, Sucker, Althouse, Galice, and Silver Creeks. Prospecting and production are likely to continue into the distant future. Recreational gold panning and dredging have also been increasing. Mining will most probably be from placer deposits located along and near various stream courses long known to contain gold-bearing gravels.

The Siskiyou portion of the Forest is a geologically diverse area which contains occurrences of gold, silver, nickel, chrome, cobalt, copper, manganese, molybdenum, mercury, coal, and limestone. The Rogue River portion of the Forest contains known occurrences of gold, silver, nickel, chrome, copper, molybdenum, tungsten, silica, antimony, cobalt, lead, mercury and zinc. Non-metallic locatable products such as limestone, sulphur and soapstone are also found on the Forest. Gold is the most sought-after mineral, with most of the recent exploratory activity occurring in the Siskiyou Mountains and Illinois River portions of the Forest.

Although most of the Forest's gold, chrome and other mining claims are inactive, many are being held in anticipation of a rise in value. Based on past efforts, most of the gold is widely scattered in relatively low-value per volume deposits. Placer mining is the most common form of mining on the Forest.

Both the approved Plans of Operations and the proposed activities currently under review in this DSEIS have roads needed by the operators for mining access. Under regulations (36 CFR §228.4 and §228.12), access requiring the construction of a road, trail, bridge, or off road vehicle is not authorized until approved in an operating plan. Generally, if a mining claim is more than a one-quarter mile from an existing road, the current road system would not meet access needs for a mine in either the development or production phase of operation. Exploration and prospecting operations would not require motor vehicle access unless approved in a Plan of Operations.

b. Regulatory Mechanisms and Analysis Framework

Any person entering federal lands identified within the Forest for the purpose of exploration, sampling, or beginning prospecting may use motor vehicles on all publicly maintained roads (including Maintenance Level 1 roads) without further authorization from the Forest Service. 36 CFR §228.4 specifically states that such use is exempt from notifying the Forest Service. Further, if an operator reasonably concludes that the travel associated with exploration, sampling, or beginning prospecting will not cause a significant disturbance of surface resources, cross-country travel could also be exempt from notifying or obtaining additional authorization from the Forest Service prior to conducting this activity.

The regulations do not specifically state that cross-country or off road travel requires authorization, but the regulations allow the operator to evaluate any activity associated with mining to determine if a significant surface resource disturbance might occur. Regulation states that when a Plan of Operation is required, the use of an off-road vehicle is prohibited until the plan is approved. (36 CFR §228.12)

Case law indicates that a special use permit is not required for activities authorized under the mining laws. Therefore, requiring a special use permit authorizing access for mining activities prohibited by an order or in violation of the Travel Management Rule (36 CFR §261.13) would be inappropriate. If the mining activity was limited to the use of vehicles on publicly maintained roads, in most cases, the activity would not require any written authorization.

The Organic Administration Act and several court rulings make it clear that those entering NFS lands under the authority of mining laws must comply with the rules and regulations of the national forest. Conflict between regulations would make enforcement under 36 CFR §261 difficult if not impossible.

Any disputes between the Forest Service and an operator connected with access would best be handled administratively through the noncompliance provisions of 36 CFR §228.7. If compliance could not be achieved through this process, then either civil or criminal remedies could be pursued. Generally, the administrative or civil action would focus on whether or not the access is incident to mining or is causing a significant resource impact that would require a bond to ensure reclamation, or mitigation measures to minimize impacts.

Requirement to File Notice of Intent or a Plan of Operations

The US Mining Laws, as amended, and the Organic Administration Act authorize any citizen (or person intending to become a citizen) the right to enter NFS lands for the purposes of prospecting, locating, developing, and removal of valuable deposits of certain minerals referred to as locatable minerals (30 USC 22, 16 USC 479 and 482). Entry is allowed for:

- the purpose of exploration, sampling or beginning prospecting where a mining claim has not been filed or a Plan of Operation approved;
- mining claimants or those individuals that own an unpatented mining claim that is properly filed and located; and
- mining operators with an approved Plan of Operations (with or without a mining claim).

36 CFR §228.4(a) requires the operator's prior submission of a Notice of Intent (NOI) to operate for "operations which might cause significant disturbance of surface resources." This means that the trigger for the submission of a notice of intent to operate is the operator's reasonable uncertainty as to the significance of the disturbance that the proposed operations will cause on NFS resources. If the operator reasonably concludes that the proposed operations will not cause significant disturbance of NFS resources, the operator is not required to submit a Notice of Intent to operate (or a proposed Plan of Operations).

If the operator reasonably concludes that the proposed operations, more probably than not, will cause a significant disturbance of NFS resources, the operator should submit a proposed Plan of Operations to the District Ranger. However, if the operator reasonably concludes that the proposed operations might, but probably will not cause significant disturbance of NFS resources, the operator should submit a Notice of Intent to operate to the District Ranger.

Once a Notice of Intent to operate is filed, the Forest Service has an opportunity to determine whether the agency agrees with the operator's assessment that the operations are not likely to cause significant disturbance of NFS resources such that the Forest Service will not exercise its discretion to regulate those operations. If the District Ranger, based on past experience, direct evidence, or sound scientific

projection, disagrees with the operator's assessment and determines that the proposed operations, more probably than not, would cause significant disturbance of NFS resources, the District Ranger shall require the operator to submit and obtain approval of a proposed Plan of Operations before commencing those operations.

By means of the approved Plan of Operations, the District Ranger shall obtain the operator's agreement to perform specific reclamation, post a reclamation performance bond, avoid unnecessary or unreasonable impacts on NFS resources, and implement other mitigation measures, as appropriate.

It is likely that some operators will not have the same perception or understanding of the impacts which their proposed operations may have on NFS resources that Forest Service specialists will have. Therefore, in 36 CFR §228.4(a)(4), the District Ranger retains final authority to decide whether prior submission and approval of a Plan of Operations is required and can make this determination at any time, whether or not the operator first submits a notice of intent to operate. A Notice of Intent to operate is not intended to be a regulatory instrument; it simply was meant to be a notice given to the Forest Service by an operator which describes the operator's plan to conduct operations on NFS lands. Further, the intended trigger for a Notice of Intent to operate is reasonable uncertainty on the part of the operator as to the significance of the potential effects of the proposed operations.

Significant disturbance refers to operations "for which reclamation upon completion of [that operation] could reasonably be required," and to operations that could cause impacts on NFS resources that reasonably can be prevented or mitigated. An operator must submit a proposed Plan of Operations if the applicable District Ranger determines that the proposed operations "will likely cause significant disturbance of surface resources." The phrase "will likely cause significant disturbance of surface resources" means that, based on past experience, direct evidence, or sound scientific projection, the District Ranger reasonably expects that the proposed operations would result in impacts to NFS lands and resources which more probably than not need to be avoided or ameliorated by means such as reclamation, bonding, timing restrictions, and other mitigation measures to minimize adverse environmental impacts on NFS resources.

A March 28, 1974, letter also emphatically makes the point that the Forest Service's locatable mineral regulations do not use the term significant in the same manner as that term is used in the National Environmental Policy Act.

Mining activities allowed by regulation (36 CFR §228.4) and exempt from notice requirements include:

- Operations that will be limited to the use of vehicles on existing public roads or roads used and maintained for NFS purposes. A ML 1 road would fit this description and use by citizens entering under the mining laws would not require additional authorization.
- Prospecting and sampling that will not cause significant surface resource disturbance and will not involve removal of more than a reasonable amount of mineral deposit for analysis and study, which generally might include searching for and occasionally removing small mineral samples or specimens, gold panning, metal detecting, non-motorized hand sluicing, using battery operated dry washers, and collecting of mineral specimens using hand tools.
- Marking and monumenting a mining claim.
- Underground operations that will not cause significant surface resource disturbance.
- Operations, which in their totality, that will not cause surface resource disturbance substantially

different than that caused by other users of the NFS who are not required to obtain a Forest Service special use authorization, contract, or other written authorization.
- Operations that will not involve the use of mechanized earthmoving equipment, such as bulldozers or backhoes, or the cutting of trees, unless those operations otherwise might cause a significant disturbance of surface resources, or operations for which a proposed Plan of Operations is submitted for approval.
- Entry allowed for mining claimants or those individuals that own an unpatented mining claim that is properly filed and located.

Upon submission of a Plan of Operations, the Forest Service can regulate the mining activities that are reasonably incident to mining. Any access would be addressed and approved in the Plan of Operations. A Plan of Operations that identified access would serve as the written approval allowing an exemption to Forest Service orders or regulations for travel where otherwise prohibited.

c. Direct and Indirect Effects of Alternatives

Assuming that there is a valid claim supported by discovery, it is implied that Congress granted a right of access under the general mining laws for mining purposes across public land. Barricading entry and threatening criminal action to bar entry to a mining claim by the government constitutes a legal impediment affecting a claimant's right to enter upon the surface of a claim. Thus, to the extent that entry on the surface of the land is necessary to effectuate the removal of minerals, it is assumed that such right was impliedly reserved in the grantor as a necessary incident of the reserved mineral estate.

Title 36 CFR §228, Subpart A, Locatable Minerals, outlines rules and procedures through which the use of the surface of NFS lands in connection with operations is authorized by the mining laws (30 USC 2 1-54). Based on these regulations, each operation is analyzed by the operator, and under certain circumstances, the District Ranger. This analysis will determine if the proposed mining activity, including access, might cause a significant disturbance to surface resources. The operator is not required to obtain additional authorization if the access is reasonable incident to the level of mining, the use of vehicles is limited to existing roads used and maintained for NFS purposes, and/or if the operator can reasonably conclude that in totality all operations (including access) will not cause a significant disturbance to surface resources.

If the operator concludes that the proposed operations might cause a significant disturbance to surface resources, then a notice of intent must be submitted. If after submitting notice to the District Ranger, the District Ranger determines that the proposed operation, including access, is not or will not cause a significant disturbance, the District Ranger will notify the operator that a Plan of Operation is not required.

In these circumstances, access would be allowed by regulation and no other authorization, such as a Plan of Operations or permit, would be required.

This conflicts with 36 CFR §261.13 which does not allow an exemption for mining operations authorized under 36 CFR §228, Subpart A. Only in cases where the District Ranger determines that an operation is causing or will likely cause a significant disturbance will a Plan of Operation be required. Only in the cases where the District Ranger requires a Plan of Operations will an operator meet the requirement of 36 CFR 261.13 (h).

Selection of **any of the alternatives** would not affect access that is reasonably incidental to mining. However, alternatives that are more restrictive on motorized vehicle uses would result in a higher degree of administration to determine if the vehicle access is reasonably incidental and necessary for operational mineral activity.
The current condition (Alternative 1) allows for mining activities that would cause a surface disturbance that is not substantially different from other national forest users who are not required to obtain authorization.

Implementation of an alternative that results in requiring national forest users to obtain authorization for travel previously allowed may result in mining operators submitting a notice of intent. This can be interpreted by a mining operator as additional restrictions by the government.

By current regulations (36 CFR 228 Subpart A), if access needed for mining would result in significant disturbance of surface resources to NFS lands, mitigation measures would be required to minimize adverse environmental impacts. Implementation of any alternative would not change this regulatory requirement. Therefore, the environmental effects would remain the same.

The Travel Management Rule requires that all roads and trails must be designated open to allow motorized use. The same is true for areas unless designated for motorized use. This effectively means a prohibition on most cross-country travel and Maintenance Level 1 roads are closed to motorized vehicle use.

Alternatives that propose a reduction of motorized use from current conditions would increase administrative oversight needed by the agency for travel by persons entering the national forest for the purpose of mining or prospecting. The direct effect to mining operators would be a restriction on motor vehicle cross-country travel. All motor vehicle cross-country travel would be limited to what is reasonably incidental and necessary to mining activities. This would eliminate the option of motor vehicle travel cross-country travel when reasonable alternatives are determined to be suitable by the authorized officer (District Ranger) for operations.

Additionally, these alternatives restrict the use of motor vehicle use on non-designated routes. This could result in the same effect to miners and prospectors as described for cross-country travel if the use of these routes (Maintenance Level 1 roads) were to result in significant resource disturbance of surface resources.

Generally, all alternatives (including Alternative 1) have the potential to increase the social and economic impacts to mining operators. Roads that are not designated as available for motor vehicle travel that are physically closed with barriers, berms, or gates may result in additional cost to mining operators to open and maintain access roads.

d. Cumulative Effects

In all alternatives, the potential for previous physical closure decisions to be implemented could continue to occur into the foreseeable future (e.g., closures for spread of root disease and/or mitigation for sedimentation, etc.).

As roads are physically closed or decommissioned over time by previous or future site specific project decisions or they grow closed due to lack of maintenance, the cost to mining operations would increase as the burden to open and maintain access roads for mining shifts from the government to the operator. This cost would be similar to the construction of a new road as part of the operations. The operator would have to assume all cost associated with maintenance, operation, and reclamation of the road.

As stated within the enforcement analysis, successful compliance with the Travel Management Rule under the Action Alternatives would take approximately 2 to 5 years. Eventually, it is hoped that physical closures would no longer be necessary on Maintenance Level I (closed) roads and the removal of the road from the MVUM would be sufficient to achieve the closure objective. Therefore, over time, fewer physical closures may occur, reducing the need to reopen these roads for mining operations.

17. Cultural Resources

Effects of motorized vehicle use on cultural resource values

Designation of routes and areas for motor vehicle use on the Rogue River-Siskiyou National Forest has potential to affect archaeological and historic sites.

a. Background

All formal decisions made by the Forest Service during the travel system designation process are considered "undertakings" pursuant to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations. Forests are responsible for initiating and completing the appropriate NHPA compliance for each decision affecting their transportation system. This responsibility consists of evaluating the potential effect of these decisions on historic properties in conformance with 36 CFR Part 800 and applicable programmatic agreements (PA).

Cultural resource concerns have been taken into account early in the motorized use designation process, with specific resource concerns contributing to the development of the Proposed Action. The Area of Potential Effect (APE) for proposed ground disturbance has been identified, issues and at-risk resources identified, potential effects evaluated, protection measures established, and plans developed for monitoring the effectiveness of protection measures.

The area within and adjacent to the Rogue River-Siskiyou National Forest has been inhabited for at least the past 11,500 years. Over the millennia, small bands of hunter/gatherer/fishers occupied village sites along the rivers and major tributaries. Seasonally, they traveled to the surrounding uplands for resource procurement. Salmon and acorns were the primary food sources for residents, with deer, elk, and camas bulbs as secondary staples. The population was made up of speakers of two primary linguistic groups, Athapascan and Takelma. Archaeological evidence of these occupants includes flaked stone tools of chert, jasper and obsidian, as well as ground stone mortars and pestles. Site types include villages, campsites, gravesites, stone quarries, trails, vision quest sites and petroglyphs. Roughly 200 prehistoric sites have been documented across the Forest.

With the Gold Rush period of the early 1850s came settlement of the area by miners, farmers and ranchers. By 1900, mining, grazing, hunting, trapping, homesteading, logging, and recreational

activities were prominent land uses. Historical resources found on the Forest include cabins, trails, mines, ditches, railroad grades, mill sites, logging camps and homesteads.
Historic Forest Service structures, a few dating to the early 1900s, include ranger stations, guard stations, fire lookouts and Depression-era CCC construction. Over 2,000 historic sites have been documented.

Additional information on the cultural background of the RRSNF can be found in two documents: Cultural Resource Overview of the Siskiyou National Forest (Beckham 1978), and Prehistory and History of the Rogue River National Forest: A Cultural Resource Overview (LaLande 1980).

b. Effects Mechanisms and Analysis Framework

Cultural resources can be affected by:

- construction and maintenance of new OHV trails;
- conversion and maintenance of Maintenance Level 1 roads to motorized trail use;
- concentrating use from currently open roads onto formally designated roads; and
- potential increased use of designated roads puts specific vulnerable sites at greater risk of vandalism and looting.

Beneficial effects can also be derived from certain transportation system decisions. Re-routing ground-disturbing vehicles away from significant sites can help protect them. Re-focusing recreationists' attention away from areas with archaeological sites can minimize illegal artifact collection. Re-directing public to areas with cultural resource interpretive sites is another potential benefit of motorized use planning.

Research of existing information, tribal consultation, and field survey based on proposed changes and cultural resource site probability are used to determine effects.

Site attributes considered for determining effects and planning mitigation measures include:

- Is the road a braided set of ruts, or are there two well defined tracks limited in their lateral migration by mature standing vegetation or topography?
- Is the surface of the road stable, does it erode easily, or is it on bedrock or natural gravel pavement?
- Is the site visible from the route? Is it attractive to road users?
- Is there potential for subsurface deposits?
- Is there evidence at the site of vehicles parking and people moving around on the site?
- Was the road or trail constructed through the site? Is there evidence of cut and fill slopes, blading, or berms having disturbed cultural deposits?
- Is there evidence of previous motorized vehicle/human effects to ground surface or site features (e.g., vandalism, artifact theft, vehicle donuts)?
- Does the route inappropriately intrude on a culturally important location, such as a traditional plant gathering site or a sacred site?

c. Direct and Indirect Effects of Alternatives

Currently, under the **No Action Alternative**, approximately 275,000 acres of the forest are open to cross-country travel. Impacts to sites from disturbance by OHVs, and vehicle access to sites by looters are both uncontrolled. . Under Alternatives 2, 3, 4 and 5, the closure of approximately 275,000 acres of area currently open to cross country travel, leaving 15-25 acres open, would result in beneficial effects to cultural resource sites.

Alternative 2, aside from the vastly reduced area open to cross-country travel, is similar to the No Action Alternative.

Under **Alternatives 3 (Proposed Action), 4, and 5**, the small decrease overall in open roads that allow mixed-use would have little impact on cultural resource sites. The slight decrease in access to potential sites by OHV users under Alternatives 3, 4, and 5 could put sites at a slightly lower risk of vandalism and theft compared to Alternatives 1 and 2.

A small decrease in the miles of trails that allow motorized use would result in slightly less potential for impacts to cultural resource sites from ground disturbance caused by vehicle rutting. Alternatives 3 and 5 would have a more beneficial effect on cultural resource sites than Alternatives 1 and 2, which would have no change from the current situation. Alternative 4 would have significantly more benefits by providing the most reduction in miles of roads and trails available to motorized vehicles.

Alternatives 3 and 5, due to new trail construction and conversion of Maintenance Level 1 roads to motorized trail use, would have more potential to impact cultural resource sites than Alternatives 1, 2, and 4, none of which include these activities.

Under Alternatives 2, 3, 4, and 5, the impacts to sites vulnerable to damage from OHVs and looting due to "concentrating" use from so small a percentage of roads onto designated roads would be negligible.

The following discussion presents effects by specific Ranger Districts, with a focus on the elements associated with the Proposed Action.

Powers Ranger District

Mixed use would be designated on approximately 6.2 miles. These changes would not have any effect on cultural resource sites.

Motorized use would be prohibited on approximately 1 mile of trail that currently allows motorized use under Alternatives 4 and 5. This would have no adverse effect on cultural resources, and in some cases, a beneficial effect is possible.

Gold Beach Ranger District

Under Alternative 3, approximately 8.1 miles of Maintenance Level 1 roads in the Signal Buttes, Kimball Hill, Fairview Meadow, and Game Lake areas would be authorized for conversion to OHV trail use, with the potential to impact cultural resource sites. Under Alternative 5, all of the above-described Maintenance Level 1 conversions would be authorized, except for the approximately 0.8 mile within the Game Lake area (Road 3680409); therefore, similar potential for impacts to cultural site from

Maintenance Level 1 conversions exists. Alternative 3 would also construct 0.5 mile of new trail (Woodruff connector) in the Kimball Hill area. Prior to approval of ground disturbing activities, a cultural resource survey will be completed. Any sites within the Area of Potential Effect would either be evaluated for significance with appropriate mitigation measures implemented, or would be avoided by project activities.

The prohibition of mixed use on approximately 12.4 miles of road where it is currently authorized would have a small beneficial effect on cultural resource sites by limiting access to sites.

Motorized use would be prohibited on approximately the following miles of trails per alternative: 11 miles for Alternative 3, 51 miles for Alternative 4, and 15 miles for Alternative 5. This would have no adverse effect on cultural resources, and in some cases, a beneficial effect is possible because of limiting site access.

Wild Rivers Ranger District

Approximately 0.3 mile of Maintenance Level 1 road in the Shan Creek area would be authorized for conversion to OHV use in Alternatives 3, and 5. Alternative 3 would convert 3 additional miles in the Biscuit Hill area. Prior to approval of ground disturbing activities, a cultural resource survey would be completed. Any sites within the Area of Potential Effect would either be evaluated for significance with appropriate mitigation measures implemented, or would be avoided by project activities.

Approximately 10 miles of road would be closed to public use (roads would still be open for permitted or limited administrative use). This change could have a beneficial effect on cultural resource sites by limiting site access.

Mixed use would be prohibited on approximately 32 miles of road where it is currently authorized under Alternatives 3, 4, and 5. This change could have a beneficial effect on cultural resource sites by limiting site access.

Forest Plan Amendments for the Boundary Trail would allow motorized use to continue under Alternatives 3 and 5. No change in impacts to potential cultural resource sites would occur.

Motorized use would be prohibited on approximately the following miles of trails per alternative: 17 miles for Alternatives 3 and 5, and 28 miles for Alternative 4. This would have no adverse effect on cultural resources, and in some cases, a beneficial effect is possible because of limiting site access.

Siskiyou Mountains Ranger District

Approximately 1.2 miles of trail in the Penn Sled Trail area would be authorized for motorized use under Alternatives 3 and 5. Future trail construction, maintenance and use could have a potential to impact cultural resource sites. Cultural resource surveys have been completed. Required mitigation would occur prior to construction. These alternatives provide an opportunity for historical interpretation of the Penn Sled Trail.

Motorized use would be prohibited on approximately the following miles of trails per alternative: 4 miles for Alternatives 3 and 5, and 33 miles for Alternative 4. This would have no adverse effect on cultural resources, and in some cases, a beneficial effect is possible because of limiting site access.

Forest Plan Amendments for the Boundary Trail would allow motorized use to continue under Alternatives 3 and 5. No change in impacts to potential cultural resource sites would occur.

High Cascades Ranger District

Approximately 31.5 miles of paved road would be designated for mixed use under Alternative 3. A slight increase in use of the road could result in a small increase to impacts to cultural resource sites from increased access to sites.

Determination
This project is determined to be a "**Historic Properties Avoided"** undertaking. This determination was made by the Forest Archaeologist under the terms of the 2004 Programmatic Agreement between ACHP, Oregon SHPO, and USFS R6.

d. Cumulative Effects

Present and foreseeable future actions that may affect cultural resources on the Forest include: wildland fire, fuels treatments, livestock grazing, dam maintenance, minerals management, developed and dispersed recreation, timber harvest and vegetation treatments, reforestation, restoration, road management, and special uses. All of these activities would be designed to meet the direction provided within the Northwest Forest Plan and the local Land and Resource Management Plans (i.e., Forest Plans), and in accord with Aquatic Conservation Strategy objectives (NWFP 1994, Rogue River NF LRMP 1990, and Siskiyou NF LRMP 1989).

The Action Alternatives for this project are expected to maintain or reduce effects to cultural resources from motorized use. The prohibition of cross-country travel included in all Action Alternatives is expected to have the greatest reduction of potential impacts to cultural resources. In addition, Alternatives 3, 4, and 5 would include a reduction in miles of routes open for public wheeled motor vehicle use adjacent to cultural sites. Therefore, at the scale of these special areas (site-scale), there would be no additional or foreseeable risk from adverse cumulative effects.

None of the alternatives would result in substantial direct or indirect adverse effects to cultural resources because prior to approval of ground disturbing activities associated with trail construction or conversion, a cultural resource survey will be completed. Any sites within the Area of Potential Effect would either be evaluated for significance with appropriate mitigation measures implemented, or would be avoided by project activities. Thus, implementation of the project is not expected to result in incremental cumulative effects.

18. Climate Change

Effects of motorized vehicle use on climate change (greenhouse gas emissions and carbon cycling) and effects of global climate change on motorized use

Former Forest Service Chief Abigail R. Kimbell characterized the Agency's response to the challenges presented by climate change as "one of the most urgent tasks facing the Forest Service" and stresses that "as a science-based organization, we need to be aware of this information and to consider it any time we make a decision regarding resource management, technical assistance, business operations, or any other aspect of our mission."[32]

a. Background

Ongoing climate change research has been summarized in reports by the United Nations Intergovernmental Panel on Climate Change (www.ipcc.ch), US Climate Change Science Program's Science Synthesis and Assessment Products and the US Global Change Research Program. Climate change studies specific to the Pacific Northwest have been conducted by the Climate Impacts Group at the University of Washington. These reports concluded that climate is already changing; that the change will accelerate in the future; and that human greenhouse gas emissions, primarily carbon dioxide emissions (CO_2), are the main source of accelerated climate change.

Projected global climate change impacts include air temperature increases, sea level rise, changes in the timing, location and quantity of precipitation, and increased frequency of extreme weather events such as heat waves, droughts, and floods. These changes will vary regionally and affect renewable resources, aquatic and terrestrial ecosystems, and agriculture. While uncertainties will remain regarding the timing and magnitude of climate change impacts, the scientific evidence predicts that continued increases in greenhouse gas emissions will lead to increased climate change.

The Intergovernmental Panel on Climate Change has summarized the contributions to climate change of global human activity sectors in its Fourth Assessment Report (IPCC 2007). The top three anthropogenic (human-caused) contributors to greenhouse gas emissions (from 1970-2004) are: fossil fuel combustion (56.6% of global total), deforestation (17.3%), and agriculture/waste/energy (14.3%). IPCC subdivides the deforestation category into land use conversions, and large scale deforestation.

Deforestation is defined as removal of all trees, most notably the conversion of forest and grassland into agricultural land or developed landscapes (IPCC 2000). Travel Management does not fall within any of these main contributors of greenhouse gas emissions. Forested land will not be converted into a developed or agricultural condition.

In the summer of 2008, the University of Oregon Climate Leadership Initiative, in partnership with The National Center for Conservation Science & Policy and the MAPSS Team at the U.S. Forest Service Pacific Northwest Research Station, initiated a project to assess the likely consequences of climate change for the Rogue River Basin.

[32] Abigail R. Kimbell, former Chief, USDA Forest Service, February 15, 2008, letter to Forest Service National Leadership Team

A panel of scientists and land managers then assessed the likely risks posed by changing climate conditions to natural systems and made recommendations for increasing the capacity of ecosystems and species to withstand and adapt to those stressors.

Based on the analysis of the risks to natural systems, the policy panel identified the main risk in relation to infrastructure in the Rogue Basin is the potential for increased disruption and direct damage to transportation systems, buildings, and real estate from more flooding and wildfires.

In response to this risk, the policy panel made recommendations in regard to the infrastructure. In relation to travel management, these included:

- Permanent structures should be moved out of high risk floodplains, riparian areas and steep forested canyons if and when they are damaged by floods or fires and new development should be constrained in these critical landscape areas.
- Link public transportation systems as much as possible to facilitate movement of people and equipment in emergency situations.
- Expand road upgrading and maintenance such as the installation of larger culverts and regular culvert clean outs to prevent wash outs during major storms and floods.

The Forest is reviewing and implementing these recommendations as opportunities arise during reconstruction of existing facilities and the planning of maintenance activities.

b. Analysis Framework

As noted in the issue statement, there are two types of climate change effects for proposed projects to consider, as appropriate:

- **The effect of a proposed project on climate change** (greenhouse gas emissions and carbon cycling). Examples include: short-term greenhouse gas emissions and alteration to the carbon cycle caused by hazardous fuels reduction projects, greenhouse gas emissions from oil and gas field development, and avoiding large greenhouse gas emissions pulses and effects to the carbon cycle by thinning overstocked stands to increase forest resilience and decrease the potential for large scale wildfire.

- **The effect of climate change on a proposed project.** Examples include: effects of expected shifts in rainfall and temperature patterns on the seed stock selection for reforestation after timber harvest and effects of decreased snow fall on a ski area expansion proposal at a marginal geographic location, such as a southern aspect or low elevation.

Determining whether there is a cause-effect relationship is the first step in identifying a potential issue. Consideration was given as to whether some element of the proposal would result in direct, indirect, or cumulative effects on greenhouse gas emissions or the carbon cycle and the direction of effects (e.g., increase, decrease, or combination of both).

Scoping was used to determine if climate change issues are specifically related to the Proposed Action. While climate change was not dismissed as "outside the scope" of the analysis, the Interdisciplinary Team and other sources identified only minor potential for a cause-effect relationships (having to do with fossil fuel combustion and emissions) between this proposal and climate change.

c. Direct and Indirect Effects of Alternatives

Many proposed projects and programs would emit greenhouse gases (direct effect) and, thus, contribute to the global concentration of greenhouse gases that could affect climate (indirect effect). Since greenhouse gases mix readily into the global pool of greenhouse gases, it is not currently possible to ascertain the effects of emissions from single or multiple sources (projects).

Also, because Forest Service projects are extremely small in the global atmospheric CO_2 context, it is not presently possible to conduct quantitative analysis of actual climate change effects based on individual or multiple projects.

All alternatives considered with this proposal were identified to have minor cause-effect relationships to greenhouse gas emissions or the carbon cycle, and were determined to be of such a minor scale at the global or even regional scale, that the direct effects would be meaningless to a reasoned choice among alternatives.

Forests play a major role in the carbon cycle. The carbon stored in live biomass, dead plant material, and soil represents the balance between CO_2 absorbed from the atmosphere and its release through respiration, decomposition, and burning. Over longer time periods, indeed as long as forests exist, they will continue to absorb carbon.

The direct and indirect effects regarding these relationships are insignificant because there would be very minimal amounts of vegetation (no trees of any substantial diameters) and disposal of brush and slash associated with trail clearing or maintenance would be very minor under all alternatives.

d. Cumulative Effects

As greenhouse gas emissions are integrated across the global atmosphere, it is not possible to determine the incremental cumulative impact on global climate from emissions associated with any number of particular projects. Nor is it expected that such disclosure would provide a practical or meaningful effects analysis for local project decisions. Uncertainty in climate change effects is expected since it is not possible to meaningfully link individual project actions to quantitative effects on climatic patterns.

It is recognized that global climate change may affect human health, that there is scientific controversy surrounding the effects of human activity on climate change, that there is uncertainty and unknown risks associated with global climate change. The ultimate effects on climate change are indeed the results of incremental cumulative effects of many actions, most of which are outside of the Agency's control.

19. Wild and Scenic Rivers

Effects of the motorized vehicular use on the free-flowing character and Outstandingly Remarkable Values (ORVs)

The Rogue River-Siskiyou NF has six designated Wild and Scenic Rivers that flow approximately 200 miles through the Forests. The establishment of these Wild and Scenic Rivers are pursuant to the National Wild and Scenic Rivers Act (WSRA) of 1968, as amended.

The WSRA creates three river classifications: 1) Wild River segments; 2) Scenic River segments; and 3) Recreational River segments. Classification of rivers pursuant to these categories depends on the level of development in the immediate environment of a river corridor, with Wild segments having the least amount of development.

In addition to rivers included in the National Wild and Scenic Rivers System (NWSRS), the Forest contains 16 rivers and creeks that have been determined through studies and analysis to be eligible for inclusion in the National System. While these areas are considered eligible for inclusion based on their free-flowing character, water quality and ORVs, only Congress can designate rivers as part of the NWSRS. However, until Congress can make a determination for inclusion into the National System, the Forest Service manages these eligible rivers or creeks along with uplands within an approximate one-quarter mile corridor from either bank to protect the values identified for potential inclusion in the NWSRS.

a. Background

Designated Rivers

In particular, FSM 2300, Chapter 2354, section 42g, gives specific management guidance for the WSRA three river classifications. Changes to motorized roads and trails are the two proposed activities within designated river corridors. Therefore, road accessibility guidelines are used as an indicator of their effects:

- Wild River--Generally, accessible only by trail. Normally, do not permit motorized travel on the trail system in the river area.

- Scenic River--May be accessible in places by road. However, scenic rivers should not include long stretches of conspicuous and well-traveled roads closely paralleling the riverbank. Trails may be located and designed to accommodate motorized travel.

- Recreation River--Usually readily accessible by road. Roads are normally open to motorized travel but use may be regulated.

Under the WSRA, agencies managing designated rivers are required, in their activities, to protect and enhance a river's free-flowing condition, water quality and outstandingly remarkable values (ORVs). Forest Service policy regarding management of designated rivers is found in FSM 2300, Chapter 2354. The river management plans, which are part of the Rogue River and Siskiyou National Forest's LRMPs, include management objectives, standards and guidelines to assure that activities are designed consistent with the requirements of the WSRA and with Forest Service policy. The Action Alternatives were all designed to be consistent with law, policy and the respective LRMPs. Therefore, the Action Alternatives will be evaluated to determine if they meet this direction for designated rivers.

All six designated Wild and Scenic Rivers have motorized roads and trails within the congressionally designated corridors. All six, except those sections designated as Wild, or are within designated Wilderness Areas, are open to motorized cross-county travel unless prohibited by the Wild and Scenic River Management Plans specific to each designated river. Of the six, only two would be impacted by measurable changes to the motorized roads and trails.

Therefore, the only changes to the Upper Rogue, Lower Rogue, Chetco, and Elk WSRs is closure to cross-country travel because the Action Alternatives propose no changes to motorized roads or trails within those corridors.

The remaining two would have impacts associated with the alternatives being analyzed within this document because only two designated WSR corridors would experience a change from the existing level of motorized use within those corridors. In the Assumptions for Analysis (section B, 1, this chapter), maintaining the current level of use does not constitute a measureable change to the current condition. Therefore, it does not constitute a new effect. Those river segments that would have measurable change because of a reduction or increase in motorized use are the Illinois and the North Fork of the Smith as identified in Table III-29 below.

Table III- 29. List of designated wild and scenic rivers

Name	Existing Motorized Roads & Trails	Change to Motorized Roads & Trails	Classification	Outstandingly Remarkable Values
Illinois River	32.55 Miles	6.9 Miles	Wild, Scenic, Recreational	Water Quality, Fisheries, Scenery, Botanical Resources, Recreation
North Fork Smith	2.9 Miles	0.6 Mile	Wild, Scenic	Water Quality, Fisheries, Scenic Quality
Lower Rogue	34.3 Miles	0 Miles	Wild, Scenic, Recreational	Fisheries, Natural Scenic Qualities, Recreation
Upper Rogue	49.9 Miles	0 Miles	Wild, Scenic	Scenic, Geology, Cultural, Botanical, Water Quality
Chetco	16.5 Miles	0 Miles	Wild, Scenic, Recreational	Recreation, Fisheries, Water Quality
Elk	19.3 Miles	0 Miles	Wild, Recreational	Fisheries, Water Quality, Natural Features

Illinois River

General Background

The Illinois WSR protects approximately 50 miles of the river under the WSRA, starting from the Forest boundary near Selma and continuing downstream to its confluence with the Rogue River. The Illinois River's exceptionally rugged, undeveloped character, presents a rare opportunity to provide for an experience where the recreationist must depend upon one's self to a high degree. The Illinois River has extremely challenging whitewater boating experience in one of the most primitive settings in the Continental US.

Classifications

The Illinois WSR begins with the Scenic segment at the Forest boundary near Sauers Flat and extends 17.9 miles to Briggs Creek. The Wild section begins at Briggs Creek and extends 28.7 miles to Nancy Creek. The Recreational section begins at Nancy Creek and extends 3.8 miles to the confluence with the Rogue River.

The ORVs are Water Quality, Fisheries, Scenery, Botanical Resources and Recreation. Water quality is described as outstanding because of the color and clarity. The Illinois River includes a rich fishery and its tributaries offer superb spawning and rearing habitat for a variety of fish. The Illinois also provides

an opportunity for a unique recreation experience because of the natural setting, void of the impacts of civilization. The flora in the canyon is abundant with diversity.

Existing Motorized Roads and Trails
There are approximately 32.55 miles of existing motorized roads and trails in the Illinois WSR. Only 6.9 miles of these routes have measurable impacts associated with the Action Alternatives. The following is a description of those road and trail segments being impacted.

The Wild section of the Illinois WSR contains 4.9 miles of motorized trails. The Illinois River Trail (#1161) travels 4.0 miles adjacent to the river. The Game Lake trail (#1169) travels 0.9 mile within the WSR corridor before heading up a ridge and exiting the WSR area to the southwest. The Illinois Wild and Scenic River Management Plan allows for motorized use of these trails within the Wild section of the WSR.

There is approximately 2.0 miles of proposed closure to a motorized road within the Scenic section of the Illinois WSR. Forest Road 4201016 parallels the Illinois River on the east bank near Eight Dollar Mountain area. This road is in the historical floodplain of the Scenic section, with the southern portion of the road beginning at the intersection with Forest Road 4201 and connects outside the WSR corridor with Forest Road 4103.

North Fork Smith River

General Background
The 13-mile Oregon portion of the North Fork Smith River was identified for inclusion into the WSRA because of whitewater recreation, scenery and emerald hued water that greatly enhances and complements river values immediately downstream. From a WSR systems approach, the Oregon portion is integral to the whole.

Classifications
The North Fork Smith is classified as Wild from the headwaters and extends 4.5 miles to Horse Creek. There is a Scenic segment beginning at Horse Creek and extending 6.5 miles to Baldface Creek. Then, from Baldface Creek to the Oregon/California border is a 2-mile Wild segment.

The ORVs are water quality, fisheries, and scenic quality. The North Fork Smith is known for its outstanding water quality and its ability to clear quickly following storms. Low turbidity and lack of pollutants contribute to the river's excellent habitat and high fisheries value. The scenic quality in the river corridor is a result of the combination of the colors, geology, water and vegetation. The scenic diversity includes large rocks, deep pools, exposed peridotite outcrops, a variety of vegetation and emerald-colored water.

Existing Motorized Roads and Trails
There are approximately 2.9 miles of existing motorized roads and no motorized trails in the North Fork Smith WSR. Only 0.6 mile of these routes would have measurable impacts associated with the Action Alternatives. The following is a description of those road and trail segments being impacted.

The Wild section contains all 0.6 mile of motorized roads. Road 4402206 extends 0.3 mile into the corridor, providing motorized access to Sourdough Camp.

Sourdough is a semi-primitive campground acknowledged by the 1988 WSRA as an exception to the preclusion of motorized development in the Wild section. There are two short roads within Sourdough Camp that provide access to campsites and the North Fork Smith. These are 4402256 and 4402259A. Both comprise another 0.3 mile of motorized access in and around Sourdough Camp, with access to the river. Access on these motorized roads is restricted to the dry season (June 1 to September 30) to reduce the risk of introduction and spread of *Phytophthora lateralis*.

Eligible Rivers

When each river or creek is analyzed under an eligibility study, a recommendation is made to place that river or creek into one or more of the three classifications: Wild, Scenic, or Recreational. Each river segment recommendation is based upon current levels of development regarding water resource projects, shoreline development, and accessibility. The Forest Service Land and Resource Management Planning Handbook (FSH1909.12), Chapter 80, provides direction on interim management of eligible rivers and creeks. Section 8.12 states that management prescriptions for eligible or suitable rivers should provide protection in the following ways:

1) To the extent the Forest Service is authorized under law to control stream impoundments and diversions, the free-flowing characteristics of the identified river cannot be modified.

2) Outstandingly remarkable values of the identified river area must be protected and, to the extent practicable, enhanced.

3) Management and development of the identified river and its corridor cannot be modified to the degree that eligibility or classification would be affected (i.e. classification cannot be changed from wild to scenic or scenic to recreational).

Chapter 80, section 82.3, also gives specific management guidance for each of the river classifications. Changes to motorized roads and trails are the two proposed activities within eligible river corridors. Therefore, road accessibility guidelines are used as an indicator of their effects:

- Wild Rivers—Generally inaccessible except by trail. No roads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the area are acceptable.

- Scenic Rivers—Accessible in places by roads. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads is acceptable.

- Recreational Rivers—Readily accessible by roads. The existence of parallel roads on one or both banks as well as bridge crossings and other river access points is acceptable.

Alternatives are evaluated to determine if they meet this direction for streams eligible for Wild and Scenic River designation.

Of the 16 eligible rivers or creeks, 12 have existing motorized roads and trails. The only proposed change to the remaining four is cross-country travel closure. Of the 12 eligible river corridors with existing roads, seven would be impacted by measurable changes to the motorized roads and trails. Therefore, the only change to nine eligible river corridors is closure to cross-country travel because the alternatives propose no changes to motorized roads or trails within those corridors.

The remaining seven would have impacts associated with the alternatives being analyzed within this document. These seven eligible river corridors would potentially experience a change from the existing level of motorized use of roads and trails within those corridors. In the Assumptions for Analysis (section B, 1, this chapter), maintaining the current level of use does not constitute a measurable change from the current condition. Therefore, it does not constitute a new effect. Table III-30 summarizes the eligible corridors, the existing roads and trails, potential ORVs, and segment classification.

Table III- 30. List of eligible wild and scenic rivers

Name	Existing Motorized Roads & Trails	Change to Motorized Roads & Trails	Proposed Classification	Proposed Outstandingly Remarkable Values
Johnson Creek	3.8 Miles	1.8 Miles	Scenic, Recreational	Fisheries
South Fork Coquille	0.8 Mile	0.8 Mile	Wild, Recreational	Recreation, Scenic, Ecological, Fisheries
Silver & Todd Creeks	0.5 Mile	0.5 Mile	Wild	Fisheries
Indigo & Snail Creeks	1.0 Mile	1.0 Mile	Wild	Fisheries
Canyon Creek	0.3 Mile	0.3 Mile	Scenic	Fisheries
Rough & Ready Creek	0.7 Mile	0.7 Mile	Scenic, Recreational	Botanical, Ecological, Wildlife
Bald Face Creek & Tributaries	2.1 Miles	4.4 Miles	Wild, Scenic	Fisheries, Water Quality
Sucker Creek	4.6 Miles	0 Miles	Scenic	Fisheries
Sebastopol Creek	0 Miles	0 Miles	Scenic	Cultural, Historic
Muir Creek	2.3 Miles	0 Miles	Wild, Scenic	Scenery, Recreation, Geology, Water Quality
Hershberger Creek	5 Miles	0 Miles	Scenic	Scenery, Geology, Hydrology
Castle Creek	10.6 Miles	0 Miles	Scenic	Scenery, Recreation, Geology, Hydrology
Union Creek	24.9 Miles	0 Miles	Scenic	Scenery, Water Quality
Middle Rogue	13.12 Miles	0 Miles	Wild, Scenic	Scenery, Geology, Hydrology, Water Quality

*** Motorized road or trail segments within proposed classifications are described in detail below**

b. Effects Mechanisms and Analysis Framework

It is not the purpose of this planning effort to decide whether wheeled motorized use within any of the designated or eligible Wild and Scenic River Areas (WSR) is appropriate. Those overarching decisions on allowable uses of wheeled motorized vehicles in WSRs were made in prior decision documents (LRMPs and River Management Plans) and are not being revisited here. As discussed above, designated WSRs will continue to be managed according to statutory laws, agency policy, LRMPs and the applicable River Management Plans. Eligible river corridors and segments will continue to be managed according to agency policy and LRMP direction.

The scope of this analysis is limited to motorized road and trail changes within designated or eligible WSRs. Many listed ORV values are discussed in other sections of this document. Specific effects to those resources are analyzed in the site-specific evaluations of the environmental effects elsewhere in this document and resolved in alternatives or through mitigations on a site-specific case-by-case basis. In particular, water quality is addressed with a full detailed analysis in FSEIS, Chapter III, section E, 1. Because that section includes specific analysis concerning impacts associated with any changes to motorized use of roads and trails, further discussion of water quality, aside from impacts to a WSR's ORV protection/enhancement, is unnecessary.

c. Direct and Indirect Effects of Alternatives

Designated Rivers

None of the alternatives proposes any modification of the WSR's river beds or banks. Since no road or trail construction is being proposed, no effects are occurring that would impact the WSR's free-flowing character. Therefore, the following effects analysis does not address free-flowing conditions.
Here, the analysis will focus on administration of WSR's river corridors and segments to protect or enhance the ORVs and designated classifications identified in Table III-30 above.

There are a total of 155.45 miles of existing motorized roads and trails within these designated WSRs. There is a total land area based on GIS mapping of approximately 41,800 acres within these designated WSRs. The purpose of the analysis below is to analyze the effects to ORVs associated with changes to those road and trail segments mentioned above. The following table summarizes the change of motorized use within designated WSRs by alternatives.

Table III- 31. Comparison of alternatives – designated wild and scenic areas

Designated Wild & Scenic Areas	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of cross-country travel	41,800	0	0	0	0
Miles of open roads	144.6	144.6	142.6	142	142.6
Miles of motorized trails	10.85	10.85	10.85	5.95	7.95

Summary

Under all alternatives varying levels of motorized use of existing NFS roads and trails within designated WSRs would continue. Of the six WSR's, only two would experience measurable change per alternatives in the miles of road and trails being proposed for motorized use. However, the miles of motorized roads and trails per alternative vary only slightly. For example, the most restrictive alternative, Alternative 4, would reduce motorized use within corridors by 8 miles.
While there is a measurable change between the current conditions and Action Alternatives, the potential impacts to ORVs would be very slight. Below is an analysis of impacts to ORVs by alternative. None of the alternatives propose new motorized road or trail construction within the WSRs.

Alternative 1

Under this alternative cross-country travel would still be allowed. This would provide 41,800 acres of WSRs open for motorized use. Cross-country travel would allow for continued impacts to ORVs. Because there would be no restriction on river crossings, the following ORVs could be impacted by motorized use: water quality, fisheries, recreation, and scenic quality. Within the river corridors there would be the opportunity to engage in cross-country travel on uplands. The potential to create additional user-created routes within the corridor exists due to population growth and demand, which

would impact the scenic quality and recreational ORVs. However, due to steep topography and heavy vegetation associated with these areas, it is estimated that substantially less acres are actually capable of supporting this use. Based on the analysis assumptions (section B, 1, this chapter), it is not anticipated that this use would measurably change under any alternative.

Ongoing cross-country travel would likely impact solitude and primitive experience within the Wild sections of the WSRs; therefore, non-motorized recreation users could encounter sights and sounds evidencing motorized use of these less-developed areas. This could adversely affect or diminish scenic quality and recreation ORVs on those areas capable of cross-country travel. While the analysis assumptions estimate substantially less acres receive use due to terrain restrictions, OHV technology could provide for additional opportunities in the future, thus creating a risk for potential impacts to ORVs.

Impacts Common to Alternatives 1 and 2
A total of 155.45 miles of existing motorized roads and trails would continue to be open. These roads and trails are allowed within the designated WSRs pursuant to the WSRA and their respective river management plans. Therefore, the existing condition is compliant with the WSRA because it maintains the existing level of naturalness and vegetation at the time of designation. While these existing roads and trails do not enhance ORVs, they are consistent with law and policy for management of WSRs. Based on the analysis assumptions (section B, 1, this chapter) the current condition does not constitute a measurable change; therefore, no impacts to ORVs are associated with motorized roads and trails in Alternatives 1 and 2.

Impacts Common to Alternatives 2, 3, 4, and 5
Under these alternatives cross-country travel would be prohibited. This would close 41,800 acres of WSRs to motorized use. Eliminating motorized use off designated routes would help protect and enhance the rivers' outstandingly remarkable values by reducing resource impacts. However, access to gravel bars for camping and day use would still occur on portions of the Rogue, Illinois, Elk and Chetco. Refer to Section 13, Scenic Resources for analysis of effects. Overall, Alternatives 2, 3, 4, and 5 would reduce the current level of impacts and have less effect than Alternative 1 on ORVs. However, the difference is slight because there is little cross-country travel occurring in WSRs due to vegetation and topography. The physical impact is primarily on existing roads and trails. In Alternatives 3, 4, and 5 there would be a decrease in allowable motorized use of roads and trails. However, these alternatives only propose minor decreases in motorized use within the WSR corridors. Below is a detailed discussion of the different levels for motorized use being proposed by the alternatives.

Alternative 3
Aside from closing cross-country travel, this alternative would remove 2.0 miles of public motorized use of the 4201016 road within the Scenic section of the Illinois WSR. Closure of this portion of road would remove motorized use within the Illinois historical floodplain. This has the potential to reduce user-created routes to the river. This closure would potentially enhance water quality, botanical, and recreational ORVs. This is because the potential for access for motorized use would decrease, thus lowering impacts to water quality created by sedimentation from motorized disturbance of the river bed. This area is at the base of Eight Dollar Mountain area, which is a diverse botanical area. Therefore, removal of motorized use would enhance the quality of the botanical resources within and adjacent to the Illinois WSR. The recreational value of river rafting would be enhanced due to the decreased motorized sights and sounds along the river corridor.

The potential for enhancement is slight, however, due to the proximity of additional road developments and private developments only a few miles downstream from this location.

No changes to ORVs would occur due to this alternative on the North Fork Smith WSR. This is because under Alternative 3, there are no other changes proposed to motorized activity that would impact ORVs. All other existing roads and trail would remain in their current condition. This would allow for a remaining 153.45 miles of motorized roads and trails within the WSR's corridors.

Alternative 4
In addition to closing cross-country travel, this alternative would remove motorized use on 7.5 miles of roads and trails within the WSR's. In particular, it proposes closure to motorized activity on 4 miles of Trail 1161; 0.9 mile of Trail 1169; 0.3 mile of Forest Road 4402206; 0.3 mile of Forest Road 4402256; and 2.0 miles of Forest Road 4201.016 that would reduce impacts to the ORVs. This would be the most substantial change to water quality, scenic quality, and recreation.

Over time, any user created routes would begin to re-vegetate. Roadways would slowly begin to be reclaimed by nature and further reduce visual impacts to the scenic quality. This would in turn increase and enhance the recreation experience within the designated WSR corridors. This is because the scenic quality leads to the enhanced recreational value of the remote and natural settings found within these WSRs.

However, Alternative 4 would require an additional Forest Plan Amendment because this alternative proposes a change to the current Siskiyou NF LRMP and the North Fork Smith River Management Plan Standards and Guidelines. Since Alternative 4 would close all motorized use, Sourdough Camp would not be accessible by motorized users as a semi-primitive use area. This would conflict with current River Management Plan Standards and Guidelines at MA2-3N. Therefore, to implement this alternative, a plan amendment would be needed. While Alternative 4 would enhance certain ORVs, it is not consistent with current plan direction because it would preclude motorized access to a semi-primitive motorized camp area.

Alternative 5
Aside from closing cross-country travel, this alternative would remove motorized use on 4.9 miles of roads and trails within the designated WSR's. In particular, this would close motorized use on 2 miles of Trail 1161; 0.9 mile of Trail 1169; 2.0 miles of Forest Road 4201016 within the Scenic and Wild sections of the Illinois WSR. However, 2.0 miles of Trail 1161 would remain open within the Illinois Wild section of the WSR.
In addition, Alternative 5 would allow for motorized use on all 2.9 miles of roads within the North Fork Smith WSR. This would provide management direction consistent with the Forest Plan and river management plan.

Under Alternative 5, there would be a potential for enhancement of water quality, fisheries, botanical, scenic quality and recreation ORVs because of the reduction in motorized use within the river corridors. Most notable is the reduced impacts associated with motorized use of trails within the Wild section of the Illinois WSR. This would have the opportunity to protect and enhance recreation and scenic quality values because of the reduction in motorized use adjacent to the river would lessen any visual impacts caused by motorized uses to non-motorized users of the river corridor.

Since this segment of trail is adjacent to the Kalmiopsis Wilderness, there is a potential to enhance wilderness values with this alternative.

Closure of a 2-mile segment of Road 4201016 would remove motorized use within the Illinois River historical floodplain. This has the potential to reduce user-created routes to the river. This closure would potentially enhance water quality, botanical, and recreational ORVs. This is because the potential for access for motorized use would decrease, thus lowering impacts to water quality created by sedimentation from motorized disturbance of the river bed. This area is at the base of Eight Dollar Mountain area, which is a diverse botanical area. Therefore, removal of motorized use would enhance the quality of the botanical resources within and adjacent to the Illinois WSR. The recreational value of river rafting would be enhanced due to the decreased motorized sights and sounds along the river corridor. The potential for enhancement is slight, however, due to the proximity of additional road developments and private developments only a few miles downstream from this location.

Eligible Rivers

None of the alternatives proposes any modification of the eligible river beds or banks. Since no road or trial construction is being proposed within eligible river corridors, no effects would occur to impact eligible rivers' free-flowing conditions.

Here, the analysis will focus on administration of eligible river corridors and segments to protect or enhance the ORVs and recommended classifications identified in Table III-30 above.

There are a total of 69.72 miles of existing roads and trails within all eligible river corridors. There is a total land area calculated using GIS mapping of approximately 49,600 acres within all eligible river corridors. The purpose of the analysis below is to analyze the effects to ORVs and segment classifications associated with changes to those road and trail segments identified in Table III-30 shown above. Table III-32 below summarizes the change to motorized use within eligible river corridors by alternative.

Table III- 32. Comparison of alternatives – eligible wild and scenic rivers

Eligible Wild & Scenic Areas	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of cross-country travel	49,600	0	0	0	0
Miles of open roads	64.52	64.52	63.02	60.92	63.02
Miles of motorized trails	5.2	5.2	7.5*	3.4	2.6

*** Proposed conversion of road 4402494 (ML 1) to a motorized trail (Biscuit Hill) would increase miles of motorized trails above the base line by 2.3 miles.**

Summary

Under all alternatives, motorized use of existing NFS roads and trails would continue within 12 eligible corridors. Of the 12 eligible corridors, six corridors would experience measurable change per alternatives in the miles of road and trails being proposed for motorized use. Under all alternatives, the remaining four corridors would not experience any change to motorized use on existing roads and trails. Alternative 4 has the greatest reduction in motorized roads and trails by reducing the current level to 64.32 miles, which would reduce motorized use within corridors by 4.6 miles. Alternative 3 would increase the baseline of motorized roads and trails to 70.52 miles, which would increase motorized use within corridors by 0.8 mile.

Alternative 5, (Preferred Alternative, would reduce the current level to 65.62 miles, which would reduce motorized use within corridors by 4.1 miles. None of the alternatives propose new road or trail construction within eligible river corridors.

Alternative 1
Under this alternative cross-country travel would still be allowed. This would provide 49,600 acres of eligible corridors open for motorized use. Cross-country travel would allow for continued impacts to ORVs. Because there would be no restriction on river crossings, the following ORVs could be impacted by motorized use: water quality, fisheries, recreation, and scenic quality. Within the river corridors there would be the opportunity to engage in cross-country travel on uplands. The potential to create additional user-created routes within the corridor exists due to population growth and demand, which would impact the scenic quality and recreational ORVs. However, due to steep topography and heavy vegetation associated with these areas, it is estimated that significantly less acres are actually capable of supporting this use. Based on the analysis assumptions (section B, 1, this chapter), it is not anticipated that this use would measurably change under this alternative.

Ongoing cross-country travel would likely impact solitude and primitive experience within the Wild sections of the eligible corridors; therefore, non-motorized recreation users could encounter sights and sounds evidencing motorized use of these less-developed areas. This could adversely affect or diminish scenic quality and recreation ORVs on those areas capable of cross-country travel. While the analysis assumptions estimate fewer acres receive use due to terrain restrictions, OHV technology could provide for additional opportunities in the future, thus creating a risk for potential impacts to ORVs.

Impacts Common to Alternatives 1 and 2
A total of 69.72 miles of existing motorized roads and trails would continue to be open within eligible corridors. Table III-30 above provides a detailed description of motorized road and trail segments within the eligible corridors. These roads and trails are allowed within the eligible river corridors pursuant to the direction in LRMPs and Forest Service policy. Therefore, the existing condition is compliant with Forest management direction because it maintains the existing level of naturalness and vegetation at the time of eligibility studies. While these existing roads and trails do not enhance ORVs, they are consistent with the Wild and Scenic Rivers Act and policy for management of eligible river corridors. Based on the analysis assumptions (section B, 1, this chapter), the current condition does not constitute a measurable change; therefore, no impacts to ORVs are associated with motorized roads and trails in Alternatives 1 and 2.

Impacts Common to Alternatives 2, 3, 4, and 5
Under these alternatives cross-country travel would be prohibited. This would close 49,600 acres of eligible river corridors to motorized use. Eliminating motorized use off designated routes would help protect and enhance the rivers' ORVs by reducing resource impacts. Therefore, Alternatives 3, 4, and 5 would reduce the current level of impact and have less affect from cross-country travel than Alternative 1 on ORVs. However, the difference is slight because there is little, if any, cross-country travel occurring in eligible river corridors due to heavy vegetation and steep topography. The physical impact is primarily on existing roads and trails. In Alternatives 4 and 5 there would be a decrease in allowable motorized use of roads and trails. However, the decrease is slight; 1.9 miles of motorized roads and trails. Therefore, changes to impacts of ORVs would be minor between these alternatives.

Alternative 3
In addition to closing cross-country travel, this alternative would remove a total of 2.5 miles of motorized use on roads and trails within eligible river corridors. In particular, it would remove 0.50 mile of motorized use within the proposed scenic section of Silver Creek; 0.30 mile of motorized use within the proposed scenic section of Canyon Creek; and 0.70 mile of motorized use within the proposed Recreational section of Rough and Ready Creek.

Closure of these portions of road would remove motorized use within the riparian areas. Removal of motorized use would have the potential to enhance water quality, fisheries, botanical, and wildlife ORVs. This is because the potential for access of motorized use would decrease, thus lowering impacts to water quality created by sedimentation from motorized disturbance adjacent to water bodies. In turn, improved water quality would have the potential to enhance fisheries. Removal of motorized use would allow the existing road beds to naturally re-vegetate and propagate naturally occurring plant species. Because the serpentine soils are very shallow and sensitive in these areas, removal of motorized use would have a potential to increase soil stability and further increase plant diversity leading to enhanced ORVs. Limiting noise and visual disturbance caused by motorized use within corridors would enhance natural wildlife movements and contribute to potential re-colonization of species to the river corridors. Because the closure would be minimal in length, potential for enhancement is slight.

Alternative 3 proposes to open 2.30 miles of an existing Maintenance Level 1 Road 4402494 to a motorized trail (Biscuit Hill Trail) within the Bald Face Creek eligible corridor. This proposed motorized trail is located on a ridge adjacent to tributaries of the Bald Face Creek eligible corridor. Potential ORVs for Bald Face Creek are fisheries and water quality. This trail is along the ridge line and would not likely impact fisheries or water quality because of the distance between the trail and the streams. Any additional sedimentation would naturally filter into the soils prior to reaching the water bodies. This segment of the eligible corridor is classified as Wild. Motorized use within a Wild segment is generally prohibited, except for valid existing uses at the time of an eligibility study that are determined consistent with management direction. Therefore, opening this portion of the Biscuit Hill Trail to motorized use would be in conflict with Forest Service policy contained in FSH 1909.12, Chapter 80, Section 82.3. In addition to Forest policy, opening of the Biscuit Hill Trail to motorized use would be in conflict with the June 1991 Settlement Agreement between the Forest Service and American Rivers Council, et al. This Agreement specifically requires the Forest Service to either defer projects within the eligible corridor that may adversely impact eligibility or accelerate the assessment so that final determination is made prior to a decision approving a project or activity. A final decision on Travel Management that would include this conversion would also require a determination of eligibility of the status as a Wild and Scenic River.

In conclusion, while there is only a slight potential for impacts to fisheries and water quality associated with extending motorized use along this trail segment, there would be direct impacts to the eligible Wild segment recommendation.

No changes to ORVs would occur due to this alternative on either Johnson or Indigo Creek eligible corridors. This is because under Alternative 3, there are no other changes proposed to motorized activity that would impact ORVs or segment classifications. All other existing roads and trails would remain in their current condition. This would allow for a remaining 67.42 miles of existing motorized roads and trails within all eligible corridors not impacted by this alternative.

Alternative 4
In addition to closing cross-country travel, this alternative would remove motorized use on 5.4 miles of roads and trails within eligible river corridors. In particular, it would remove 0.80 mile of motorized use within the proposed recreational section of South Fork Coquille; 0.5 mile of motorized use within the proposed scenic section of Silver Creek; 0.30 mile of motorized use within the proposed scenic section of Canyon Creek; 0.70 mile of motorized use within the proposed recreational section of Rough and Ready Creek; 1.0 mile of motorized use within the proposed wild section of Indigo Creek; and 2.10 miles of motorized use within the proposed wild section of Bald Face Creek.

Closure to motorized use under this alternative of these roads and trails would have the greatest potential to reduce impacts to ORVs. This would have the most impact to water quality, fisheries, botanical, wildlife and scenic quality ORVs of any alternative. This is because the potential for access of motorized use would decrease, thus lowering impacts to water quality created by sedimentation from motorized disturbance adjacent to water bodies. In turn, improved water quality would have the potential to enhance fisheries. Removal of motorized use would allow the existing road beds to naturally re-vegetate and propagate naturally occurring plant species. Because the serpentine soils are very shallow and sensitive to disturbance, removal of motorized use would have a potential to increase soil stability and further increase plant diversity and lower stream sedimentation, leading to enhanced ORVs.
Limiting noise and visual disturbance caused by motorized use within corridors would enhance natural wildlife movements and contribute to potential re-colonization of species to the river corridors. In addition to direct impacts, motorized closures have a potential to reduce indirect effects to the above-mentioned ORVs due to reduced user-created routes to the river. Because these motorized closures would be relatively short in length, potential enhancement is slight.

This alternative does not propose to open any additional motorized routes within eligible river corridors. In conclusion, this alternative has the potential to slightly enhance ORVs within the eligible river corridors listed above. No changes to ORVs would occur under this alternative to Johnson Creek. This is because under Alternative 4, there are no other changes proposed to motorized activity that would impact ORVs or segment classifications. All other existing motorized roads and trails would remain in their current condition. This would allow for a remaining 64.32 miles of existing motorized roads and trails within all eligible corridors not impacted by this alternative.

Alternative 5
In addition to closing cross-country travel, this alternative would remove motorized use on 4.1 miles of roads and trails within eligible river corridors. In particular, it would remove 0.80 mile of motorized use within the proposed recreational section of South Fork Coquille; 1.8 miles of motorized use within the proposed scenic section of Johnson Creek; 0.5 mile of motorized use within the proposed scenic section of Silver Creek; 0.3 mile of motorized use within the proposed scenic section of Canyon Creek; and 0.7 mile of motorized use within the proposed recreational section of Rough and Ready Creek.
Closure of these portions of roads and trails to motorized use would remove impacts to the following ORVs: water quality, fisheries, botanical, wildlife, cultural, and scenic quality. Because there is a potential for reduced motorized use within the corridors, water quality would be enhanced.
In turn, improved water quality would have a potential to enhance fisheries. Removal would allow existing road beds to re-vegetate and propagate naturally occurring plant species.

Removal of motorized use would have the potential to increase soil stability and further increase plant diversity and lower stream sedimentation, leading to enhanced ORVs. Limiting noise and visual disturbance caused by motorized use within corridors would enhance natural wildlife movements and contribute to potential re-colonization of species to the river corridor.

In particular, Johnson Creek would experience potential beneficial enhancement to wildlife movements because this trail bisects a remote tract of forest without other incursions from motorized activity. Therefore, removal of motorized use would provide a travel corridor for wildlife migrating north or south through the interior of the forest. In addition to direct impacts, motorized closures have a potential to reduce indirect effects to the above-mentioned ORVs due to reduced user-created routes to the creek. Because these motorized closures would be relatively short in length, potential enhancement to ORVs is expected to be slight.

This alternative does not propose to open any additional motorized routes within eligible river corridors. In conclusion, this alternative has the potential to slightly enhance ORVs within the eligible river corridors listed above. No changes to ORVs would occur under this alternative to all other eligible river corridors. This is because under Alternative 5, there are no other changes proposed to motorized activity that would impact ORVs or segment classifications. All other existing motorized roads and trails would remain in their current condition. This would allow for a remaining 65.62 miles of existing motorized roads and trails within all eligible corridors not impacted by this alternative.

d. Cumulative Effects

Designated or eligible WSR's are not likely to have been adversely impacted from major ground-disturbing actions in the past, nor are any actions anticipated or foreseeable in the future. Minor ongoing impacts along WSRs include activity from fire suppression, existing roads and trails, and suction dredging associated with mining activity. This activity, while consistent with the Siskiyou LRMP, does create short duration and localized turbidity. Other activities potentially affecting water quality and fisheries are discussed in other sections of Chapter III. When considering all of these activities, no adverse cumulative effects that would conflict with protection and enhancement of the river's ORVs are identified or expected to occur.

Designated Rivers
The Action Alternatives for this project are expected to maintain or reduce effects from motorized use. No new road or trail construction is being proposed in WSRs from the Action Alternatives. Thus, no additive impact that might contribute to adverse cumulative effects on the protection/enhancement of ORVs is being proposed.

Alternatives 3, 4, and 5 would include a reduction in miles of routes open for public wheeled motor vehicle use within WSRs. The prohibition of cross-country travel would further reduce the potential for cumulative impacts. Therefore, the proposed alternatives would not create an additional or foreseeable risk from adverse cumulative effects. To the contrary, the proposed alternatives have the potential to improve ORVs in WSRs.

Eligible Rivers
Alternative 3, while it proposes to open 2.30 miles of Maintenance Level 1 road to motorized use as a trail, current conditions show motorized use along this route. Alternative 3 proposes to change this route to a motorized trail, which would provide routine maintenance to a Maintenance Level 1 road. This routine maintenance has the potential to reduce environmental impacts to ORVs due to reduced sedimentation of surface waters. However, motorized activity within the proposed Wild segment of the eligible corridor would detract from this segment classification. While there are existing motorized uses in the adjacent North Fork Smith River WSR, any added impacts to the proposed segment classification of the Bald Face eligible corridor would impact potential classification as Wild by Congress.

Alternatives 4 and 5 are expected to maintain or reduce effects from motorized use. No new road or trail construction is being proposed in eligible corridors from these Action Alternatives. Thus, no additive impact that might contribute to adverse cumulative effects on the protection/enhancement of ORVs is being proposed.

Alternatives 4 and 5 would include a reduction in miles of routes open for public wheeled motor vehicle use within eligible corridors. The prohibition of cross-country travel would further reduce the potential for cumulative impacts. Therefore, the proposed alternatives would not create an additional or foreseeable risk from adverse cumulative effects. To the contrary, the Action Alternatives have the potential to improve ORVs in eligible corridors.

F. OTHER EFFECTS

The following is a summary of effects that were considered during the analysis process, not necessarily as issues, and not always totally quantifiable. All effects analyzed for all Action Alternatives were determined to be consistent with goals, objectives and Standards and Guidelines identified in the Rogue River and Siskiyou National Forest Land and Resource Management Plans as amended by the Northwest Forest Plan and other amendments (Chapter I).

1. Relationships Between Local and Short-term Uses of the Human Environment and Maintenance or Enhancement of Long-term Productivity

Maintaining long-term site productivity is the basis for the ecosystem being able to meet the needs of the land and people through time. The maintenance of productivity is required through legislation: the Organic Act of 1897, the Multiple Use Sustained Yield Act of 1960, the National Environmental Policy Act of 1969, and the National Forest Management Act of 1976.

Long-term productivity and sustainability is the inherent potential of the land (ecosystem) to produce a certain level of vegetation and associated processes, such as wildlife, water, and clean air, indefinitely into the future.

Fixed components influencing productivity include local climate, topographic features, and soil type. Components affecting productivity that can be changed include: soil volume, porosity, water availability, chemistry, and biology. Management practices that can affect these components include: compaction and soil displacement from motor vehicle use off of designated routes; soil displacement from unauthorized routes; loss of soil organic matter; modification of the water table or moisture-

holding capacity; and reductions in the functioning of soil organisms from compaction or displacement of substrate.

Proposals in this project have been designed to not only maintain long-term site productivity, but also assist in making sure conditions are maintained that are conducive for the ecosystem to be able to achieve a high level of potential.

2. Environmental Justice and Civil Rights

Environmental Justice
Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations," directs federal agencies to integrate environmental justice considerations into federal programs and activities. Environmental justice means that, to the greatest extent practical and permitted by law, all populations are provided the opportunity to comment before decisions are rendered or are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by government programs and activities affecting human health or the environment.

One goal of Executive Order 12898 is to provide, to the greatest extent practicable, the opportunity for minority and low-income populations to participate in planning, analysis, and decision-making that affects their health or environment, including identification of program needs and designs. This public involvement process for the Proposed Action has been conducted under Departmental regulation 5600-2, December 15, 1997, including the Environmental Justice Flowchart (Appendix E of the regulation). The Proposed Action, its Purpose and Need, and area of potential effect have been clearly defined. Scoping under the National Environmental Policy Act has utilized extensive and creative ways to communicate.

Potentially affected tribes have been consulted and effects on their rights and concerns considered within the analysis of alternatives. Tribal consultation was conducted with the seven federally-recognized Indian tribes whose traditional territory included all or a portion of the RRSNF. Government-to-Government consultation letters were mailed on August 18, 2008 to Confederated Tribes of Siletz Indians, Confederated Tribes of the Grand Ronde Community, the Klamath Tribes, Cow Creek Band of Umpqua Tribe of Indians, Smith River Rancheria, Coquille Tribal Council, and to the Quartz Valley Indian Tribe. American Indian populations would not be disproportionately impacted under any alternative with avoidance of heritage resources, consideration of traditional values, and reasonable access allowed through agreements, permits, and recognition of their sovereignty and legal rights.

There would be no adverse effects to human health and no alternative has been determined to disproportionately affect minority or low income populations. The Action Alternatives do not appear to have a disproportionately high or adverse effect on minority or low-income populations. Extensive scoping did not reveal any issues or concerns associated with the principles of Environmental Justice. No mitigation measures to offset or ameliorate adverse effects to these populations have been identified. All interested and affected parties will continue to be involved with the public involvement and decision process.

USDA Civil Rights Policy

The Civil Rights Policy for the USDA, Departmental Regulation 4300-4 dated May 30, 2003, states that the following are among the civil rights strategic goals: (1) managers, supervisors, and other employees are held accountable for ensuring that USDA customers are treated fairly and equitably, with dignity and respect; and (2) equal access is assured and equal treatment is provided in the delivery of USDA programs and services for all customers. This is the standard for service to all customers regardless of race, sex, national origin, age, or disabilities.

Disparate impact, a theory of discrimination, has been applied to the travel management planning process in order to reveal any such negative effects that may unfairly and inequitably impact beneficiaries regarding program development, administration, and delivery.[33] The objectives of this review and analysis are to prevent disparate treatment and minimize discrimination against minorities, women and persons with disabilities and to ensure compliance with all civil rights statutes, Federal regulations, and USDA policies and procedures.

Persons with Disabilities

Under Section 504 of the Rehabilitation Act of 1973, no person with a disability can be denied participation in a Federal program that is available to all other people solely because of his or her disability. There is no legal requirement to allow people with disabilities use of motor vehicles on roads, trails, or other areas that are closed to motor vehicles.

Restrictions on motor vehicle use that are applied consistently to everyone are not discriminatory. Wheelchairs are allowed on all NFS lands that are open to foot travel, and wheelchairs, including battery-powered, are specifically exempted from the definition of a motor vehicle by the Travel Management Rule. Opportunities for motor vehicle use exist under all alternatives.

In the 2000 Census survey, people were defined as having a disability if one or more of the following conditions were true:

- They were aged 5 or older and responded "yes" to a sensory, physical, mental, or self-care disability.
- They were aged 16 years or older and responded "yes" to a disability affecting going outside the home.
- They were between the ages of 16 and 64 and responded "yes" to an employment disability.

The population with disabilities ranges from 34 to 49% in the counties intersecting the Rogue River-Siskiyou National Forest (see table III-33). For comparison, the rate for all of Oregon is 31% and the rate for the nation is 19%.

[33] For more information on disparate impact theory, see The Evolution of Disparate Impact Theory of Discrimination, Harvard Journal of Legislation, vol. 44 2007 (http://www.law.harvard.edu/students/orgs/jol/vol44_2/gordon.pdf)

Table III- 33. Percent of county population with disabilities

County	Total Population	Total Population with Disabilities	% with Disability
Coos (OR)	62,779	29,812	48
Curry (OR)	21,137	10,365	49
Del Norte (CA)	27,507	10,767	39
Douglas (OR)	100,399	39,358	39
Jackson (OR)	181,269	62,266	34
Josephine (OR)	75.726	31.065	41
Klamath (OR)	63,775	24,337	38
Siskiyou (CA)	44,301	17,641	40

***Total disabilities tallied for the civilian non-institutionalized population 5 years and over with disabilities.**

Determination That a CRIA is not Needed

In spring of 2006, the Rogue River-Siskiyou National Forest embarked on a proposed action to improve management of motorized vehicle use on NFS lands within the Rogue River-Siskiyou NF in accordance with regulations at 36 CFR Parts 121, 251, 261, and 295, and as described in Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule (36 CFR Part 212 Subpart B). The Notice of Intent (NOI) initiating the scoping process was published in the Federal Register on August 26, 2008.

The Forest received more than 23,700 emails and letters during the public scoping period and DEIS comment period. The interdisciplinary team analyzed these emails and letters using an established analytical process known as content analysis. Comments are made by those who are interested in specific issues, favor an alternative, have concerns over the plan or analysis, or other concerns. People self-select to participate and are not required to provide any information concerning individual demographic information. Based on public comment, there were no issues raised that would suggest, or from which one may infer, that implementation of the Travel Management Plan would affect groups or classes of persons, negatively, because of one or more prohibited bases.

Groups and classes of persons have been reviewed within the social analysis section of the FSEIS. No groups or classes or persons were found to be disproportionately adversely affected by this travel management proposal. This travel management process applies equally to all members of the public, and therefore is not discriminatory to any person or group.

Some comments received during the travel management planning process expressed concern that changes to motorized access would prevent future access to National Forest system lands for those with disabilities. In response to these comments, a review of the project alternatives has been conducted to ensure that they apply equally to all groups. Therefore, the travel management plan is not discriminatory towards persons with disabilities, because it applies equally to all groups.
Given that no adverse or disproportionate impacts are anticipated on women, minority groups, or persons with disabilities, a Civil Rights Impact Analysis and statement of findings are not needed.

Civil Rights Monitoring and Evaluation

It is the responsibility of the Deputy Chiefs for National Forest Systems to ensure that decision-makers are aware of this Civil Rights Impacts Analysis and that the alternatives and mitigations are considered. Any future travel management projects will be implemented only after an appropriate level of NEPA is completed and the decision documented.

This project-level NEPA will be completed with adequate public involvement that will consider access and concerns from minorities, women, persons with disabilities, and low income populations.

The Forest will continue to: (1) consult early and often with Oregon Tribal Governments regarding Special Areas of Historic Tribal Significance for implementation of travel management plans and (2) design travel management planning and public involvement opportunities that consider access concerns from minorities, women, persons with disabilities, and low income populations.

3. Adverse Environmental Effects Which Cannot Be Avoided

The implementation of any of the Action Alternatives would result in some minor adverse impacts to the physical, biological, and human environments. Many of these impacts can be mitigated to acceptable levels using the Mitigation Measures specified by resource topic and alternative (see FSEIS Chapter II). The unavoidable adverse impacts summarized below are those that are expected to occur after the application of mitigation measures, or cannot be mitigated to a level approaching existing conditions.

Sediment delivery and water quality: Although mitigation measures (Best Management Practices) are expected to reduce the potential for accelerating sediment production to near baseline levels, there is a minimal risk for short-term indirect impacts to water quality as a result of implementing any of the Action Alternatives.

Soils/site productivity: Under the Action Alternatives, some detrimental soil impacts could occur as a result of the use of equipment to create or maintain roads and trails. Mitigation measures would limit the detrimental areas to meet R6 and Forest Standards and Guidelines for soil protection.

Wildlife: As a result of the motorized vehicle use designation, some wildlife species may be adversely impacted by disturbance. Mitigation measures and project design criteria are expected to minimize these impacts. Impacts specific to the species considered is discussed in detail in this Chapter.

4. Effects on Wetlands and Floodplains

Wetlands associated with Executive Order 11990, are likely to exist on Forest but do not exist within areas proposed for motorized vehicle use designations. If any wetlands were to be located during development, appropriate buffers would be provided in compliance with the Aquatic Conservation Strategy of the Northwest Forest Plan.

There would be no effects on floodplains associated with Executive Order 11988 as a result of implementing this proposal, as none would be affected. Any actions that come out of the this travel management planning process would lead to a reduction in the occupation or modification of floodplains and wetlands by not designating roads or trails for motor vehicle use and allowing for their decommissioning under site-specific project level decisions.

5. Irreversible and Irretrievable Effects

Irreversible commitment of resources refers to a loss of non-renewable resources, such as mineral extraction, heritage (cultural) resources, or to those factors, which are renewable only over long time spans, such as soil productivity. Publication of the MVUM does not create effects that are irretrievable and there are no substantial irreversible effects from the change being proposed under the Action Alternatives.

6. Effects on Prime Farmland, Rangeland and Forest Land

All alternatives are in keeping with the intent of Secretary of Agriculture Memorandum 1827 for prime farmland. The Forest does not contain any prime farmlands or rangelands. Prime forest land is not applicable to lands within the National Forest System. Under all alternatives, Forest system lands would be managed with coordination and sensitivity to the effects on adjacent lands.

7. Energy Requirements of Alternatives

The area of analysis for this issue, the affected environment, is at least regional in scope and cannot be defined solely for an individual National Forest. There are numbers of vehicles that drive on state and local highways that pass through the RRSNF as they travel to other destinations, commute, or vacation in the region. There are numbers of vehicles that drive to RRSNF access sites or drive on Forest Roads to access recreation opportunities. In addition, there are motor vehicles (OHVs, motorcycles, RVs, SUVs, etc.) that use the Forest Roads, trails, and areas.

The RRSNF and the other National Forests in southern Oregon (Umpqua and Fremont-Winema National Forests) attract many visitors every year and the amount of energy use associated with this travel has increased. Likewise, the numbers of highway vehicles and recreational motor vehicles that use the RRSNF have been increasing, although there is no quantifiable estimate of the numbers of these vehicles.
The categories of energy-consuming activities directly or indirectly connected with recreational use of the RRSNF include: motor vehicle traffic that passes through the RRSNF on state and local highways, motor vehicle traffic to access RRSNF sites or drive on Forest Roads, and recreational motor vehicles that use the RRSNF.

People will continue to recreate on the RRSNF and consume energy for that purpose, regardless of the alternative that is implemented. Energy consumption from all choices, whether it is a decision to go to the RRSNF to recreate or to go to the mall and shop, should be seen in perspective.

Cumulatively, recreation use is expected to continue to increase on the RRSNF for the next 10 to15 years. Factors such as population growth in the area, the increasing reputation of the RRSNF and surrounding area as a destination point, and peoples' increasing leisure time and disposable income contribute to this expected growth. None of the alternatives would affect these factors.

8. Executive Order 13443--Facilitation of Hunting Heritage and Wildlife Conservation

The purpose of this order is to direct Federal agencies that have programs and activities that have an effect on public land management, outdoor recreation, and wildlife management, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Agencies are to evaluate the effect of agency actions on trends in hunting participation and consider the economic and recreational values of hunting in agency actions, and manage wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities, including through the use of hunting in wildlife management planning.
Specific to the Travel Management Plan, agencies are to ensure that agency plans and actions seek the advice of State and tribal fish and wildlife agencies.

This FSEIS has been reviewed by and commented on by the local Oregon Department of Fish and Game, the Oregon Hunter's Association, as well as other non-governmental groups and comments by those groups have been incorporated as appropriate. The Forest believes that the proposed action is consistent with the Order in that it continues to provide hunter access to Forest lands. The general closure of cross-country travel would reduce opportunities to retrieve game using OHVs. However, there are opportunities to maintain or increase motorized access in some areas, and also reduce direct and indirect effects to game species and their habitats, by restricting access in other areas and during critical breeding periods.

G. CONSISTENCY WITH FOREST PLAN DIRECTION

This section considers and discloses the effect of proposed Forest Plan amendments on objectives, guidelines, and other contents of Forest Plans. It also provides the analysis that would be used by the Forest Supervisor to determine whether these amendments are significant for the purposes of the planning process.[34] FSM 1926 provides criteria for evaluation of significance. Content from this direction is summarized below:

Changes to the land management plan that are not significant can result from:

1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management.
2. Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management.
3. Minor changes in standards and guidelines.
4. Opportunities for additional projects or activities that will contribute to achievement of the management prescription.

The following examples indicate circumstances that may cause a significant change to a land management plan:

[34] 36 CFR 219.10(f)

1. Changes that would significantly alter the long-term relationship between levels of multiple-use goods and services originally projected (see section 219.10(e) of the planning regulations in effect before November 9, 2000).
2. Changes that may have an important effect on the entire land management plan or affect land and resources throughout a large portion of the planning area during the planning period.

Recent litigation concerning Forest Service Planning Regulations has affected the rule used to amend Forest Plans. The Forest Service is now under the 2000 planning rule as amended by subsequent interpretive rules. The 2000 planning rule allows the use procedures of the 1982 planning rule to be used to amend Forest Plans.
For evaluation of these proposed amendments, the Forest Service will conform to the 1982 Planning Rule as codified in 36 CFR 219. The 1982 planning rule and the 2000 planning rule as amended and clarified are available online at http://www.fs.usda.gov/planningrule.

For the RRSNF, there are two types of changes proposed as Forest Plan Amendments, overall **Forest-wide amendments** to the Forest Plans to enact the Travel Management Rule, and **route -specific amendments** in the form of changes to specific management direction and/or to Standards and Guidelines. Both types of amendments are needed under the various Action Alternatives and are proposed to allow a decision under these alternatives to be consistent with land management plan direction.

For the Action Alternatives, new additional text, specific to each respective Forest Plan for the Rogue River-Siskiyou National Forest, would amend current management direction for motorized vehicle use. The specific wording of this changed text is contained in FSEIS Appendix B (incorporated by reference).

1. Plan Amendments to Rogue River National Forest LRMP

Forest-wide Amendment to Implement Travel Rule

How this Proposed Amendment Changes the Forest Plan

The current Land and Resource Management Plans provide direction for portions of the Forest that are open to cross-country motorized vehicle use. Implementation of the Travel Management Rule requires a forest-wide amendment to the Forest Plan to provide direction as associated with the 2005 Travel Management Rule. Under this amendment, all roads, trails, and cross-country motorized use would be closed unless designated open to specific uses.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This proposed amendment affects Management Direction and Objectives, specifically for Recreation and Facilities, LRMP Chapter 4 (page 4-22 and 4-27 respectively). This amendment would allow conformance with and implementation of the Travel Management Rule (36 CFR 212 Subpart B: November 9, 2005). This proposed change would not impact long-term multiple use objectives because the change is being proposed near the next scheduled revision of the forest plan. Therefore, it is less likely to affect long-term objectives.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment affects management prescriptions by implementation of the Travel Management Rule (36 CFR 212 Subpart B, November 9, 2005). This proposed change would not significantly impact management area boundaries or prescriptions because this change would only apply to this specific travel management decision and any changes to the MVUM that follow; no other actions are approved to utilize these amendments. Therefore, this amendment would not affect future decisions throughout the planning area.

3. **How this Proposed Amendment Affects Standards and Guidelines**

This proposed amendment affects Management Direction and Objectives, this amendment would not change or affect any Forest Plan Standards and Guidelines.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

The amount of motorized use available on roads, trails and areas would change as little as less than one percent to as much as 3 percent, depending on the alternative selected. The effect of the proposed changes to forest plan direction and objectives would not change any relationships between levels of goods and services output as identified in the Rogue River LRMP. (See Chapter 4, pages 4-4 to 4-6)

The effect of the proposed amendment on levels of goods and services is based on conformance with the 2005 Travel Management Rule and not an effect of the proposed amendment itself as seen by the range of reduced motorized opportunities described in the alternatives. Therefore, this amendment would not change relationships between levels of goods and services.

5. How this Proposed Amendment Affects the Entire Forest Plan

While this amendment for management direction is applicable to the entire 1990 LRMP for the Rogue River National Forest, it would only affect a distinct portion of the land base. In particular, this amendment would impact approximately 275, 000 acres of available cross-country travel (across both the Rogue River and Siskiyou NF planning areas) and up to 3 percent of available motorized routes (i.e., roads and trails) currently open for motorized use. Therefore, the proposed amendment would not have an effect on a large portion of the planning area.

Forest-wide Amendment for Backcountry Non-motorized (MS-3)

Currently, Forest Management Direction for Recreation, LRMP 4-24 regarding Backcountry Non-motorized Areas (MS-3) is conflicting with the Standards and Guidelines for MS 3 (LRMP 4-43). This Forest-wide Amendment is not included in FSEIS Alternative 4.

How this proposed Amendment Changes the Forest Plan

This amendment would change management direction as documented under Recreation, page 4-24, to provide for existing and established motorized use. Wording at LRMP 4-24 would be changed to add "generally" prohibited as opposed to "prohibited". This change is proposed for historical and ongoing motorized use on the Boundary Trail, the O'Brien Trail, and Sturgis Fork Trail. This ongoing use was not recognized in the 1990 Forest Plan, although it has been occurring and intended to be authorized for over 40 years.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This proposed amendment affects Management Direction and Objectives, specifically for Recreation (LRMP 4-24). This amendment would allow for consistency for intended use of the Boundary Trail. This proposed change would not impact long-term multiple use objectives because the change is being proposed near the next scheduled revision of the Forest Plan. Therefore, it is less likely to affect long-term objectives. In addition, this change is merely an administrative change that would not affect current multiple use land allocations because motorized use of the Boundary Trail and connector trails has been ongoing. There is effectively no change from current conditions; the amendment simply facilitates consistency with existing conditions.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to existing use of the Boundary Trail and connector trails. No other actions are approved to utilize these amendments. Therefore, this amendment would not affect future decisions throughout the planning area.

3. How this Proposed Amendment Affects Standards and Guidelines

This amendment changes the wording for management direction. It would then compliment the proposed change in Standards and Guidelines, Backcountry Non-motorized Areas (MS-3) to create consistency with the current conditions because motorized use of the Boundary Trail has been ongoing. This change would only apply to the trail corridor and connector trails; therefore it would only have minimal impacts to the Standards and Guidelines.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

This amendment would not change relationships between levels of goods and services because motorized use of the Boundary Trail has been ongoing. There is effectively no change from current conditions; the amendment simply provides consistency with existing conditions. The effect of the proposed changes to the forest plan direction and objectives would not change relationships between levels of goods and services output as identified in the Rogue River LRMP (See Chapter 4, pages 4-4 to 4-6).

5. How this Proposed Amendment Affects the Entire Forest Plan

This amendment is applicable only to Backcountry Non-motorized Areas (MS-3), which is a discrete segment of the Land Management planning area. The proposed amendment is intended to remedy historical and ongoing motorized use of the Boundary Trail and connector trails. No other actions are approved to utilize this amendment; therefore, the Boundary Trail is the only area on the RRNF where this proposed amendment is needed to correct an inconsistency.

Forest-wide Amendment to Delete ORV Plan - Appendix C

How this proposed Amendment Changes the Forest Plan

This amendment would delete LRMP Appendix C; Off-road Vehicle Plan. In accordance with the Travel Management Rule, the Forest would publish an MVUM identifying all Forest roads, trails and areas that are designated open for motor vehicle use by the public, including for ORV use.

The MVUM would specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. Since motorized use includes OHV use, ORV Appendix C would be unnecessary and would be essentially replaced by the MVUM. This change would be done to implement the 2005 Travel Management Rule.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

Deletion of the ORV Plan, Appendix C, to be replaced with the MVUM system, would not affect Multiple Use Goals and Objectives for Long-Term Land and Resource Management because this amendment is specific to Motorized Travel Management Project and does not impact any goals or objectives of the Forest Plan.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to Motorized Travel Management and would not impact future projects or activities that contribute to achievement of the management prescriptions.

3. How this Proposed Amendment Affects Standards and Guidelines

This amendment would not affect Standards and Guidelines because it is intended to delete the OHV plan, which is inconsistent with direction contained in the 2005 Travel Management Rule, therefore it has no impact on Standards and Guidelines.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

Deletion of the ORV Plan, Appendix C, to be replaced with the MVUM system, would not directly affect levels of goods and services because no commodity outputs are connected to the OHV plan.

5. How this Proposed Amendment Affects the Entire Forest Plan

While removal of Appendix C is applicable to the entire 1990 LRMP for the Rogue River National Forest, implementation of the 2005 Travel Management Rule would only impact existing uses on less than 3 percent of roads, trails, and designated motorized areas.

Specific Amendments for Boundary Trail: MS 3, MS 12 & MS 25

Note: these Specific Amendments are **not** included in FSEIS Alternative 4.

How this proposed Amendment Changes the Forest Plan

This amendment would change Standards and Guidelines as documented under MS 3 (Backcountry Non-motorized), MS 12 (Botanical Area) & MS 25 (Research Natural Area) to provide for existing motorized use on the Boundary Trail and connector trails, and the Cook and Green Trail, this is a corridor route change only. This historical and ongoing use was not recognized in the 1990 Forest Plan, although it has been occurring and authorized for over 40 years. The need for this amendment to remedy this inconsistency has been identified since the early 1990s.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This amendment would not change multiple use goals and objectives for long-term management because it is being proposed near the next scheduled revision of the Forest Plan, and this amendment is concerning a narrow trail corridor for motorized use of the Boundary Trail and Cook and Green Trail which has been ongoing.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to motorized travel management and would not impact future project or activities that contribute to achievement of the management prescriptions. These proposed amendments only affect a narrow corridor and is intended to correct inconsistent management direction to comply with intended authorized use.

3. How this Proposed Amendment Affects Standards and Guidelines

As noted above, this amendment is specific to Standards and Guidelines for three land management allocations. It changes wording at LRMP page 4-43, 4-149, 4-292, and 4-296 to specifically recognize motorized use on the Boundary Trail and Cook and Green Trail. Clarification is also provided in reference to the Pacific Northwest Research Station (for MS-25). Therefore, this impact would be minor to the overall Standards and Guidelines for the three management allocations.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

This amendment would not change relationships between levels of goods and services because motorized use of the Boundary Trail and Cook and Green Trail has been ongoing.
There is effectively no change from current conditions. The amendment simply provides consistency with existing conditions. The effect of the proposed changes to the forest plan direction and objectives would not change relationships between levels of goods and services output as identified in the Rogue River LRMP (See Chapter 4, pages 4-4 to 4-6).

5. How this Proposed Amendment Affects the Entire Forest Plan

This amendment would affect only small discrete portions (an approximately 9 mile long narrow corridor) of existing trail located on the Grayback Ridge between the boundary of the former Rogue River and Siskiyou National Forests. Also included is the Cook and Green Trail corridor. No other actions are approved to utilize this amendment; therefore, this is the only area on the RRNF where these proposed amendments are needed to correct inconsistencies with management allocations.

2. Plan Amendments to Siskiyou National Forest LRMP

Forest-wide Amendment to Implement Travel Rule

How this Proposed Amendment Changes the Forest Plan

The current Land and Resource Management Plan provides direction for portions of the Forest that are open to cross-country motorized vehicle use. Implementation of the Travel Management Rule requires a forest-wide amendment to the Forest Plan to provide direction as associated with the 2005 Travel

Management Rule. Under this amendment, all roads, trails, and cross-country motorized use would be closed unless designated open to specific uses.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This proposed amendment affects Forest Management Direction and Objectives, specifically for Resource Activities and Facilities, LRMP Chapter IV (page IV-7 and IV-18 respectively). This amendment would allow conformance with and implementation of the Travel Management Rule (36 CFR 212 Subpart B: November 9, 2005). This proposed change would not impact long-term multiple use objectives because the change is being proposed near the next scheduled revision of the forest plan. Therefore, it is less likely to affect long-term objectives.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment affects management prescriptions by implementation of the Travel Management Rule (36 CFR 212 Subpart B, November 9, 2005). This proposed change would not significantly impact management area boundaries or prescriptions because this change would only apply to this specific travel management decision and any changes to the MVUM that follow; no other actions are approved to utilize these amendments. Therefore, this amendment would not affect future decisions throughout the planning area.

3. How this Proposed Amendment Affects Standards and Guidelines

This proposed amendment affects Management Direction and Objectives, this amendment would not change or affect any Forest Plan Standard and Guideline.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

The amount of motorized use available on roads, trails and areas would change up to 3 percent, depending on the alternative selected. The effect of the proposed changes to forest plan direction and objectives would not change any relationships between levels of goods and services output as identified in the Siskiyou NF LRMP. (See Chapter IV, pages IV-1 through IV-19)

The effect of the proposed amendment on levels of goods and services is based on conformance with the 2005 Travel Management Rule and not an effect of the proposed amendment itself as seen by the range of reduced motorized opportunities described in the alternatives. Therefore, this amendment would not change relationships between levels of goods and services.

5. How this Proposed Amendment Affects the Entire Forest Plan

While this amendment for management direction is applicable to the entire 1989 LRMP for the Siskiyou National Forest, it would only affect a discrete portion of the land base. In particular, this amendment would impact approximately 275, 000 acres of available cross-country travel (across both the Rogue River and Siskiyou planning areas) and up to 3 percent of available motorized routes (i.e., roads and trails) currently open for motorized use. Therefore, the proposed amendment would not have an effect on a large portion of the planning area.

Forest-wide Amendment to Delete ORV Management Plan - Appendix E

How this proposed Amendment Changes the Forest Plan

This amendment would delete LRMP Appendix E; Off-road Vehicle Management Plan. In accordance with the Travel Management Rule, the Forest would publish an MVUM identifying all Forest roads, trails and areas that are designated open for motor vehicle use by the public, including for ORV use.

The MVUM would specify the classes of vehicles and, if appropriate, the times of year for which use is authorized. Since motorized use includes OHV use, the ORV Appendix E would be unnecessary and would be essentially replaced by the MVUM. This change would be done in conformance of the 2005 Travel Management Rule.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

Deletion of the ORV Plan, Appendix E, to be replaced with the MVUM system, would not affect Multiple Use Goals and Objectives for Long-Term Land and Resource Management because this amendment is specific to motorized travel management and does not impact any goals or objectives of the Forest Plan.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to motorized travel management and would not impact future projects or activities that contribute to achievement of the management prescriptions.

3. How this Proposed Amendment Affects Standards and Guidelines

This amendment would not affect Standards and Guidelines because it is intended to delete the OHV plan, which is inconsistent with direction contained in the 2005 Travel Management Rule; therefore, it has no impact on Standards and Guidelines.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

Deletion of the ORV Plan, Appendix E, to be replaced with the MVUM system, would not directly affect levels of goods and services because no commodity outputs are connected to the OHV plan.

5. How this Proposed Amendment Affects the Entire Forest Plan

While removal of Appendix E is applicable to the entire 1989 LRMP for the Siskiyou National Forest, implementation of the 2005 Travel Management Rule would only impact existing uses on less than 3 percent of roads, trails, and designated motorized areas.

Specific Amendments for Boundary Trail: MA 3

Note: this Specific Amendment is **not** included in FSEIS Alternative 4.

How this proposed Amendment Changes the Forest Plan

This amendment would change Standards and Guidelines as documented under MA 3 (Research Natural Area), to provide for existing motorized use on the Boundary Trail and connector trails, this is a corridor change only.

This historical and ongoing use was not recognized in the 1989 Forest Plan, although it has been occurring and authorized for over 40 years. The need for this amendment to remedy this inconsistency has been identified since the early 1990s. Motorized use in adjacent allocations for Backcountry Recreation and Botanical Area was not prohibited in the Forest Plan for the extent of this trail on the Siskiyou NF.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This amendment would not change multiple use goals and objectives for long-term management because it is being proposed near the next scheduled revision of the Forest Plan, and this amendment is concerning a narrow trail corridor for motorized use of the Boundary Trail which has been ongoing.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to motorized travel management and would not impact future project or activities that contribute to achievement of the management prescriptions. This proposed amendment only affects a narrow corridor and is intended to correct inconsistent management direction to comply with intended authorized use.

3. How this Proposed Amendment Affects Standards and Guidelines

As noted above, this amendment is specific to Standards and Guidelines for the Research Natural Area land management allocation. It changes wording at LRMP page IV-82 to specifically recognize motorized use on the Boundary Trail and connector trails. Therefore, this impact would be minor to the overall Standards and Guidelines for this management allocation.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

This amendment would not change relationships between levels of goods and services because motorized use of the Boundary Trail has been ongoing. There is effectively no change from current conditions.

The amendment simply provides consistency with existing conditions. The effect of the proposed changes to the forest plan direction and objectives would not change relationships between levels of goods and services output as identified in the Siskiyou LRMP (See Chapter IV-6).

5. How this Proposed Amendment Affects the Entire Forest Plan

This amendment is applicable only to Research Natural Area (MA-3), which is only a segment of the Land Management planning area. This amendment would affect only small discrete portions (an approximately 9 mile long narrow corridor) of existing trail located on the Grayback Ridge between the boundary of the former Rogue River and Siskiyou National Forests. No other actions are approved to utilize this amendment; therefore, the Boundary Trail is the only area on the SNF where this proposed amendment is needed to correct inconsistencies with this management allocation.

Note: This Specific Amendment is **not** included in FSEIS Alternative 4.

How this proposed Amendment Changes the Forest Plan

This amendment would change Standards and Guidelines as documented under MA 6 (Backcountry Recreation), to provide for existing motorized use on the Lawson, Game Lake, Lower Illinois, Silver Peak Hobson Horn Trails. These trails were specifically authorized within the Wild River Area of the Illinois Wild and Scenic River Management Plan, October 31, 1985. As stated in the 1989 SNF LRMP IV-77, objectives for Wild River are defined in the individual river management plans and are not affected by the Forest Plan. Under this proposed amendment, motorized use of portions of the trails within the Non-motorized portions of Backcountry Recreation is recognized to make use of these trails consistent with management direction and Standards and Guidelines. Also included is change to specifically recognize motorized use on the Boundary Trail.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management

This amendment would not change multiple use goals and objectives for long-term management because it is being proposed near the next scheduled revision of the Forest Plan, and this amendment is concerning narrow trail corridors for motorized use, which has been ongoing.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription

As noted above, this amendment is specific to Standards and Guidelines for the Backcountry Recreation land management allocation, specifically the "non-motorized Backcountry" portion of wording at LRMP page IV-98. This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to motorized travel management and would not impact future project or activities that contribute to achievement of the management prescriptions. This proposed amendment only affects narrow corridors and is intended to correct inconsistent management direction to comply with intended authorized use.

3. How this Proposed Amendment Affects Standards and Guidelines

As noted above, this amendment is specific to Standards and Guidelines for the Backcountry Recreation land management allocation, specifically the "Non-motorized Backcountry" portion of wording at LRMP page IV-98.

This proposed amendment only affects narrow route corridors and is intended to correct inconsistent management direction to comply with intended authorized use. Therefore, this impact would be minor to the overall Standards and Guidelines for the management allocation.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan

This amendment would not change relationships between levels of goods and services because motorized use of these trails has been ongoing. There is effectively no change from current conditions. The amendment simply provides consistency with existing conditions. The effect of the proposed changes to the forest plan direction and objectives would not change relationships between levels of goods and services output as identified in the Siskiyou LRMP (see Page IV-6).

5. How this Proposed Amendment Affects the Entire Forest Plan
This amendment is applicable only to Backcountry Recreation (MA-6), which is only a segment of the Land Management planning area. This amendment would affect only small discrete portions (less than 10 percent) of the existing trails. No other actions are approved to utilize this amendment; therefore, these trails are the only areas on the SNF where this proposed amendment is needed to correct inconsistencies with this management allocation.

Specific Amendment for North Fork Smith Wild and Scenic River Management Plan

Note: this Specific Amendment is **only** included in FSEIS Alternative 4.

How this proposed Amendment Changes the Forest Plan
This amendment would change Standards and Guidelines as documented in the 2003 North Fork Smith Wild and Scenic River Management Plan (*Oregon Section Only*). This River Management Plan was developed by the Forest Service in 2003. It amended the 1989 Siskiyou National Forest Land and Resource Management Plan, and is considered an LRMP appendix. The specific standards and guidelines are added to Chapter IV of the Siskiyou Forest Plan.

Since Alternative 4 would close all motorized use in designated Wild and Scenic Rivers, Sourdough Camp via Road 4402-206 would not be accessible by motorized users as a semi-primitive use area. This would conflict with current River Management Plan Standards and Guidelines at MA2-3N, which specifically allows this use. Therefore, to implement this alternative, a plan amendment is needed. Alternative 4 would not be consistent with current plan direction because it would preclude motorized access to a semi-primitive motorized camp area.

1. How this Proposed Amendment Affects Multiple Use Goals and Objectives for Long-Term Land and Resource Management
This amendment would not change multiple use goals and objectives for long-term management because it is being proposed near the next scheduled revision of the Forest Plan, and this amendment is concerning a specific use and access which has been ongoing, but would be minimally changed under FSEIS Alternative 4.

2. How this Proposed Amendment Affects Adjustments of Management Area Boundaries or Management Prescriptions and Opportunities for Additional Projects or Activities to Contribute to Achievement of the Management Prescription
This proposed amendment would not impact management area boundaries or prescriptions because this change would only apply to motorized travel management and existing authorized access
This proposed amendment only affects a narrow corridor and is intended to correct inconsistent management direction that would occur if FSEIS Alternative 4 were implemented.

3. How this Proposed Amendment Affects Standards and Guidelines
As noted above, this amendment would change Standards and Guidelines as documented in the North Fork Smith River Management Plan. Since Alternative 4 would close all motorized use in designated Wild and Scenic Rivers, Sourdough Camp via Road 4402-206 would not be accessible by motorized users as a semi-primitive use area. This would conflict with current River Management Plan Standards and Guidelines at MA2-3N. However, the impact of this change would be minor to the overall Standards and Guidelines for the Wild and Scenic River, and the SNF planning area.

4. How this Proposed Amendment Affects the Long-Term Relationship between Levels of Goods and Services Provided by the Forest Plan
This amendment would minimally change relationships between levels of goods and services. While Sourdough Camp via Road 4402-206 would not be accessible by motorized users as a semi-primitive use area this change in access would be minor to the overall North Fork Smith Wild and Scenic River and the SNF planning area. The amendment simply provides consistency with existing conditions if FSEIS Alternative 4 were to be implemented.

5. How this Proposed Amendment Affects the Entire Forest Plan
This amendment is applicable only to North Fork Smith Wild and Scenic River and Sourdough Camp via Road 4402-206. This impact would be minor to the overall North Fork Smith Wild and Scenic River and the SNF planning area. No other changes are proposed to the River Management Plan. The amendment simply provides consistency with existing conditions if FSEIS Alternative 4 were to be implemented.

H. REGIONAL INTERAGENCY EXECUTIVE COMMITTEE REVIEW

Background
The Record of Decision (and Standards and Guidelines) for *Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (1994; also known as the Northwest Forest Plan) amended existing Forest Service and BLM management plans. The responsibility for implementing these Standards and Guidelines rests with the managers of the Forest Service and BLM units within the range of the spotted owl. The interagency structure identified in the *Memorandum of Understanding for Forest Ecosystem Management* designates the Interagency Steering Committee and Regional Interagency Executive Committee to assure the coordinated and effective implementation of these Standards and Guidelines, and to support the development and implementation of future or revised Land and Resource Management Plans.

Changes or adjustments to these Standards and Guidelines may be made through amendments to those plans required by regulations as described above. The authority to change or amend those plans remains as specified in the applicable regulations. The amendments will be reviewed by the Regional Interagency Executive Committee (RIEC) to assure consistency with the objectives of these Standards and Guidelines (from Standards and Guidelines, page E-18).

The Northwest Forest Plan (NWFP) Record of Decision and Standards and Guidelines provide for coordination and review by the RIEC of proposed changes to Standards and Guidelines and land allocations established under the NWFP and incorporated in Forest Service land management plans or BLM District plans.

Revised Process for RIEC Review of Proposed Plan Amendments
At their February 7, 2007 meeting, the RIEC approved a streamlined process for RIEC coordination and review. This process (Regional Interagency Executive Committee memo of August 27, 2007) applies to proposed FS and BLM plan amendments that involve changes to Standards and Guidelines and land allocations established under the NWFP. The RIEC rescinded the Regional Ecosystem Office memorandum dated May 14, 2003, thereby withdrawing prior delegations of authority with respect to review of such amendments.

Rationale for No RIEC Review Needed

Under the decision for the NWFP, changes require review. Not all adjustments or modifications to NWFP land allocations constitute a "change" subject to RIEC review pursuant to the NWFP. A "change" in this context is a management decision to replace one NWFP land allocation with another on federal land at a specific geographic location.

The proposed amendments in this FSEIS affect the management direction and wording of the Standards and Guidelines of the original Forest Plan land management allocations but do not affect NWFP land allocations. Proposed plan amendments do not involve mapping, data refinement, interpretation or correction of NWFP land allocations. Therefore proposed amendments do not constitute land allocation changes in this context, and therefore are not subject to provisions in the NWFP regarding RIEC review of changes to land allocations.

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CHAPTER IV - REFERENCES

Agency for Toxic Substances and Disease Registry. 2005. Limiting environmental exposure to asbestos in areas with naturally occurring asbestos. U.S. Department of Health and Human Services, Public Health Service. 4 pp.

Andren, H. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: a review. Oikos 71:355-366.

Anthony et al. 1995. Recreation and Bald Eagles in the Pacific Northwest. Island Press. 372 pp.

Anthony, R.G. 2005. Demographic characteristics of spotted owls (*Strix occidentalis caurina*) in the southern Cascades; Annual Research Report-Unpublished. Oregon State University.

Anthony, R.G. 2006. Demographic characteristics of spotted owls (*Strix occidentalis caurina*) in the southern Cascades; Annual Research Report-Unpublished. Oregon State University.

Anthony, R.G.; and F.B. Isaacs. 1989. Characteristics of bald eagle nest sites in Oregon. Journal of Wildlife Management 53(1): 148-159.

Appiah, A.A., P. Jennings and J.A. Turner. 2004. *Phytophthora ramorum*: one pathogen and many diseases, an emerging threat to forest ecosystems and ornamental plant life. Mycologist. 18: 145-150.

Archie, Michele L. 2007. Six Strategies for Success: Effective Enforcement of Off-Road Vehicle Use on Public Lands. Wildlands CPR. Missoula, Montana.

Aubry, K.B. and C. Raley. 2006. Ecological characteristics of fishers (*Martes pennanti*) in the southern Oregon Cascade Range. USDA Forest Service. Olympia Forestry Sciences Laboratory. Olympia, WA.

Australian Government, Department of the Environment. 2001. State of Knowledge: Air Toxics and Indoor Air Quality in Australia. Available at; http://www.environment.gov.au/atmosphere /airquality/publications/sok/chromium.html.

Badura, G.J. and P.N. Jahn. 1977. Soil Resource Inventory for the Rogue River National Forest. U.S. Department of Agriculture, Forest Service, Pacific Northwest Region. June 1977. 239 pp.

Beckham, Stephen Dow. 1978. Cultural Resource Overview of the Siskiyou National Forest. Grants Pass, Oregon.

Burroughs, E.R. Jr., and Thomas, B.R. 1977. Declining root strength in Douglas-fir after felling as a factor in slope stability, USDA Forest Service Research Paper INT-190. 27 pp.

Brasier C., T. Jung and W. Osswald (eds.). 2006. Progress in Research on *Phytophthora* Diseases of Forest Trees. *In:* Proceedings of the Third International IUFRO Working Party 07.02.09., September 11-18, 2004, Freising, Germany. Forest Research, Farnham, UK. 188 pp.

Bright, J.H. and L. Ramp. 1965. Oregon's Asbestos Potential: The Ore Bin, v.27, no. 3. p. 45-63.

Brody, A.J., and M.R. Pelton. 1989. Effects of roads on black bear movements in western North Carolina. Wildlife Society Bulletin 17: 5-10.

Burt, Rebecca. Soil Scientist, Soil Survey Laboratory, USDA Soil Conservation Service. 1994. Letter to Gerald J. Latshaw, State Soil Scientist, SCS, Portland, Oregon. Subject: SOI-Oregon, 1994: Gold Beach (CP92-OR286). May 10, 1994. 5 pp.

Buskirk, S.W.; and L.F. Ruggiero. 1994. Marten. In The Scientific Basis for Conserving Forest Carnivores: American marten, fisher, lynx, and wolverine in the western United States. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-254.

California Environmental Protection Agency, Air Resources Board. Reducing Pollution from Small Engines. Available at; http://www.arb.ca.gov/msprog/offroad/sm_en_fs.pdf.

California Vehicle Code. 2009. California Department of Motor Vehicles. Sacramento, California. http://www.dmv.ca.gov/pubs/vctop/vc/vc.htm

Carter, Jimmy. 1977. Executive Order 11989 Amends EO 11644, Use of off road vehicles on the public lands. 42 FR 26959. May 25, 1977

Carter, Jimmy. 1977. Executive Order 11988 Floodplain Management. 42 FR 26951. May 25, 1977

Carter, Jimmy. 1977. Executive Order 11990 Protection of Wetlands. 42 FR 26961. May 25, 1977.

Clinton, William. 1994. Executive Order 12898 Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations. 59 FR 7629. February 16, 1994.

Coe, D., and L.H. MacDonald. 2001. Sediment Production and Delivery from Forest Roads in the Central Sierra Nevada, California. Eos Trans., AGU, 82(47), Fall Meet. Suppl., Abstract H51F-03.

Cole, E.K., M.D. Pope, R.G. Anthony. 1997. Effects of Road Management on Movements and Survival of Roosevelt Elk. Journal of Wildlife Management. Volume 61, Number 4.

Cook, J. G., B. K. Johnson, R. C. Cook, R. A. Riggs, T. DelCurto, L. D. Bryant, and L. L. Irwin. 2004. Effects of summer-autumn nutrition and parturition date on reproduction and survival of elk. Wildlife Monographs 155:1-61.

Cordell, H. Ken; Betz, Carter J.; Green, Gary; Owens, Matt. 2005. Off-highway vehicle recreation in the United States, regions, and states: a national report from the national survey on recreation and the environment (NSRE). Southern Research Station.

Cordone, A. J., and D. W. Kelley. 1961. The Influences of Inorganic Sediment on the Aquatic Life of Streams. California Fish and Game, Conservation of Wildlife Through Education. Vol. 47 No. 2.

Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 C.F.R. Parts 1500-1508 (2005): http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm.

Courtney, S.P., J.A. Blakesley, R.E. Bigley, M.L. Cody, J.P. Dumbacher, R.C. Fleischer, A.B. Franklin, J.F. Franklin, R.J. Gutiérrez, J.M. Marzluff, L. Sztukowski. 2004. Scientific evaluation of the status of the northern spotted owl. Sustainable Ecosystems Institute. Portland, Oregon.

Courtney, SP, Carey, AB, Cody, ML, Engel, K, Fehring, KE, Franklin, JF, Fuller, MR, Gutiérrez, RJ, Lehmkuhl, JF, Hemstrom, MA, Hessburg, PF, Stephens, SL, Sztukowski, LA, Young, L. 2008. Scientific Review of the Draft Northern Spotted Owl Recovery Plan and Reviewer Comments. Sustainable Ecosystems Institute. Portland, OR.

Csuti, B. et al. 1997. Atlas of Oregon Wildlife. Oregon State University Press. Corvallis, Oregon.

Cushman, J.H. and Meentemeyer, R.K. 2008. Multi-scale patterns of human activity and the incidence of an exotic forest pathogen. *Journal of Ecology* 96: 766-776.

Dangerous Decibels. A Public Health Partnership for Prevention of Noise-Induced Hearing Loss. Available at; http://www.dangerousdecibels.org/hearingloss.cfm.

Davidson, J.M., H.A Patterson, and D.M. Rizzo. 2008. Sources of inoculum for *Phytophthora ramorum* in a redwood forest. Phytopathology 98:860-866.

Davidson, J.M., S. Werres, M. Garbelotto, E.M. Hansen and D.M. Rizzo. 2003. Sudden oak death and associated diseases caused by *Phytophthora ramorum*. Online. Plant Health Progress doi:10.1094/PHP-2003-0707-01-DG.

Delaney, D.K.; T.G. Grubb, and P. Beier. 1999. Effects of helicopter noise on Mexican spotted owls. Journal of Wildlife Management. 63(1): 60-76.

Dent, Chris. 2009. [Personal Communication]. Medford, Oregon. Recreation Staff Officer. Bureau of Land Management, Medford.

deVos, Jr. J.C., M.R. Conover, and N.E. Headrick. 2003. Mule Deer Conservation: Issues and Management Strategies. Berryman Institute Press, Utah State University, Logan.

Dissmeyer, G.E., editor. 2000. Drinking water from forest and grasslands: A Synthesis of the Scientific Literature. United States Department of Agriculture, Forest Service. General Technical Report SRS-39.

Erwin, D.C. and O.K. Ribeiro. 1996. *Phytophthora* Diseases Worldwide. The American Phytopathological Society. APS Press, St. Paul, MN. 562 pp.

Farrow, J.A. 2007. California Highway Patrol letter to Region 5 Regional Forester. 3 pp.

Fichtner, E.J., S.C. Lynch, and D.M. Rizzo. 2007. Detection, distribution, survival, and sporulation of *Phytophthora ramorum* in a California redwood-tanoak forest soil. Phytopathology 97:1366-1375.

Foppen, R., and R. Reijnen. 1994. The effects of traffic on breeding bird populations in woodland: II. Breeding dispersal of male willow warblers in relation to the proximity of a highway. Journal of Applied Ecology. 31: 95-101.

Freddy, D. J., W. M. Bronaugh, and M. C. Fowler. 1986. Responses of mule deer to disturbance by persons afoot and snowmobiles. Wildlife Society Bulletin 14:63-68.

Frueh, Lisa Marie. 2001. Status and Summary Report; OHV Responsible Riding Campaign. Monaghan & Associates. Colorado. 22 pp.

Furniss, M. J., T. D. Roelofs, and C. S. Yee. 1991. Road Construction and Maintenance. American Fisheries Society Special Publication 19:297-324.

Gaines, W.L., P.H. Singleton, and R.C. Ross. 2003. Assessing the Cumulative Effects of Linear Recreation Routes on Wildlife Habitats on the Okanogan and Wenatchee National Forests. USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW GTR-586.

Gallo, K, S. Lanigan, P. Eldred, S. N. Gordon, and C. Moyer. 2005. Northwest Forest Plan—the first 10 years (1994–2003): preliminary assessment of the condition of watersheds. Gen. Tech. Rep. PNW-GTR-647. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 133 p.p

Goheen, E.M., E.M. Hansen, A. Kanaskie, M.G. McWilliams, N. Osterbauer and W. Sutton. 2002. Sudden oak death caused by *Phytophthora ramorum* in Oregon. Plant Disease. 86: 441.

Goheen, E.M., E. Hansen, A. Kanaskie, N. Osterbauer, J. Parke, J. Pscheidt and G. Chastagner. 2006. Sudden Oak Death and *Phytophthora ramorum*: a guide for forest managers, Christmas tree growers, and forest-tree nursery operators in Oregon and Washington. Extension Publication EM 8877. Oregon State University, Corvallis, OR. 16 pp.

Grant, G., S. Lewis, F. Swanson, J. Cissel, and J. McDonnell. May 2008. Effects of Forest Practices on Peak Flows and Consequent Channel Response in Western Oregon: A State-of-Science Report for Western Oregon and Washington. General Technical Report PNW-GTR-760. Portland, Oregon: USDA Forest Service, PNW Research Station, 76 pp.

Gregory, Jack. 2008. Testimony before the Subcommittee on National Parks, Forests, and Public Lands, U.S. House of Representatives, on March 13, 2008. Regulations and ORV Enforcement Efforts. Jack Gregory, retired Special Agent for the Forest Service Southern Region. 13 pp.

Grubb, T.G., and R.M. King. 1991. Assessing human disturbance of breeding bald eagles with classification tree models. Journal of Wildlife Management 55: 500-511.

Gucinski, H., M. J. Furniss, R. R. Ziemer, and M. H. Brookes. 2001. Forest Roads: a Synthesis of Scientific Information. Gen. Tech. Rep. PNW-GTR-509. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 103 pp.

Hamann, B., H. Johnston, and P. McClellan. 1999. Birds. In Joslin, G., Youmans, H. cords. Effects of recreation on Rocky Mountain wildlife: a review for Montana. Helena, MT: Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society: 3.1-3.34.

Hansen, E.M., A. Kanaskie, S. Prospero, M. McWilliams, E.M. Goheen, N. Osterbauer**,** P. Reeser and W. Sutton. 2008. Epidemiology of *Phytophthora ramorum* in Oregon tanoak forests. Canadian J. Forest Research. 38: 1133-1143.

Hansen, E.M. 2009. [Personal communication with E.M. Goheen] Oregon State University, Professor, Department of Botany and Plant Pathology.

Hargis, C.D., and D.R. McCullough. 1984. Winter diet and habitat selection of marten in Yosemite National Park. Journal of Wildlife Management. 48: 140-146.

Harrison, R. T., Clark, R. N., & Stankey, G. H. 1980. Predicting Impact of Noise on Recreationists. USDA Forest Service Equipment Development Center. San Dimas, CA.

Hausle, D. A., and D. W. Coble. 1976. Influence of Sand in Redds on Survival and Emergence of Brook Trout (*Salvelinus fontinalis*). Transactions of the American Fisheries Society. Vol.105, No.1, pp. 57-63.

Harvard Journal of Legislation. 2007. The Evolution of Disparate Impact Theory of Discrimination, vol. 44. (http://www.law.harvard.edu/students/orgs/jol/vol44_2/gordon.pdf)

IPCC. 2007. Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report: Climate Change, Synthesis Report, section 2, Causes of Change, 2007. IPCC, Geneva, Switzerland. 3 pp. http://www.ipcc.ch/publications_and_data/ar4/syr/en/spms2.html

Ivors, K.I., K.J. Hayden, P.J.M. Bonants, D.M. Rizzo and M. Garbelotto. 2004. AFLP and phylogenetic analyses of North American and European populations of *Phytophthora ramorum*. Mycological Research. 108: 378-392.

Jackson County Oregon. 2008. Air Quality History. Available at; http://www.co.jackson.or.us/Page.asp ?NavID= 2480.

Jimerson, T.M. 1999. A conservation strategy for Port-Orford-cedar. Unpublished paper. On file with: Rogue River-Siskiyou National Forest, Medford OR.

Johnson, B.K., K.W. Kern, and M.J. Wisdom. 2000. Resource selection and spatial separation of mule deer and elk during spring. Journal of Wildlife Management. 64(3): 685-697.

Jones, J.A. and G.E. Grant. 1996. Peak Flow Responses to Clear-Cutting and Roads in Small and Large Basins, Western Cascades, Oregon. Water Resources Research. 32(4): 959-974

Joplin, M. 2011. Rogue River-Siskiyou National Forest, Travel Management-Hydrologic Analysis. Personal Communication, Hydrologist, Rogue River-Siskiyou National Forest.

Kanaskie, A. 2009. [Personal communication with E.M. Goheen] Oregon Department of Forestry, Oregon State Forest Pathologist.

Kanaskie, A. 2014. Status of Sudden Oak Death in Oregon Forests. Oregon Department of Forestry.

Kariel, H. G. 1990. Factors Affecting Response to Noise in Outdoor Recreational Environments. The Canadian Geographer, 34(2), 142-149.

Kerwin, A.E. 2007. Conservation assessment for the Mardon Skipper butterfly (*Polites mardon*). USDA Forest Service, Region 6 Oregon and Washington. USDI Bureau of Land Management, Oregon and Washington.

Kliejunas, J.T. 1994. Port-Orford-Cedar Root Disease. Fremontia 22:3–11.

Knight, R.L. and K.J. Gutzwiller. 1995. Wildlife and Recreationists: Coexistence through Management and Research. Island Press, Washington. D.C. 372 pp.

LaLande, Jeffery M. 1980. Prehistory and History of the Rogue River National Forest. USDA Forest Service, Pacific Northwest Region, Rogue River-Siskiyou National Forest. Medford, OR. 297 pp.

LaMarche, J.L. and D.P. Lettenmaier. 2001. Effects of Forest Roads on Flood Flows in the Deschutes River, Washington. Earth Surface Processes and Landforms. 26: 115-134.

Leave No Trace. 2009. Leave No Trace: Center for Outdoor Ethics. Available at; http://www.lnt.org/

Literature on Exposure and Health Effects. HEI Special Report 16. Health Effects Institute, Boston, MA.

Luce, C.H. 1997. Effectiveness of Road Ripping in Restoring Infiltration Capacity of Forest Roads. Restoration Ecology. 5(3): 265-270.

MacDonald, L.H., and J.P. Stednick. 2003. Forests and water: A state-of-the-art review for Colorado. Colorado Water Resources Research Institute Report No. 196.

Marion, J.L, and D.N. Cole. 1996. Spatial and temporal variation in soil and vegetation impacts on campsites. Ecological Applications, Vol. 6, no. 2, pp. 520-530.

Maser, C. 1998. Mammals of the Pacific Northwest, from the coast to the high Cascades. Oregon State University Press.

Mastrofini, K. 2014. [Personal communication] status of Timber Mountain Recreation Plan

Meehan, W. R., ed. 1991. Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats. Special Publication 19. Bethesda, Maryland: American Fisheries Society. 751 pp.

Meentemeyer et al. 2008. Influence of Land-cover Change on the Spread of an Invasive Forest Pathogen. Ecological Society of America. Vol. 1, no. 18, pp. 159-171.

Meyer, K.G. 2002. Managing Degraded Off-Highway Vehicle Trails in Wet, Unstable, and Sensitive Environments. Tech. Rep. 0223-2821-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 48 pp.

Meyer, L.C. and M.P. Amaranthus. 1979. Siskiyou National Forest Soil Resource Inventory. U.S. Department of Agriculture, Forest Service, Pacific Northwest Region. November 1979. 258 pp.

Miller, G.S. 1989. Dispersal of juvenile spotted owls in western Oregon. M.S. Thesis.

Millspaugh, J.J., Woods, R.J., Hunt, K.E., Raedeke, K.J., Brundige, G.C., Washburn, B.E. and Wasser, S.K. 2001. Fecal glucocorticoid assays and the physiological stress response of elk. Wildlife Society Bulletin 29, pp. 899–907.

Montgomery, D.R. 1994. Road Surface Drainage, Channel Initiation, and Slope Instability. Water Resources Research. 30(6): 1925-1932.

Motorcycle Sound Working Group. 2005. Sound Advice. Available at; http://atfiles.org/files/pdf/ soundbook.pdf

Murray, M.S.; Hansen, E.M. 1997. Susceptibility of Pacific Yew to *Phytophthora lateralis*. Plant Disease 81:1400–1404.

National Institute on Deafness and Other Communication Disorders. 2008. Noise-Induced Hearing Loss. Available at; www.nidcd.nih.gov/health/hearing/noise.asp

Ninth Circuit's opinion, U.S. Court of Appeals for Case 11-35729 (April 25, 2013).

Nixon, Richard. 1972. Executive Order 11644 Use of off road vehicles on the public lands. 37 FR 2877. February 9, 1972

NMFS. 2008. Biological Opinion for Fish Habitat Restoration Activities in Oregon and Washington, CY 2007-2012. NMFS No: 2008/03505. 150 pp.

Nussbaum, R.A., E.D. Brodie Jr., and R.M. Storm. 1983. Amphibians and reptiles of the Pacific Northwest. University of Idaho Press. Moscow, ID.

Oregon Administrative Rules. 2008. Division 35 Noise Control Regulations. Available at; http:// arcweb.sos.state.or.us /rules/OARs_300/OAR_340/340_035.html

Oregon Department of Agriculture. 2009. State Noxious Weed List & Quarantine. Available at; http://oregon.gov/ODA/PLANT/WEEDS/lists.shtml

Oregon Department of Environmental Quality. 2006. Air Toxics of Concern in Oregon. Available at; http:// www.deq.state.or.us/aq/factsheets/05-AQ-003_AirToxics.pdf.

Oregon Department of Environmental Quality. 2008. Div. 35 – Noise Control Regulations (340-035-0005-0030). Available at; http://arcweb.sos.state.or.us/rules /OARs_300/OAR_340/340_ 035.html

Oregon Department of Environmental Quality. 2008. Internal Meeting Directive: Policy and implementation Guidance for the Oregon Air Toxics Program. Available at; http://www.deq. state.or.us /aq/toxics/docs/imdaq00014.pdf.

Oregon Department of Environmental Quality. 2008. Internal Meeting Directive: Technical Analysis Tools and Guidance for Implementation of the Oregon Air Toxics Program. Available at; http://www.deq.state.or.us/aq/toxics/docs/imdaq00013.pdf.

Oregon Department of Environmental Quality. Air Pollutants. Available at; http://www.deq.state. or.us/aq/planning/index.htm.

Oregon Department of Geology and Mineral Industries (DOGAMI). 2009. Oregon Geologic Data Compilation – Release 5.

Oregon Department of Transportation. 2008. Driver and Motor Vehicle Services Division. Div. 116 – Standards for Off-Road Vehicles: Safety Equipment Standards for Off-Road Vehicles (735-116-0000). Available at; http://arcweb.sos.state.or.us/rules/OARS_700/OAR_735/735_116.html

Oregon Department of Environmental Quality, Water Quality Assessment Database (2004/2006) website: Available at; http://www.deq.state.or.us/wq/assessment/

Oregon Parks and Recreation Department. 2008. ATVs. Available at: http://www.oregonohv.org/

Oregon Parks and Recreation Department. 2008. OHV Oregon Laws and Rules: What You Need to Know. Available at; http://www.oregonohv.org/OPRD/ATV/HB_main.shtml

Oregon Parks and Recreation Department. 2008. The Official Handbook of OHV Oregon Laws and Rules. Available at http://www.oregon.gov/OPRD/ATV/HB_main.shtml

Park, C.S. 1993. SHADOW stream temperature management program, USDA, USFS, Pacific Northwest Region.

Perry, C., and R. Overly. 1977. Impact of roads on big game distribution in portions of the Blue Mountains of Washington, 1972 -1973. Bull. 11. Olympia, WA: Washington Department of Game Applied Research Section. 39 pp.

Rizzo and Garbelotto. 2003. Sudden Oak Death: endangering California and Oregon Forest ecosystems. Frontiers in Ecology and the Environment 1: 197-204

Rizzo and others. 2002. *Phytophthora ramorum* as the cause of extensive mortality of *Quercus* spp. and *Lithocarpus densiflorus* in California. Plant Dis. 86: 205-14.

Robitaille, J.F., and K. Aubry. 2000. Occurrence and activity of American martens *Martes Americana* in relation to roads and other routes. Acta Theriologica 45(1): 137-143.

Ross, Don. 2008. [Personal Communication]. Jacksonville, Oregon. Law Enforcement Officer, Rogue River-Siskiyou National Forest.

Rost, G.R., and J.A. Bailey. 1979. Distribution of mule deer and elk in relation to roads. J. Wildl. Mgmt. 43(3):634-641

Siskiyou Research Group, 2010; Siskiyou Research Group 1998. Level II stream surveys.

Specialty Vehicle Institute of America. 2008. Tips and Practice Guide for the All-Terrain Vehicle Rider. March.

Suttle, K. B., M. E. Power, J. M. Levine, and C. McNeely. 2004. How fine sediment in riverbeds impairs growth and survival of juvenile salmonids. Ecological Applications 14:969–974.

Tenth Circuit's opinion, U.S. Court of Appeals. 2011. 2001 Roadless Rule (36 CFR Part 294)

Trione, E.J. 1974. Sporulation and Germination of Phytophthora lateralis. Phytopathology.

64:1531–1533.Trombulak, S. C., and C. A. Frissell. 2000. Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. Conservation Biology. Vol. 14, No. 1. pp 18-30.

U.S. Congress. 2009. Omnibus Public Land Management Act of 2009. Public Law 111-11. March.

USDI Bureau of Land Management and USDA Forest Service. 2011. 2011 Settlement Agreement in Litigation over the Survey and Manage Mitigation Measure in *Conservation Northwest et al. v. Sherman et al.,* Case No. 08-1067-JCC (W.D. Wash.)

U.S. Environmental Protection Agency. 2002. Interim Review of the Particulate Matter (PM) Research Centers of the USEPA: An EPA Science Advisory Board Report. Washington, DC: U.S. EPA, Science Advisory Board. EPA-SAB-EC-02-008, May.

U.S. Environmental Protection Agency. 2008. Naturally Occurring Asbestos. Available at; http://www.epa.gov/asbestos/ pubs/clean.html

U.S. Environmental Protection Agency. 2008. Naturally occurring asbestos: Approaches for reducing exposure. Office of Superfund Remediation and Technology Innovation, EPA 542-F-08-001. 7 pp.

USDA Forest Service and USDI Fish and Wildlife Service. Rogue River/South Coast Biological Assessment and Biological Opinion. 2003. FY 04-08 for activities that may affect listed species in the Rogue River/South Coast Province for Medford BLM and the Rogue River-Siskiyou National Forests. USDA Forest Service, Rogue River-Siskiyou National Forest, Medford, OR.

USDA Forest Service and USDI Fish and Wildlife Service. 2008. Memorandum of Understanding Between the U.S. Department of Agriculture Forest Service and the U.S. Fish and Wildlife Service To Promote the Conservation of Migratory Birds. FS Agreement #08-MU-1113-2400-264.

USDA Forest Service. 1974. National Forest Landscape Management Volume 2, Chapter 1, Visual Management System. Agricultural Handbook 462.

USDA Forest Service, Pacific Northwest Region. 1988. General Water Quality Best Management Practices.

USDA Forest Service. 1989. Record of Decision - Siskiyou National Forest Land and Resource Management Plan. Grants Pass, Oregon.

USDA Forest Service. 1990. Forest Service Manual, 2600 – Wildlife, Fish, and Sensitive Plant Habitat Management. Washington, DC.

USDA Forest Service. 1990. Record of Decision - Rogue River National Forest Land and Resource Management Plan. Medford, Oregon.

USDA Forest Service. 1992. Land and Resource Management Handbook. Forest Service Handbook 1909.12. Washington, D.C.

USDA Forest Service. 1994. Forest Plan White Paper Number 36: Width Determination - Riparian Reserves. Rogue River National Forest. Medford, Oregon.

USDA Forest Service. 1995. Land and Resource Management Plan. Klamath National Forest, Yreka California.

USDA Forest Service. 1997. Middle Fork Applegate River Watershed Analysis. Rogue River National Forest, Applegate Ranger District.

USDA Forest Service. 1997. Lawson Creek Watershed Analysis, Iteration 2. Siskiyou National Forest, Gold Beach Ranger District, Gold Beach, Oregon.

USDA Forest Service. 1998. Forest Service Roads: A Synthesis of Scientific Information.

USDA Forest Service. 1999. Environmental Assessment and Decision Notice. Integrated Noxious Weed Management on the Rogue River National Forest. Medford, Oregon.

USDA Forest Service. Health and Safety Code Handbook 6709.11. 1999. Washington, D.C.

USDA Forest Service. 2000. 36 CFR Part 800 - Protection of Historic Properties. Federal Register; Final Rule. Federal Register, Volume 65, No. 239: pages 77698-77739. U. S. Government Printing Office.

USDA Forest Service. 2003. Decision Memo. Non-Chemical Treatments on Invasive Plant Projects within the Siskiyou National Forest. Gold Beach, Oregon.

USDA Forest Service. 2003. North Fork Smith Wild and Scenic River Management Plan (*Oregon Section Only*). Siskiyou National Forest. March. 31 pp.

USDA Forest Service. 2004. Decision Memo. 2003-2004 Recreation Site Closures, Operations and Maintenance, and Facilities Development. Applegate and Ashland Ranger Districts. May 14.

USDA Forest Service. 2004. FEIS - Mount Ashland Ski Area Expansion. August 2004. pp. 87.

USDA Forest Service. 2004. Rogue River-Siskiyou National Forest Roads Analysis. Rogue River- Siskiyou National Forest. Medford, Oregon.

USDA Forest Service. 2004. Record of Decision and Land and Resource Management Plan for Management of Port-Orford-Cedar in Southwest Oregon, Siskiyou National Forest, Portland OR 63p (http://www.fs.fed.us/r6/rogue-siskiyou/projects/foresthealth/poc/poc-rod-fs.pdf).

USDA Forest Service. 2005. 36 CFR Parts 212, 251, 261, and 295 - Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule. Federal Register, Volume 70, No. 216: pages 68264-68291. U. S. Government Printing Office.

USDA Forest Service. 2005. FEIS and Record of Decision. Pacific Northwest Region Invasive Plant Program: Preventing and Managing Invasive Plants. PNW Region. Portland, OR.

USDA Forest Service. 2005. Motor Vehicle Route and Area Designation Guide. Available at; http://fsweb.wo.fs.fed.us/rhwr/ohv/index.shtml

USDA Forest Service. 2005. Sign and Poster Guidelines for the Forest Service; EM-7100-15. Washington, DC. Available at; http://fsweb.wo.fs.fed.us/eng/roads_trails/signs _05/index.htm

USDA Forest Service. 2006, updated 2007. Recreation Facility Analysis Draft 5-year Proposed Program of Work. Rogue River-Siskiyou National Forest. Medford, Oregon.

USDA Forest Service. 2006. Forest Service Manual, Chapter 1920 – Land Management Planning. Washington, DC.

USDA Forest Service. 2007. National Technology & Development Program. Spark Arrester Guide – Off-Highway Vehicles (OHV) Volume 3. San Dimas, CA. Available at; http://www.fs.fed.us/recreation/programs/ohv/OHV_SAG2007.pdf

USDA Forest Service. 2007. Land Management Planning Handbook. Chapter 70; Wilderness Evaluation.

USDA Forest Service. 2007. Environmental Assessment and Decision Notice, Applegate McKee Legacy Roads project. Siskiyou Mountains Ranger District, Rogue River-Siskiyou National Forest.

USDA Forest Service. 2008. 36 CFR Parts 212 – Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule. Federal Register, Volume 73, No. 237: pages 74612-74613. U. S. Government Printing Office.

USDA Forest Service. 2008. FEIS Eldorado National Forest Public Wheeled Motorized Travel Management. Vol.1. Placerville, CA.

USDA Forest Service. 2008. Letter from Abigail R. Kimbell to Forest Service National Leadership Team.

USDA Forest Service. 2008. National Visitor Use Monitoring Results. Rogue River Siskiyou National Forest. Washington, DC.

USDA Forest Service. 2008. Regional Forester's Sensitive species list. PNW Region 6. Portland, OR.

USDA Forest Service. 2008. Travel Management Directives; Forest Service Manual 2350, 7700, and 7710 and Forest Service Handbook 7709.55; Final Rule. Federal Register, Volume 73, No. 237: pages 74689-74703. U. S. Government Printing Office.

USDA Forest Service. 2008. Region 5 Bedrock and Geomorphology ArcSDE geodatabase.

USDA Forest Service. 2009. Travel Planning Handbook 7709.55, Chapter 30. Washington, D.C.

USDA Forest Service. 2009. Interagency Strategy for the Pacific Northwest Natural Areas Network. Todd M. Wilson et al. Pacific Northwest Research Station, Portland, Oregon. General Technical Report PNW-GTR-798.

USDA Forest Service. 2009. Rogue River-Siskiyou National Forest Biological Assessment for "May Affect, Not Likely to Adversely Affect" (NLAA) Forest-Wide Travel Management Planning. Rogue River-Siskiyou National Forest. Medford, Oregon.

USDA Forest Service. 2010. Environmental Policy and Procedures Handbook 1909.15. Washington, D.C.

USDA Forest Service. 2010. Environmental Assessment and Decision Notice and Finding of No Significant Impact and Finding of Non-significant Forest Plan Amendments (2010): Fire Use Amendment.

USDA Forest Service. 2011. Region Six Sensitive Species List updated December 2011. Available from Regional Office, Portland, OR.

USDA Forest Service. 2011. Management Indicator Species - Forest-Wide Environmental Baseline and Species Account for the Rogue River National Forest.

USDA Forest Service. 2012. National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide. FS-990a. April 2012. 165 pp.

USDA Forest Service. 2012. Management Indicator Species - Forest-Wide Environmental Baseline and Species Account for the Siskiyou National Forest. Habitat use and ecology, distribution of the species, Forest-level habitat evaluations, and viability assessments for Management Indicator Species.

USDA Forest Service and USDI Bureau of Land Management. 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning documents within the range of the northern spotted owl. U.S. Government Printing Office, Portland, OR.

USDA Forest Service and USDI Bureau of Land Management. 2001. Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl. US Government Printing Office, Portland, OR.

USDA Forest Service and USDI Bureau of Land Management. 2004. Final Supplemental Environmental Impact Statement – Management of Port-Orford-Cedar in Southwest Oregon, Portland OR 485p. (http://www.fs.fed.us/r6/rogue-siskiyou/projects/foresthealth/poc-seis.shtml).

USDA Forest Service and USDI Bureau of Land Management. 2009. Interagency Special Status / Sensitive Species Program (ISSSSP). Available at; http://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/

USDA Forest Service and USDI Bureau of Land Management. 2011. Interagency Special Status and Sensitive Species Program (ISSSSP); http://www.fs.fed.us/r6/sfpnw/issssp/

USDA Natural Resources Conservation Service. 2005. Soil Survey of Curry County, Oregon. CD-ROM Version, September 2005. 1044p.

USDA Soil Conservation Service. 1989. Soil Survey of Coos County Oregon. 269 pp.

USDA Soil Conservation Service. 1983. Soil Survey of Josephine County, Oregon. 258 pp.

USDI Fish and Wildlife Service. 1967. Native fish and wildlife. Endangered species. Federal Register 32(48): 4001.

USDI Fish and Wildlife Service. 1986. Recovery Plan for the Pacific Bald Eagle. U.S. Department of the Interior, Fish and Wildlife Service. Portland, OR. 160 pp.

USDI Fish and Wildlife Service. 1992. Endangered and threatened wildlife and plants: determination of threatened status for the Washington, Oregon, and California population of the Marbled Murrelet. Federal Register 57: 45328-45337.

USDI Fish and Wildlife Service. 1995. Endangered and threatened species; bald eagle reclassification; final rule. Federal Register 50(17):35999-36010.

USDI Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; final designation of critical habitat for the Marbled Murrelet. Federal Register 61: 26256-26320.

USDI Fish and Wildlife Service. 2001. Formal and informal consultation and informal conferencing on habitat modification and noise disturbance timber harvest activities for fiscal years 2001, 2002, and 2003. U. S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, Portland, OR.

USDI Fish and Wildlife Service. 2003. Rogue River/South Coast Biological Opinion. FY 04-08 for activities that may affect listed species in the Rogue River/South Coast Province for Medford District BLM, Rogue River and Siskiyou National Forests. U.S. Fish and Wildlife Service, Roseburg Field Office, Roseburg. Oregon.

USDI Fish and Wildlife Service. 2008. Final recovery plan for the northern spotted owl, May 2008. Portland, Oregon.

USDI Fish and Wildlife Service. 2010. Draft revised recovery plan for the northern spotted owl, *Strix occidentalis caurina*. U.S. Fish and Wildlife Service, Portland, Oregon. xii + 163 pp.

USDI Fish and Wildlife Service. 2011. Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Fish and Wildlife Service, Portland, Oregon. Xvi + 258 pp.

USDI Geological Survey. 2001. Some Facts about Asbestos. Available at; http://www.capcoa. org/noa/[12]%20USGS%20Facts%20on%20Asbestos.pdf.

USDI Geological Survey. 2007. Environmental Effects of Off-Highway Vehicles on BLM Lands: A Literature Synthesis, Annotated Bibliographies, Extensive Bibliographies, and Internet Resources. Reston, Virginia.

Van Gosen, B.S. 2010. Reported historic asbestos mines, historic asbestos prospects, and other natural occurrences of asbestos in Oregon and Washington: U.S. Geological Survey Open-File Report 2010-1041, http://pubs.usgs.gov/of/2010/1041/.

Verts, B.J., and L.N. Carraway. 1998. Land mammals of Oregon. University of California Press. Berkeley, CA.

Wasser, S.K., K. Bevis, G. King and E. Hanson. 1997. Noninvasive physiological measures of disturbance in the northern spotted owl. Conservation Biology 4:1019-1022.

Waters, T. F. 1995. Sediment in streams: sources, biological effects, and control. American Fisheries Society Monograph 7.

Wemple, B.C. and J.A. Jones. 2003. Runoff production on forest roads in a steep, mountain watershed. Water Resource Research. 39(8).

Wemple, B.C., J.A. Jones, and G.E. Grant. 1996. Channel Network Extension by Logging Roads in Two Basins, Western Cascades, Oregon. Water Resources Bulletin. 32(6): 1195-1207.

Wemple, B.C., F.J. Swanson, and J.A. Jones. 2001. Forest Roads and Geomorphic Process Interactions, Cascade Range, Oregon. Earth Surface Processes and Landforms. 26: 191-204.

Werres S. et al. 2001. *Phytophthora ramorum sp nov*: a new pathogen on Rhododendron and Viburnum. Mycol Res 105: 1155–64.

Wisdom, M. J., N. J. Cimon, B. K. Johnson, E. O. Garton, and J. W. Thomas. 2005. Spatial Partitioning by Mule Deer and Elk in Relation to Traffic. Pages 53-66 in Wisdom, M. J., technical editor, The Starkey Project: a synthesis of long-term studies of elk and mule deer. Reprinted from the 2004 Transactions of the North American Wildlife and Natural Resources Conference, Alliance Communications Group, Lawrence, Kansas, USA.

Wisdom, M.J.; Bate, L.J. 2008. Snag density varies with intensity of timber harvest and human access. Forest Ecology and Management. 255(7): 2085-2093.

Ziegler, A.D. and T.W. Giambelluca. 1997. Importance of Rural Roads as Source Areas for Runoff in Mountainous Areas of Northern Thailand. Journal of Hydrology. 196: 204-229.

Zobel, D.B.; Roth, L.F.; Hawk, G.M. 1985. Ecology, Pathology, and Management of Port-Orford-Cedar (*Chamaecyparis lawsoniana*). USDA Forest Service, Pacific Northwest Experiment Station General Technical Report PNW-181. 161 pp.

CHAPTER V - LIST OF PREPARERS AND CONTRIBUTORS

This Final Supplemental Environmental Impact Statement (FSEIS) document was prepared by the USDA Forest Service, Rogue River–Siskiyou National Forest. A Forest Service Interdisciplinary Team (IDT) developed analysis, prepared the FSEIS document, and provided technical review of analysis and documentation. This chapter identifies Project Leadership, the Interdisciplinary Team, Coordinators and Resource Specialists who participated in the overall process and preparation of the FSEIS, and previous EIS documents under NEPA. These documents include the 2009 Draft EIS and Final EIS, the 2011 DSEIS and this 2015 FSEIS for Motorized Vehicle Use on the Rogue River-Siskiyou NF.

A. CURRENT FOREST SERVICE PROJECT LEADERSHIP AND INTERDISCIPLINARY TEAM

The following Rogue River–Siskiyou National Forest personnel (or contractors) provided leadership for this project, or currently serve on the project Interdisciplinary Team. Chief responsibilities include conducting the environmental analysis process, public involvement, organization of specialist input, and preparation of documentation of the 2015 FSEIS under the provisions of the National Environmental Policy Act (NEPA). MIO refers to the Medford Interagency Office, i.e., the Forest Supervisor's Office. GPIO refers to the Grants Pass Interagency Office. RD refers to Ranger District.

CONTRIBUTOR	CONTRIBUTION
Robert G. MacWhorter Forest Supervisor, MIO	Responsible Official.
Kristen Hauge Archaeologist Gold Beach RD	Project and IDT Leader, overall project coordination, coordination of analysis and mapping, writing/editing and review of Response to Comments Appendix and FSEIS; heritage section and overall FSEIS document.
David Krantz Forest Planner, MIO	Project coordination, writing/editing and review of Response to Comments Appendix, Wild and Scenic Rivers, Civil Rights and Environmental Justice, and overall writing/editing and review of DSEIS.
Virginia Gibbons Public Affairs Officer, MIO	Public involvement coordination and documentation, planning and coordination of Website.
Wayne Rolle Forest Botanist, MIO	Botanical and invasive plant analysis and documentation, including field surveys. IDT member.
Joni Brazier Forest Soil Scientist, GPIO	Analysis and documentation of soil processes including erosion, sedimentation, asbestos, and site productivity. IDT member.
Steve Brazier Fish Biologist, GPIO	Fisheries and aquatics, including Biological Evaluation process. Provided analysis and documentation of fish and aquatic species. IDT member.
Dave Clayton Forest Wildlife Biologist, MIO	Terrestrial wildlife analysis and documentation, including Biological Evaluation process. IDT member.

CONTRIBUTOR	CONTRIBUTION
Holly Witt Environmental Coordinator, Gold Beach RD	Project environmental coordination and FSEIS document review.
Sasha Fertig Environmental Coordination, MIO	Writing/editing and review of Response to Comments Appendix and FSEIS
Ken Grigsby Confident Staffing (Contractor)	Project coordination, writing/editing and review of Response to Comments Appendix and Managing Editor for FSEIS.

B. PREVIOUS FOREST SERVICE PROJECT LEADERSHIP AND COORDINATION

The following Rogue River–Siskiyou National Forest personnel previously provided leadership for this project, or served as project coordinators during different phases of the project. Responsibilities included conducting the environmental analysis process, public involvement, organization of specialist input, and preparation of documentation of the previous 2009 DEIS and FEIS; and the 2011 DSEIS.

CONTRIBUTOR	CONTRIBUTION
Scott Conroy Former Forest Supervisor, MIO	Responsible Official.
Jennifer Eberlien Former Deputy Forest Supervisor, MIO	Provided Forest oversight and leadership for the project.
Linda Duffy Former Planning Staff Officer, MIO	Management of NEPA process; delegated Responsible Official, coordination of collaboration and document review.
Carl Linderman Former District Ranger, Powers RD	Coordination of Powers RD input.
Alan Vandiver Former District Ranger, Gold Beach RD	Coordination of Gold Beach RD input.
Roy Bergstrom Former District Ranger, Wild Rivers RD	Coordination of Wild Rivers RD input.
Donna Mickley District Ranger, Siskiyou Mountains RD	Coordination of Siskiyou Mountains RD input.
Kerwin Dewberry Former District Ranger, High Cascades RD	Coordination of High Cascades RD input.
David Krantz Acting Forest Planner, MIO	IDT Leader, wild and scenic rivers, civil rights and environmental justice, and overall writing/editing and review
Steve Johnson Former Recreation Specialist, Siskiyou Mountains RD	Former IDT Leader, Scoping process, public safety, motorized opportunities, and law enforcement analysis, and overall writing/editing and review.
Don Boucher Resource Planner and Analyst, Environmental Coordinator, High Cascades and Ashland RDs	Development and analysis and documentation of Action Alternatives including maps; fire risk analysis, Arc-View mapping coordination, consequence analysis, and overall writing/editing and review.

C. FOREST SERVICE CONTRIBUTORS AND RESOURCE SPECIALISTS

The following Forest Service personnel conducted previous resource analysis and provided documentation for this project and/or provided review for the analysis that was conducted. These individuals were the "lead" for their particular discipline and many were on the Interdisciplinary Team (IDT) as indicated.

CONTRIBUTOR	CONTRIBUTION
Chris Bishop Former Recreation Planner, High Cascades RD	Coordination and leadership of initial public involvement and collaboration; air quality, visuals, sound level analysis. Management of mail lists and databases related to public involvement.
Ellen Goheen Plant Pathologist, Southwest Oregon Forest Insect and Disease Service Center	Sudden Oak Death analysis, review and documentation.
Frank Betlejewski Former Interregional Port-Orford-Cedar Program Manager Southwest Oregon Forest Insect and Disease Service Center	Port Orford Cedar analysis. IDT member.
Janet Joyer Former Forest Archaeologist, MIO	Completed heritage analysis and documentation in compliance with the National Historic Preservation Act and conducted archaeological surveys and documentation. IDT member.
Maureen Joplin Former Hydrologist, MIO	Analysis and documentation of watershed resources. IDT member.
Dean Blank Assistant Forest Engineer, GPIO	Transportation documentation and review. IDT member.
John Borton Former Forest Recreation Program Manager, MIO	Recreation documentation and review. IDT member.
Javier Masiel Patrol Captain , MIO	Law enforcement documentation and review. IDT member.

D. OTHER FOREST SERVICE CONTRIBUTORS

These individuals also provided valuable information to the IDT, Rangers, and Forest Supervisor during previous iterations of this project.

CONTRIBUTOR	CONTRIBUTION
AJ Flores Civil Engineer Technician, GPIO	Mixed use analysis.
Blair Anderson Off-Highway Vehicle Work Group Leader, High Cascades RD	OHV technical input and support.
Clyde Davidson Civil Engineer Technician, GPIO	Mixed use analysis.
David Austin Former Wildlife Biologist, Siskiyou Mountains and Wild Rivers RDs.	Site-specific wildlife information for Siskiyou Mountains and Wild Rivers RDs.
George Brierty Former Recreation Specialist, Wild Rivers RD	Site-specific trails information for Wild Rivers RD.
Steve Boyer Silviculturist, Gold Beach & Powers RDs	Sudden Oak Death analysis, current condition documentation.
Brent Hasty GIS/Data Services Specialist, Gold Beach RD	GIS analysis and Arc-View Mapping for the entire Forest.
Tom Hawkins Recreation Specialist, Gold Beach RD	Site-specific trails information for Gold Beach RD.
Megan Higgins Civil Engineer (Geo Tech), Gold Beach	Mixed use analysis.
Lola Hislop Civil Engineer Technician, Gold Beach	Mixed use analysis.
Pete Jones Geologist and Geotech Engineer	Consultation for naturally occurring asbestos and Big Butte Springs Watershed.
Howard Jubas Civil Engineer Technician, GPIO	Mixed use analysis.
Maureen Jules Former Botanist, Wild Rivers RD	Site-specific botanical information for Wild Rivers RD.
Dave Knutson Archaeological Technician, MIO	Site specific heritage information for Siskiyou Mountains and High Cascades RDs.
John Lowe Former Wildlife Biologist, Powers RD	Site-specific wildlife information for Powers RD.
Gary Martinek Former Archaeological Technician, Gold Beach RD	Site specific heritage information for Gold Beach RD.
Robin McAlpin Former Civil Engineer, Powers RD	Site-specific roads and trails information for Powers RD.

CONTRIBUTOR	CONTRIBUTION
Michael Miller Former Biological Technician, Gold Beach RD	Site-specific wildlife information for Gold Beach RD.
Barbara Mumblo Botanist, Siskiyou Mountains RD	Site-specific botanical information for Siskiyou Mountains RD.
Paul Podesta Civil Engineer, Gold Beach RD	Site-specific roads information for Gold Beach RD.
Diana St.Marie Contractor - Civil Engineer	Site-specific road information for Gold Beach RD.
Carlos Velez Engineering Technician, Powers RD	Site-specific road and gravel bar information for Powers RD.
Jeff VonKienast Wildlife Biologist, High Cascades RD	Site-specific wildlife information for High Cascades RD.

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CHAPTER VI - LIST OF AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THE STATEMENT ARE SENT

Copies of the Final Supplemental Environmental Impact Statement (FSEIS) have been distributed to the following organizations and government agencies in the form of a hard copy, compact disc, or a notification that the document is available on the Internet. Individuals specifically requesting a copy of the Final Supplemental EIS have also been mailed a hard copy or compact disc.

Copies of the Final Supplemental EIS are available for review at the following locations:

Rogue River-Siskiyou National Forest
Supervisor's Office
Medford Interagency Office
3040 Biddle Road
Medford, OR 97501

Rogue River-Siskiyou National Forest
Siskiyou Mountains Ranger District
Star Ranger Station
6941 Upper Applegate Road
Jacksonville, OR 97530

Rogue River-Siskiyou National Forest
High Cascades Ranger District
Prospect Ranger Station
47201 Highway 62
Prospect, OR 97536

Rogue River-Siskiyou National Forest
High Cascades Ranger District
Butte Falls Ranger Station
730 Laurel Street
Butte Falls, OR 97522

Rogue River-Siskiyou National Forest
Wild Rivers Ranger District
Illinois Valley Ranger Station
26568 Redwood Highway
Cave Junction, OR 97523

Rogue River-Siskiyou National Forest
Wild Rivers Ranger District
Grants Pass Interagency Office
2164 NE Spalding Avenue
Grants Pass, OR 97526

Rogue River-Siskiyou National Forest
Gold Beach Ranger District
Gold Beach Ranger Station
29279 Ellensburg Avenue
Gold Beach, OR 97444

Rogue River-Siskiyou National Forest
Powers Ranger District
42861 Highway 242
Powers, OR 97466

FEDERAL AGENCIES

Advisory Council on Historic Preservation

Agriculture, U.S. Department of
APHIS PPD/EAD

Forest Service, Pacific Northwest Research Station

Forest Service, Pacific Southwest Research Station

Forest Service, Pacific Northwest Regional Office

Natural Resource Conservation Service

Six River National Forest-Smith River National Recreation Area

Commerce, U.S. Department of
National Marine Fisheries Service,
Northwest Region

Defense, U.S. Army Engineer
Northwest Division

Environmental Protection Agency
Office of Federal Activities, EIS Filing Section Region 10, EIS Review Coordinator

Homeland Security, U. S. Coast Guard
Office of Environmental Management

Interior, U.S. Department of the
Bureau of Land Management
- Medford District Office
- Grants Pass Interagency Office
- Lakeview District Office
- Coos Bay District office

Fish and Wildlife Service, Roseburg Field Office

Office of Environmental Policy and Compliance

Oregon Caves National Monument

Crater Lake National Park

STATE AGENCIES

State of Oregon
- Department of Environmental Quality
- Department of Fish and Wildlife
- Department of Forestry
- Governor's Natural Resources Office
- Water Resources Department

NATIVE AMERICANS

Confederated Tribes of the Siletz Indians of Oregon
Confederated Tribes of the Grande Ronde Community of Oregon
Coquille Indian Tribe
Cow Creek Band of Umpqua Tribe of Indians
The Klamath Tribes
Quartz Valley Indian Reservation
Smith River Rancheria
Elk Valley Rancheria

ELECTED OFFICIALS

Oregon Governor John Kitzhaber
U.S. Senator Jeff Merkley (Oregon)
U.S. Senator Ron Wyden (Oregon)
U.S. Representative Peter DeFazio (Oregon)
U.S. Representative Greg Walden (Oregon)
U.S. Representative Mike Thomas (California)
U.S. Representative Wally Herger (California)

COUNTY

Jackson County Board of Commissioners
Josephine County Board of Commissioners
Josephine County Sheriff's Office
Curry County Board of Commissioners
Coos County Board of Commissioners
Siskiyou County Board of Supervisors
Klamath County Board of Commissioners
Del Norte County Board of Supervisors
Douglas County Board of Commissioners

LIBRARIES

Jackson County, Medford
Curry County, Gold Beach
Josephine County, Grants Pass
Southern Oregon University

ORGANIZATIONS

American Hiking Society
Applegate Valley Community Forum
American Lands Access Association
Applegate Wilderness Council
Big Wildlife
Blue Ribbon Coalition
Capital Trail Vehicle Association
Cascadia Wildlands
Friends of Living Oregon Waters
Friends of the Kalmiopsis
Gold Beach User Group
Kalmiopsis Audubon Society
Klamath Siskiyou Wildlands Center (Ashland)
Klamath Siskiyou Wildlands Center (Grants Pass)
Motorcycle Riders Association
Native Plant Society of Oregon
Northwest River Outfitters
OHV Allocations

ORGANIZATIONS (continued)

Oregon Hunters Association
Oregon Wild (Brookings)
Oregon Wild (Eugene)
OR-ID Annual Conference of United Methodist Church
Pacific Crest Trail Association
Pacific Rivers Council
River West Outfitters
Rockydale Neighborhood Association
Rogue Riverkeeper
SCARF
Siskiyou Regional Education Project
Upper Applegate Grange
Waldo Mining District
Western Environmental Law Center
Wilderness Society

OTHERS

Ashland Daily Tidings
Bear Creek Valley Sanitary Authority
Day Wireless Systems
Fish Lake Resort
Grants Pass Daily Courier
Half Moon Bar Lodge
Josephine County Forestry
Medford Mail Tribune
Moore Mill & Lumber Company
Mountcrest LP
OAHSPE Foundation
PACIFICORP
Perpetua Forest Company
Red Blanket Rentals
Ski Ashland Incorporated
Southern Oregon Guide Service
Southern Oregon Meditation Center
Southern Oregon Timber Industries Association
Southport Forest Products, Inc.
Sunstar Country Club
Swanson Group
Talent Irrigation District
The Illahe Lodge
Union Creek Resort
Western Translators, Inc.

GLOSSARY AND INDEX

Glossary

The Forest Service uses the term "NFS road" and "NFS trail" (also referred to as NFS routes when combined) to refer to any road or trail that is listed on the Forest transportation atlas other than a road or trail which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority.

The NFS routes range from trails to arterial and collector roads, which may be paved or surfaced, to local roads that may be either improved or unimproved. The lower-level, unimproved roads are not actively maintained, but are primarily kept open by timber sale road reconstruction and vehicle use.

In addition to NFS routes on the transportation system, a number of other types of routes currently exist on the Forest. Some originated as temporary logging roads, skid trails, or firelines, which were never rehabilitated, and, over time, have remained open to use by the public, even though they are not maintained. Forest users created other roads and trails by driving cross-country through the Forest. These routes are not part of the forest transportation atlas, and, are therefore, referred to as "unauthorized routes."

Action Alternatives ~ For this analysis, Alternatives 2, 3, 4 and 5 are referred to as the Action Alternatives. These alternatives focus on the allowable uses for wheeled motorized vehicle routes and areas. Action Alternatives are being carried forward in accordance with the Travel Management Rule (36 CFR Part 212).

Area ~ A discrete, specifically delineated space that is smaller, and in most cases much smaller, than a Ranger District (36 CFR 212.1).

Background ~ The distant part of a landscape. The landscape area located from 4 miles to infinity from the viewer.

Best Management Practices ~ A practice or usually a combination of practices that are determined by a State or designated planning agency to be the most effective and practicable means (including technological, economic, and institutional considerations) of controlling point and nonpoint source pollutions at levels compatible with environmental quality goals.

Big game ~ Large wild animals that are hunted for sport and food. This hunting is controlled by state wildlife agencies. Big game animals found on this Forest primarily include deer and elk.

Classified Roads ~ Roads wholly or partially within or adjacent to National Forest System lands that are determined to be needed for motor vehicle access, such as State roads, County roads, privately owned roads, National Forest System roads, and roads authorized by the Forest Service that are intended for long-term use.

Cumulative effects ~ Impacts on the environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Decommissioning ~ Demolition, dismantling, removal, obliteration, or disposal of a deteriorated or otherwise unneeded asset or component, typically a road.

Designated road, route, trail, or area ~ An NFS road, NFS trail, or an area on NFS lands that is designated for motor vehicle use pursuant to 36 CFR 212.51 on a motor vehicle use map (36 CFR 212.1).

Dispersed Recreation ~ Activities usually associated with backcountry and trails, and are consistent with the settings and experiences identified with Primitive (P), Semi-Primitive Non-Motorized (SPNM), and Semi-Primitive Motorized (SPM) classes of the Recreation Opportunity Spectrum.

Distance zones ~ Landscape areas denoted by specific distances from the observer. Used as a frame of reference in which to discuss landscape attributes or the scenic effect of human activities in a landscape.

Disturbance ~ A natural or human event that causes a change in the existing condition of an ecological system.

Endangered Species ~ A plant or animal species listed under the Endangered Species Act that is in danger of extinction through all or a significant portion of its range.

Foreground ~ Detailed landscape generally found from the observer to 0.5-mile away.

Forest road or trail ~ A road or trail wholly or partially within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources (36 CFR 212.1).

Forest transportation atlas ~ A display of the system of roads, trails, and airfields of an administrative unit (36 CFR 212.1).

Forest transportation facility ~ A forest road or trail or an airfield that is displayed in a forest transportation atlas, including bridges, culverts, parking lots, marine access facilities, safety devices, and other improvements appurtenant to the forest transportation system (36 CFR 212.1).

Forest transportation system ~ The system of NFS roads, trails, and airfields on NFS lands (36 CFR 212.1).

Highway-legal vehicle ~ Any motor vehicle that is licensed or certified under State law for general operation on all public roads within the State. Operators of highway-legal vehicles are subject to state traffic law, including requirements for operator licensing (FSM 7700).

Indicator ~ In effects analysis, a device for measuring effects from management alternatives on a particular resource or issue.

Inventoried Roadless Area ~ Undeveloped areas typically exceeding 5,000 acres that met the minimum criteria for wilderness consideration under the Wilderness Act, and that were inventoried during the Forest Service's Roadless Area Review and Evaluation (RARE II) process, subsequent assessments, or forest planning.

Land allocation ~ Site-specific management direction applied to National Forest System lands.

Local road ~ A NFS road that connects a terminal facility with collector roads, arterial roads, or public highways and that usually serves a single purpose involving intermittent use.

Maintenance level (ML) ~ Defined in FSH 7709.58, 10, 12. 3 as the level of service provided by, and maintenance required for, a specific road. Maintenance levels must be consistent with road management objectives, and maintenance criteria. Roads may be maintained at one level and planned to be maintained at a different level at some future date. The operational maintenance level is the maintenance level currently assigned to a road considering today's needs, road condition, budget constraints, and environmental concerns; in other words, it defines the standard to which the road is currently being maintained. The objective maintenance level is the maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns.

Maintenance Level 1 Road ~ Defined in FSH 7709.58, 10, 12. 3 as intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate." Roads receiving level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for nonmotorized uses. These roads have the following attributes: (1) vehicular traffic is eliminated, including administrative traffic; (2) physically blocked or entrance is disguised; (3) not subject to the requirements of the Highway Safety Act; (4) maintenance is done only to minimize resource impacts; and (5) no maintenance other than a condition survey may be required so as long as no potential exists for resource damage.

Maintenance Level 2 Road ~ Defined in FSH 7709.58, 10, 12.3 as roads open for use by high-clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either (1) discourage or prohibit passenger cars or (2) accept or discourage high-clearance vehicles. These roads have the following attributes: (1) low traffic volume and low speed; (2) typically local roads; (3) typically connect collectors and other local roads; (4) dips are the preferred drainage treatment; (5) not subject to the requirements of the Highway Safety Act; (6) surface smoothness is not a consideration; and (7) not suitable for passenger cars.

Maintenance Level 3 Road ~ Defined in FSH 7709.58, 10, 12.3 as roads open and maintained for travel by prudent drivers in a standard passenger car. User comfort and convenience are low priorities. Roads in this maintenance level are typically low speed, single lane with turnouts, and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept."

"Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users. These roads have the following attributes: (1) subject to the requirements of the Highway Safety Act and Manual of Uniform Traffic Control Devices (MUTCD); (2) roads have low to moderate traffic volume; (3) typically connect arterial and collector roads; (4) a combination of dips and culverts provide drainage; (5) may include some dispersed recreation roads; and (6) potholing or washboarding may occur.

Maintenance Level 4 Road ~ Defined in FSH 7709.58, 10, 12.3 as roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage." However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times. These roads have the following attributes: (1) subject to requirements of the Highway Safety Act and MUTCD; (2) roads have moderate traffic volume and speeds; (3) may connect to county roads; (4) culverts provide drainage; (5) usually a collector; and (6) may include some developed recreation roads.

Maintenance Level 5 Road ~ Defined in FSH 7709.58, 10, 12.3 as roads that provide a high degree of user comfort and convenience. These roads are normally double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage." These roads have the following attributes: (1) subject to the requirements of the Highway Safety Act and MUTCD; (2) highest traffic volume and speeds; (3) typically connect State and county roads; (4) culverts provide drainage; (5) usually arterial and collector; (6) may include some developed recreation roads; and (7) usually paved or chip-sealed.

Middleground ~ The zone between the foreground and the background in a landscape. The area located from 0.5 to 4 miles from the observer.

Mixed-use road ~ Segments of NFS roads that are identified and signed as open to state licensed and unlicensed vehicles; generally more than 50 inches in width and usually, but not always, low maintenance roads with no high-speed traffic.

Motor vehicle ~ Any vehicle which is self-propelled, other than: (a) a vehicle operated on rails; and (b) any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area (36 CFR 212.1).

Motor Vehicle Use Map (MVUM) ~ A map reflecting designated roads, trails, and areas on an administrative unit or a Ranger District of the NFS (36 CFR 212.1).

Motorcycle ~ A two-wheeled motor vehicle on which the two wheels are not side-by-side but in line (FSM 7700).

Motorized mixed use ~ Designation of a NFS road for use by both highway-legal and non-highway legal motor vehicles (FSM 7700).

Motorized trail ~ A travelway usually, but not always, less than 50 inches in width usually, but not always, available for use by all-terrain vehicles (ATVs) and/or motorcycles. These travelways may also be made available to high-clearance four-wheel drive vehicles, and may also be used by bicycles, horses, and hikers.

Natural scenery ~ The landforms including rock outcrops, vegetation, and animals that are naturally found in this ecosystem.

National Forest System road ~ A forest road other than a road which has been authorized by a legally documented right-of-way held by a state, county, or local public road authority (36 CFR 212.1); a classified forest road under the jurisdiction of the Forest Service.

National Forest System trail ~ A forest trail other than a trail which has been authorized by a legally documented right-of-way held by a state, county, or local public road authority (36 CFR 212.1); a trail under the jurisdiction of the Forest Service.

No Action (Alternative) ~ The most likely condition expected to exist if current management practices continue unchanged. The analysis of this alternative is required for Federal actions under NEPA.

Non-highway-legal vehicle ~ Any motor vehicle that is not licensed or certified under state law for general operation on all public roads within the state. Operators of non-highway-legal vehicles are subject to state requirements, if any, for licensing and operation of the vehicle in question (FSM 7700).

Off-highway vehicle (OHV) ~ Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain (36 CFR 212.1).

Off-road vehicle (ORV) ~ See "Off-highway vehicle."

Over-snow vehicle ~ A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow (36 CFR 212.1).

Private road ~ A road under private ownership authorized by an easement granted to a private party or a road that provides access pursuant to a reserved or outstanding right.

Public road ~ The road under the jurisdiction of and maintained by a public road authority and open to public travel (23 U.S.C. 101 (a)).

Proposed Action ~ A proposal made by the Forest service or other Federal agency to authorize, recommend, or implement an action to meet a specific purpose and need.

Qualified Engineer ~ An engineer who by experience, certification, education, or license is technically trained and experienced to perform the engineering tasks specified and is designated by the Director of Engineering, Regional Office.

RARE II roadless area (Roadless Area Review and Evaluation ~ Roadless Areas on National Forest System lands that were inventoried by the Forest Service in 1979.

Road ~ A motor vehicle route over 50-inches wide, unless identified and managed as a trail (36 CFR 212.1).

Road construction or reconstruction ~ Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1).

Road maintenance ~ Ongoing upkeep of a road necessary to maintain or restore the road in accordance with its road management objectives (FSM 7714).

Road Subject to the Highway Safety Act ~ An NFS road that is open to public use in a standard passenger car, including a road with access restricted on a seasonal basis and a road closed during extreme weather conditions or for emergencies, but which is otherwise open to public travel.

Route ~ A road or trail.

Scoping ~ The process the Forest Service uses to determine, through public involvement, the range of issues that the planning process should address.

Temporary road or trail ~ A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or a forest trail and that is not included in a Forest transportation atlas (36 CFR 212.1).

Trail ~ A route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail (36 CFR 212.1).

Unauthorized road or trail ~ A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

Unclassified roads ~ Roads on National Forest System lands that are not needed for, and not managed as part of, the forest transportation system; such as unplanned roads, abandoned travelways, off-road vehicle tracks that have not been designated and managed as a trail, and those roads no longer under permit or authorization.

Wheelchair or mobility device ~ A device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area. A person whose disability requires use of a wheelchair or mobility device may use a wheelchair or mobility device that meets this definition anywhere foot travel is permitted (Title V, sec. 507c, of the ADA).

Wilderness ~ A specific area defined in the Wilderness Act of 1964: …an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions…"

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