

Table of Contents

Chapter 1: Purpose and Need

Introduction.....	1-1
How This EIS is Organized	1-1
Background.....	1-2
Purpose of and Need for Action.....	1-11
The Proposed Action.....	1-16
Public Involvement	1-20
Issues.....	1-24
Other Issues.....	1-27
Project Record Availability	1-31

Chapter 2: Alternatives

Introduction.....	2-1
Process Used to Formulate the Alternatives.....	2-1
Alternatives Considered For Detailed Analysis.....	2-2
Design Features, Management Practices and Mitigation Measures,.....	2-32
Monitoring.....	2-47
Alternatives Eliminated From Detailed Analysis.....	2-49

Chapter 3: Affected Environment

Introduction.....	3-1
Access and Travel Management.....	3-2
Myrtle-Silvies Roadless Area.....	3-4
Watershed/Fish Habitat.....	3-8
Soils.....	3-16
Vegetation.....	3-19
Air Quality.....	3-37
Sensitive Plants.....	3-38
Range Resources.....	3-38
Noxious Weeds.....	3-40
Socio-Economics.....	3-42
Wildlife.....	3-48
Recreation.....	3-67
Cultural Resources.....	3-71
Scenery Management.....	3-72

Chapter 4: Environmental Consequences

Introduction.....	4-1
Benchmark Dates and Implementation Schedule.....	4-2
Environmental Consequences By Resource (Issue).....	4-4
Effects on Access and Travel Management (Issue 1).....	4-5
Effects on Roadless Areas (Issue 2).....	4-9
Effects on Watershed/Fish Habitat (Issue 3).....	4-13
Effects on Soil Productivity.....	4-31
Effects on Vegetation Condition (Issue 4).....	4-41
Effects on Air Quality.....	4-65
Effects on Sensitive Plants.....	4-69
Effects on Range Resources.....	4-70
Effects on Noxious Weeds.....	4-72
Effects on Socio-Economics.....	4-76
Other Issues.....	4-85
Effects on Wildlife.....	4-85
Effects on Recreation.....	4-174
Effects on Cultural Resources.....	4-178
Effects on Scenery Management.....	4-182
Summary of Cumulative Effects.....	4-184
Other Environmental Considerations.....	4-185

Chapter 5

Glossary.....	5-1
Literature Cited.....	5-19
List of Preparers.....	5-36
Distribution List.....	5-38
Index.....	5-41

Appendix A

Proposed Road Closures and Roads Analysis.....	A-1
--	-----

Appendix B

Proposed Vegetation and Aspen Units.....	B-1
--	-----

Appendix C

Biological Evaluation/Assessment.....	C-1
---------------------------------------	-----

Appendix D

Public Comments and Response to Comments.....	D-1
---	-----

Appendix E

Soils Information.....	E-1
------------------------	-----

Appendix F

Best Management Practices.....	F-1
--------------------------------	-----

List of Figures

Figure 1-1 Silvies Canyon Watershed Vicinity Map.....	1-3
Figure 1-2 Percent of Project Area by Management Area	1-8
Figure 1-3 Silvies Canyon Watershed Management Areas	1-9
Figure 1-4 Silvies Canyon Watershed Dedicated Old Growth And Potential Eagle Roost Areas.....	1-10
Figure 1-5 Area proposed for wilderness designation by the Oregon Wilderness Coalition.....	1-24
Figure 2-1 Silvies Canyon Proposed Dedicated Old Growth and Proposed Replacement Old Growth with Pileated Woodpecker Feeding Areas.....	2-8
Figure 3-1 Myrtle-Silvies Roadless Area.....	3-5
Figure 3-2 Descriptions of Stand Structural Stages.....	3-31
Figure 3-3 Silvies Canyon Watershed Historic Conditions.....	3-32
Figure 3-4 Silvies Canyon Watershed Current Conditions.....	3-32
Figure 3-5 Historic Dry Forest Hot Dry PAG.....	3-33
Figure 3-6 Current Dry Forest Hot Dry PAG.....	3-33
Figure 3-7 Historic Dry Forest Warm Dry PAG.....	3-33
Figure 3-8 Current Dry Forest Warm Dry PAG.....	3-33
Figure 3-9 Stancliffe Subwatershed Historic Conditions.....	3-34
Figure 3-10 Stancliffe Subwatershed Current Conditions.....	3-34
Figure 3-11 Stancliffe Subwatershed Historic Low-dry.....	3-34
Figure 3-12 Stancliffe Subwatershed Current Low-dry.....	3-34
Figure 3-13 Average Annual Unemployment.....	3-46
Figure 4-1 Road Treatment Comparison.....	4-9
Figure 4-2 Comparison of Road Treatments in S.F. Myrtle Creek Vicinity.....	4-20
Figure 4-3 Comparison of Road Treatments in Heifer Creek Vicinity.....	4-20
Figure 4-4 Present Net Value.....	4-81

List of Tables

Table 1-1 Acres by Management Area, Silvies Canyon Project Area	1-8
Table 2-1 Proposed Action Road Closures.....	2-9
Table 2-2 Proposed Action Commercial Harvest Acres.....	2-11
By Treatment	
Table 2-3 Proposed Action Fuel Blocks.....	2-12
Table 2-4 Alternative Three Road Closures.....	2-13
Table 2-5 Alternative Four Road Closures.....	2-15
Table 2-6 Alternative Four Commercial Harvest Acres by Treatment.....	2-17
Table 2-7 Alternative Five Road Closures.....	2-18
Table 2-8 Alternative Five Commercial Harvest Acres by Treatment.....	2-20
Table 2-9 Alternative Five Fuel Blocks	2-20
Table 2-10 Alternative Six Road Closures.....	2-21
Table 2-11 Alternative Six Fuel Blocks.....	2-23
Table 2-12 Preferred Alternative Road Closures.....	2-24
Table 2-13 Preferred Alternative Commercial Harvest Acres.....	2-26
By Treatment	
Table 2-14 Alternative Seven-A Road Closures	2-28
Table 2-15 Alternative Seven-A Commercial Harvest Acres	2-30
By Treatment	
Table 2-16 Alternative Seven-A Fuel Blocks	2-30
Table 2-17 Down Wood Requirements	2-38
Table 2-18 Timing Restrictions for Raptor Nests (General).....	2-40
Table 2-19 Goshawk Nest Sites	2-41
Table 2-20 Issue Comparison.....	2-52-2-57
Table 2-21 Proposed Implementation Table.....	2-58-2-59
Table 3-1 Road Densities.....	3-2
Table 3-2 Existing Large Woody Material per mile by stream reach.....	3-11
Table 3-3 Comparison of Existing Pools.....	3-12
Table 3-4 Channel stability, sensitivity to disturbance, streambank erosion potential and influence of vegetation.....	3-13
Table 3-5 Roads Impacting Aquatic Habitat.....	3-14
Table 3-6 Existing ERA and TOC.....	3-15
Table 3-7 Historical Stocking Levels.....	3-20
Table 3-8 Historical Snag Levels per acre for Ponderosa Pine PAG.....	3-21
Table 3-9 Historical Snag Levels per acre for Mixed Conifer PAG.....	3-23
Table 3-10 Current Condition of Natural Fuels within Fuel Blocks.....	3-28
Table 3-11 Noxious Weeds Sites in the Silvies Canyon Watershed.....	3-41
Table 3-12 Comparison of National, State and Local Unemployment and Income Averages.....	3-45
Table 3-13 Malheur National Forest Timber Offer.....	3-47
Table 3-14 Cover in Summer and Winter Range by Subwatershed.....	3-49
Table 3-15 Summer and Winter Range HEI Values.....	3-50

Table 3-16 Acres and percentage of area by structural stage within nine goshawk post-fledging areas.....	3-58
Table 3-17 MIS for Dead and Defective Tree Habitat.....	3-59
Table 3-18 Neotropical migrants of concern considered.....	3-61
Table 3-19 Description of DOGs.....	3-62
Table 3-20 Dispersed Campsites by Subwatershed and RHCAs.....	3-70
Table 3-21 Eligibility Determination by Site Type.....	3-71
Table 3-22 Old and New Scenery Management Terms.....	3-72
Table 4-1 Specific Roads Treatments by Alternative.....	4-19
Table 4-2 Stream Categories by Burn Block.....	4-23
Table 4-3 Magnitude of Commercial Harvest and Related Activities.....	4-26
Table 4-4. ERAs for Alternatives Two, Four, Five, Seven, and Seven-A.....	4-28
Table 4-5. ERAs for Alternatives Three, and Six.....	4-28
Table 4-6. A sample of soil data from the Project Area.....	4-31
Table 4-7. Acres of Commercial Harvest and PCT in Fuel Blocks.....	4-45
Table 4-8. Acres of Stand Structure Manually Treated by Alternative.....	4-45
Table 4-9. Acres and Percent of Herblands and Shrublands by Fuel Block.....	4-48
Table 4-10 Comparison of hand and grapple piling following precommercial thin for each alternative.....	4-50
Table 4-7 Acres Changed From SEC to SEO by Alternative.....	4-52
Table 4-12 Projected Acres of Late/Old Structure (OF) in 25 and 50 yrs Following Proposed Treatments.....	4-64
Table 4-13 Amount of emissions to be released by burning slash and natural fuels in each Action Alternative.....	4-68
Table 4-14 Summary of Affected Range Resources.....	4-72
Table 4-15 Summary of the Effects to Grant County.....	4-82
Table 4-16 Summary of the Effects to Harney County.....	4-84
Table 4-17 Summary of the Effects to Other County.....	4-84
Table 4-18 Percentages of satisfactory and marginal thermal cover remaining in summer range by Alternative.....	4-90
Table 4-19 Percentages of satisfactory and marginal thermal cover remaining in winter range by Alternative.....	4-90
Table 4-20 Road density comparison in summer and winter range.....	4-95
Table 4-21 Summer Range HEI values by Alternative.....	4-99
Table 4-22 Winter Range HEI values by Alternative.....	4-100
Table 4-23 Road-associated Factors that Negatively Affect Habitat or Terrestrial Wildlife.....	4-111
Table 4-24 Summary of Effects on PETS Species.....	4-113
Table 4-25 Goshawk nest core acres treated by the action alternatives.....	4-127
Table 4-26 Prescribed Burning in Goshawk PFAs.....	4-128
Table 4-27 Acres of YFMS/OFMS/OFSS in existing PFAs and percentage YFMS treated with commercial harvest in PFAs.....	4-131
Table 4-28 Acres of young forest in existing PFAs, percentage of young forest treated with commercial harvest in PFAs.....	4-131
Table 4-29 Prescribed Burn Extent by Alternative.....	4-150
Table 4-30 DOG Acres.....	4-156

Table 4-31 ROG Acres.....	4-156
Table 4-32 Treatment in LOS by Alternative.....	4-164
Table 4-33 Estimated ROS Acres by Alternative.....	4-176

List of Maps

Map 1 – Proposed Action (Alt. 2) Road Treatments, Upper Area.....	2-60
Map 2 – Proposed Action (Alt 2) Road Treatments, Lower Area.....	2-61
Map 3 – Alternatives 3 & 4 Road Treatments, Upper Area.....	2-62
Map 4 – Alternatives 3 & 4 Road Treatments, Lower Area.....	2-63
Map 5 – Alternative 5 Road Treatments, Upper Area.....	2-64
Map 6 - Alternative 5 Road Treatments, Lower Area.....	2-65
Map 7 – Alternatives 6 & 7a Road Treatments, Upper Area.....	2-66
Map 8 – Alternatives 6 & 7a Road Treatments, Lower Area.....	2-67
Map 9 – Preferred Alternative (Alt. 7) Road Treatments, Upper Area.....	2-68
Map 10 – Preferred Alternative (Alt. 7) Road Treatments, Lower Area.....	2-69
Map 11 – Proposed Action (Alt. 2) Treatment Units, Upper Area.....	2-70
Map 12 - Proposed Action (Alt. 2) Treatment Units, Lower Area.....	2-71
Map 13 – Alternative 3 Treatment Units, Upper Area.....	2-72
Map 14 – Alternative 3 Treatment Units, Lower Area.....	2-73
Map 15 – Preferred Alternative & Alternative 4 Treatment Units, Upper Area.....	2-74
Map 16 – Preferred Alternative & Alternative 4 Treatment Units, Lower Area.....	2-75
Map 17 – Alternative 5 Treatment Units, Upper Area.....	2-76
Map 18 - Alternative 5 Treatment Units, Lower Area.....	2-77
Map 19 – Alternative 6 Treatment Units, Upper Area.....	2-78
Map 20 – Alternative 6 Treatment Units, Lower Area.....	2-79
Map 21 - Alternative 7a Treatment Units, Upper Area.....	2-80
Map 22 – Alternative 7a Treatment Units, Lower Area.....	2-81
Map 23 – Proposed Fuel Blocks.....	2-82
Map 24 – Spring Habitat Restoration.....	2-83
Map 25 – Cottonwood Sites.....	2-84
Map 26 – Noxious Weed Old Sites.....	2-85
Map 27 – Noxious Weed New Sites.....	2-86
Map 28 – Wildlife Corridor with Proposed Dedicated Old Growth.....	2-87
Map 29 – Stream Segments with Water Temperatures Exceeding State Water Quality Standards.....	2-88
Map 30 – Stream Reach.....	2-89
Map 31 – Road Segments Contributing to Fine Sedimentation to Stream Channels and Degrading Aquatic Habitat.....	2-90
Map 32 – Past Harvest Activities with Stream Category.....	2-91
Map 33 – Stream Segments with Large Wood Deficit and Surveyed Segments.....	2-92
Map 34 - Stream Segments with Deficit Pools and Surveyed Segments.....	2-93

Map 35 – Native Surface Roads Inside Erosive Soils Types.....	2-94
Map 36 – Road and Stream Crossings with Soil Classes.....	2-95

Summary of Changes Between Draft and Final EIS

A number of changes, corrections, and clarifications to the Silvies Canyon Watershed Restoration Project Draft Environmental Impact Statement (DEIS) have been made based on public comments and further analysis. The most notable changes are summarized by chapter. Minor edits and corrections are not included in this list.

Preface Material

- The list of acronyms commonly used in the FEIS has been updated and is located on the inside front cover.
- A summary of changes from the Silvies Canyon Watershed Restoration Project Draft Environmental Impact Statement (DEIS) has been added.

Summary

- The stand-alone summary of the DEIS has been updated and revised into an Executive Summary and is attached to the FEIS. The Executive Summary identifies key information and components of the FEIS.

Chapter 1

- The arrangement of Chapter 1 has been modified.
- The Purpose and Need section has been expanded.
- The Public Involvement section has been updated. A section on the proposed wilderness designation by the Oregon Wilderness Coalition was included.
- A Roads Analysis (April 2002) has been completed and incorporated by reference.
- The Issues and Other Issues sections have been revised. Big game habitat has been added as an issue and economic and social impacts have been moved to Other Issues.
- The Modified Proposed Action has been renamed the Proposed Action.

Chapter 2

- The arrangement of Chapter 2 has been modified.
- Alternative 10 in the DEIS is now Alternative 6 in the FEIS.
- The Preferred Alternative is now numbered Alternative 7 and this section has been expanded.
- Alternative 7-a has been added due to public comments on the DEIS.
- Fuel blocks have been revised to exclude many areas that are outside the watershed boundary. Fuel block 13 has been dropped.
- Proposed harvesting conifers over 21 inches dbh in aspen stands has been dropped from Alternatives 2, 5, and the Preferred Alternative.
- Proposed harvesting of conifers within aspen stands that are located in RHCA's has been dropped from Alternatives 2, 4, 5, and the Preferred Alternative.