Chapter 1 Purpose and Need

Introduction

The United States Department of Agriculture (USDA) Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed watershed restoration activities within a portion (approximately 75%) of the Silvies Canyon Watershed. Restoration activities are proposed to improve the ecosystem health of the watershed (See The Proposed Action on page 1-16).

The Silvies Canyon Watershed comprises about 81,000 acres within seven subwatersheds. The watershed is located about 20 air miles north of Burns, Oregon on the Emigrant Creek and Blue Mountain Ranger Districts (formerly Burns and Bear Valley Ranger Districts) of the Malheur National Forest. Restoration activities would be focused on about 65,000 acres in these subwatersheds: Myrtle Park, Sage Hen Creek, Stancliffe Creek, Burnt Mountain, Boulder Creek/Fawn Creek, Myrtle Creek, and Red Hill. About 16,000 acres, mainly within the Red Hill subwatershed, are not administered by the USDA Forest Service and are not proposed for restoration activities with this analysis.

How This EIS is Organized

This EIS is presented in five chapters as illustrated.

Chapter 1. Purpose and Need

The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded

Chapter 2. Alternatives

This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment

This chapter gives a description of the physical and biological setting of the Silvies Canyon Watershed.

Chapter 4. Environmental Consequences

This chapter describes the environmental effects of implementing the proposed action and other alternatives and is organized by resources.

Chapter 5. List of Preparers, Distribution List and Other Information

This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement as well as a Distribution List, Glossary, Literature Cited, and Index.

Appendices

The appendices provide more detailed information to support the analyses presented in the environmental impact statement.

Appendix A - Proposed Road Closures and Roads Analysis
Appendix B- Proposed Vegetation Units and Aspen Sites
Appendix C - Biological Evaluation/Assessment
Appendix D – Public Comments and Response to Comments
Appendix E- Soils Information
Appendix F – Best Management Practices

Background

On December 9, 1999, a Notice of Intent was published in the Federal Register to announce the preparation of an Environmental Impact Statement (EIS) for the Silvies Canyon Watershed Restoration Project. In compliance with National Environmental Policy Act (NEPA) and other relevant State and Federal laws and regulations, the Malheur National Forest prepared a Draft Environmental Impact Statement (DEIS) on the effects of restoration activities within the Silvies Canyon watershed. On March 9, 2001, a Notice of Availability was published in the Federal Register. The DEIS presented seven alternatives (including the No Action alternative) for improving and enhancing the ecosystem health within a portion of the Silvies Canyon Watershed. It displayed the environmental impacts and management implications of these seven alternatives.

On May 22, 2001, Forest Supervisor Bonnie J. Wood decided to prepare a supplement to the Silvies Canyon Watershed Restoration Project DEIS pursuant to 40 CFR 1502.9(c)(1)(ii). A Notice of Intent to prepare a Supplemental Draft Environmental Impact Statement (SDEIS) was published in the Federal Register on August 16, 2001. A Notice of Availability was published in the Federal Register on November 9, 2001. The SDEIS disclosed additional information on the social and economic effects of the Silvies Canyon Watershed Restoration Project.

This FEIS is designed to inform the public of the No Action, The Preferred Alternative, The Proposed Action, and five alternatives to the Proposed Action, and their effects. The FEIS discloses the direct, indirect, and cumulative environmental impacts resulting from each alternative, as well as any irreversible or irretrievable commitment of resources. It is prepared in accordance with the format established by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508) regulations implementing NEPA.

Figure 1-1 displays the 65,000-acre portion of the Silvies Canyon Watershed proposed for restoration, in relation to the state of Oregon and the Malheur National Forest.

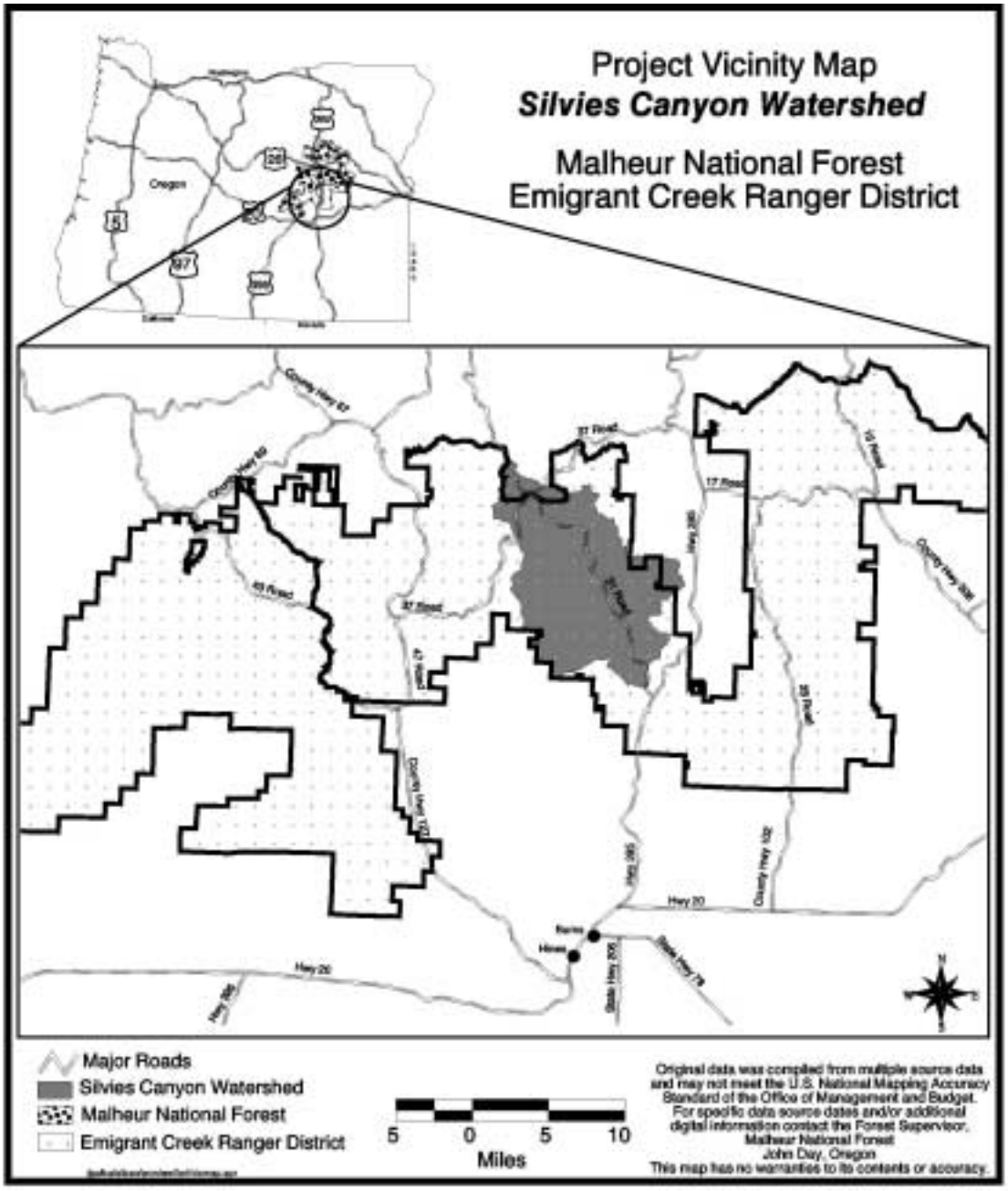


Figure 1-1. Silvies Canyon Watershed Vicinity Map - Location of the Silvies Canyon Watershed on the Emigrant Creek Ranger District, Malheur National Forest.

The Decision-Making Process

National Forest planning takes place at several levels. Decision-making begins with long range planning at the National level, continuing through the Regional and Forest levels, and down to the project level. The Silvies Canyon Watershed Restoration Project is a part of this hierarchical planning process. This FEIS is a project-level analysis; its scope is confined to issues within the project area.

Management Direction

This EIS process and documentation has been prepared according to direction contained in the following laws, regulations, and documents:

- *National Forest Management Act* (NFMA)
- *National Environmental Policy Act* (NEPA)
- *Council on Environmental Quality* (CEQ) regulations 40 CFR 1500-1508
- *Clean Water Act*
- *Endangered Species Act* (ESA)
- *National Historic Preservation Act*
- *Forest Service Handbook and Manual*

This FEIS is tiered to the *Malheur National Forest Land and Resource Management Plan FEIS* (herein referred to as the Forest Plan) approved May 25, 1990 as amended by:

- Forest Plan Amendment #29 for *Incorporation of the Columbia River Basin Anadromous Fish Habitat Management Policy and Implementation Guide (The Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH)),* (herein referred to as Forest Plan Amendment #29) dated August 18, 1994.
- The Regional Forester's Amendment #2 for the *Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales,* (herein referred to as Regional Forester's Amendment #2) dated June 5, 1995.
- The *Inland Native Fish Strategy EA, Decision Notice and Finding of No Significant Impact,* (herein referred to as INFISH) dated July 28, 1995.

Alternatives were designed to meet interim direction for Roadless Area Protection published in the Federal Register (66 FR 44111) on August 22, 2001 and Forest Transportation System Analysis and Roadless Area Protection (66 FR 65796) on December 20, 2001.

This FEIS is not a decision document, but is meant to provide sufficient information to form a basis for decision-making. The Forest Supervisor is the responsible official and will decide to:

- select the Preferred Alternative, an alternative to the Preferred Alternative, or No Action; or
- modify an alternative

Based on the information in the FEIS, the Forest Supervisor will select a course of action, and present the reasons and conditions in a document called a Record of Decision (ROD). The Forest Supervisor will determine if the selected alternative is consistent with the Forest Plan or whether to amend the Forest Plan as necessary. The ROD will document Forest Plan amendments, if any are needed.

Watershed Assessment

A Watershed Assessment (WA) for this watershed was completed in November 2000. The intent of Watershed Assessment is to develop and document a scientifically based understanding of the processes and interactions occurring within a watershed. This FEIS incorporates by reference the *Silvies Canyon Watershed Analysis*, dated November 2000. The *Silvies Canyon Watershed Analysis (November 2000)* followed a six-step process that characterized the watershed (Step 1), identified issues and key questions (Step 2), described current resource conditions (Step 3), described reference conditions (Step 4), synthesized and interpreted information (Step 5), and made recommendations (Step 6). The *Silvies Canyon Watershed Analysis (November 2000)* analyzed opportunities from which to develop site-specific projects designed to meet enhancement or management opportunities that would cause positive trends towards the desired future conditions, as identified in the Forest Plan. Existing conditions were determined from field data. The differences between existing condition and desired future condition represent selected resource opportunities for the Silvies Canyon Watershed. This FEIS incorporates many of the recommendations made in the *Silvies Canyon Watershed Analysis (November 2000).*

Roads Analysis

On March 3, 2000, the Forest Service published its proposed transportation system policy revisions in the Federal Register (65 FR 43). Decisions to close, decommission, reconstruct, construct, and maintain roads are to be informed by a science based Roads Analysis (RA). Miscellaneous Report FS-643, *Roads Analysis: Informing Decisions About Managing the National Forest Transportation System,* was published in August 1999, and describes in detail the Roads Analysis process. Forest Service Manual (FSM) 7700, specifically section 7712, also provides details about how the Roads Analysis process should be done. A Roads Analysis makes recommendations for each road in a specific area. When projects such as the Silvies Canyon Watershed Restoration Project are developed, recommendations from Roads Analysis (and Watershed Analysis) are incorporated.

Analysis of the roads system began in the *Silvies Canyon Watershed Analysis* (November 2000) and was included in the Silvies Canyon DEIS as an Access and Travel Management Plan. Through public comment and interdisciplinary team (IDT) participation, recommendations have been made for each road. The *Silvies Canyon Watershed Roads Analysis* (April 2002) states the overall objective for roads is to reduce road-related impacts to water quality and fish habitat, and reduce road densities for wildlife enhancement while at the same time providing adequate access to users. Many of the recommendations for road closures, repairs, and decommissioning in the *Silvies Canyon Watershed Roads Analysis* (April 2002) have been incorporated into this FEIS (See Appendix A).

Management Areas

The Forest Plan (1990) divided National Forest System Lands into Management Areas (MA), each with different management goals, resource potential, and limitations. Forest Plan Amendment #29 (1994) amended MA 3A and 3B (Riparian Areas) and provided desired future conditions for each of these MAs. Additionally, this amendment provided more specific numeric standards for these MAs. Standards are now based on the same scientific information used in PACFISH (March 25, 1994) and INFISH (July 28, 1995). Riparian Habitat Conservation Areas (RHCAs) were created with PACFISH and INFISH. In this manner, RHCAs are not management areas; however, they amend the Forest Plan and incorporate new goals, objectives, standards, guidelines, and management direction. These new standards take the place of direction described in the Forest Plan. The Forest Plan also identified Roadless Areas. The following MAs, Roadless Areas, RHCAs and other ownerships are located within the Silvies Canyon project area.

Management Area 1 – General Forest

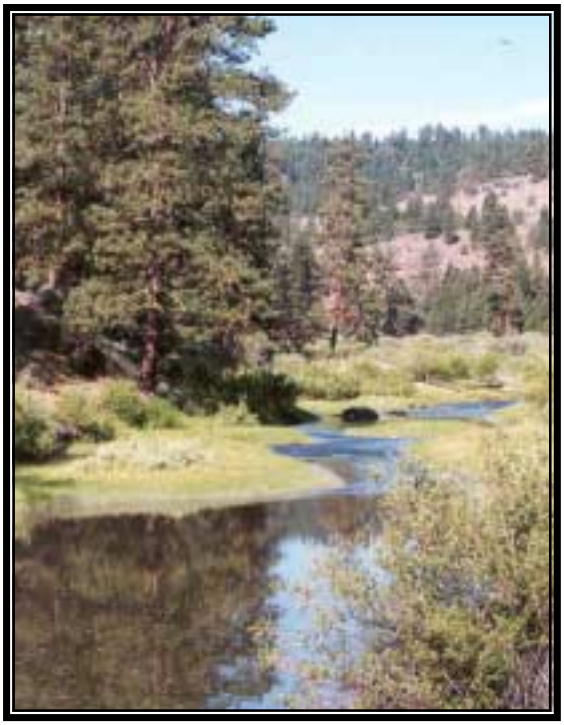
This Management Area is designed to emphasize timber production on a sustained yield basis while providing for other resource values. The goal is to develop equal distribution of age classes to optimize sustained timber production. Generally, acres for MA 1 and MA 2 (see below) are combined. The Silvies Canyon project area contains about 30,500 acres (47%) of MA 1/2.

Management Area 2 - Rangeland

Management Area 2 primarily consists of non-forested grasslands and low elevation ponderosa pine sites unsuitable for timber production, and Rangeland is usually included as non-forested lands within other MAs, primarily MA 1 – General Forest. The goal of this MA is to emphasize forage production on a sustained yield basis while providing for other resources and values. See MA 1 for acres.

Management Area 3A – Non-Anadromous Riparian Areas

Management Area 3A consists of lakes, perennial streams and seasonally flowing streams; lands adjacent to lakes, perennial and seasonal streams; floodplains and wetlands; wet, moist areas such as meadows, springs, seeps, bogs, and wallows; and quaking aspen stands in watersheds that do not support anadromous fish. The goal of this MA is to protect or enhance riparian-dependent resources in watersheds supporting resident fish. MA 3A areas are reflected within RHCAs described below.



Silvies River
Management Area 3A

Management Area 4A – Big-Game Winter Range Maintenance

Management Area 4A consists of non-forested grasslands, bitterbrush and mountain mahogany brush fields; and forested lands. The goal of MA 4A is to maintain or enhance the quality of the winter range habitat for deer and elk through timber harvesting, prescribed burning, and other management activities, including access management and restricted activities during winter months. The Silvies Canyon project area contains about 14,929 acres (23%) of MA 4A.

Management Area 10 – Semi-Primitive Non-Motorized Recreation Areas

Management Area 10 consists of areas that are portions of, and lands adjacent to former roadless areas. A variety of physical and biological environments occur in these areas, both forested and non-forested, as determined by soil, slope, aspect, elevation, and climatic factors. The goal of this MA is to protect, enhance, and maintain the natural beauty and character of undeveloped areas through effective visitor-use and resource management. The Silvies Canyon project area contains about 7,916 acres (12%) of MA 10.

Management Area 13 – Old Growth

Management Area 13 is composed of mature and over-mature trees (150 years or older), which provide: habitat for wildlife species dependent on mature and over-mature forest conditions, ecosystem diversity, and preservation of aesthetic qualities. These areas are distributed across the Forest, providing an old growth network. Wildlife species dependent on these lands include the pileated woodpecker and pine marten. These acres reflect both designated and replacement old growth and include only those areas outside wilderness, research natural areas, semi-primitive areas, and wild and scenic rivers. The Silvies Canyon project area contains about 1,537 acres (2%) of MA 13.

Management Area 14 – Visual Corridors

Management Area 14 consists of visible and potentially visible landscapes along major travel routes, and state scenic waterways where the traveling public has a high to medium sensitivity to scenery. U.S. Highway 395 has been identified as a Sensitivity Level 1 Scenic Viewshed. Portions of the Silvies Canyon watershed are within the viewshed (middleground) of Highway 395. The goal of MA 14 is to manage corridors within scenic viewsheds with primary consideration given to scenic quality and growth of large diameter trees. Forest Plan direction would be to manage areas designated middleground, altered (using partial retention as the visual quality objective) in Sensitivity Level 1 corridors. The Silvies Canyon project area contains about 1,702 acres (3%) of MA 14.

Roadless Areas

The 7,916 acres in Management Area 10 are associated with the 11,776-acre Myrtle-Silvies Roadless Area. The Record of Decision for the Forest Plan states the portion of the Myrtle-Silvies Roadless Area that is within the semi-primitive non-motorized area is to be managed with no scheduled timber harvest and in an unroaded condition, but for multiple use. A variety of physical and biological environments occur in this area, both forested and non-forested, as determined by soil, slope, aspect, elevation, and climatic factors. The Myrtle-Silvies roadless area consists of unimproved roads to the canyon rims, trails along Myrtle and West Myrtle Creeks in the canyon bottoms, and the "Silvies River Jeep Trail," a four-wheel drive, two-track road (Forest Road 3100035) which was identified in the Forest Plan for closure at the first river crossing. The Myrtle-Silvies Roadless Area accounts for approximately 19% of the project area; however, it has been accounted for within the Management Area percentages.

RHCA – Riparian Habitat Conservation Areas

Riparian habitat conservation areas are portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. The Silvies Canyon project area contains about 5,528 acres (8%) of RHCAs. These areas include traditional riparian corridors, wetlands, intermittent headwater streams (MA3A), and other areas where proper ecological functioning is crucial to maintenance of the streams water, sediment, large woody material, and nutrient delivery systems.

Other Ownership

Other ownership in the Silvies Canyon Watershed is land managed by the Bureau of Land Management (BLM) or private property (PVT). About 3026 acres or 5% of the area within the project area boundary is classified in this manner.

Table 1-1. Acres by Management Area, Silvies Canyon Project Area.

Management Area or Other	Acres
Management Area 1/2	30,500
RHCA	5,528
Management Area 4A	14,929
Management Area 10	7,916
Management Area 13	1,537
Management Area 14	1,702
Other Ownership	3,026
Total	**65,138**

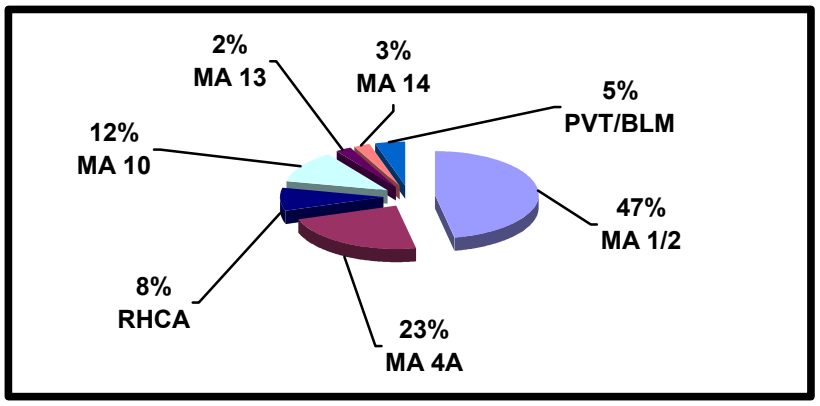


Figure 1-2. Percent of Project Area by Management Area

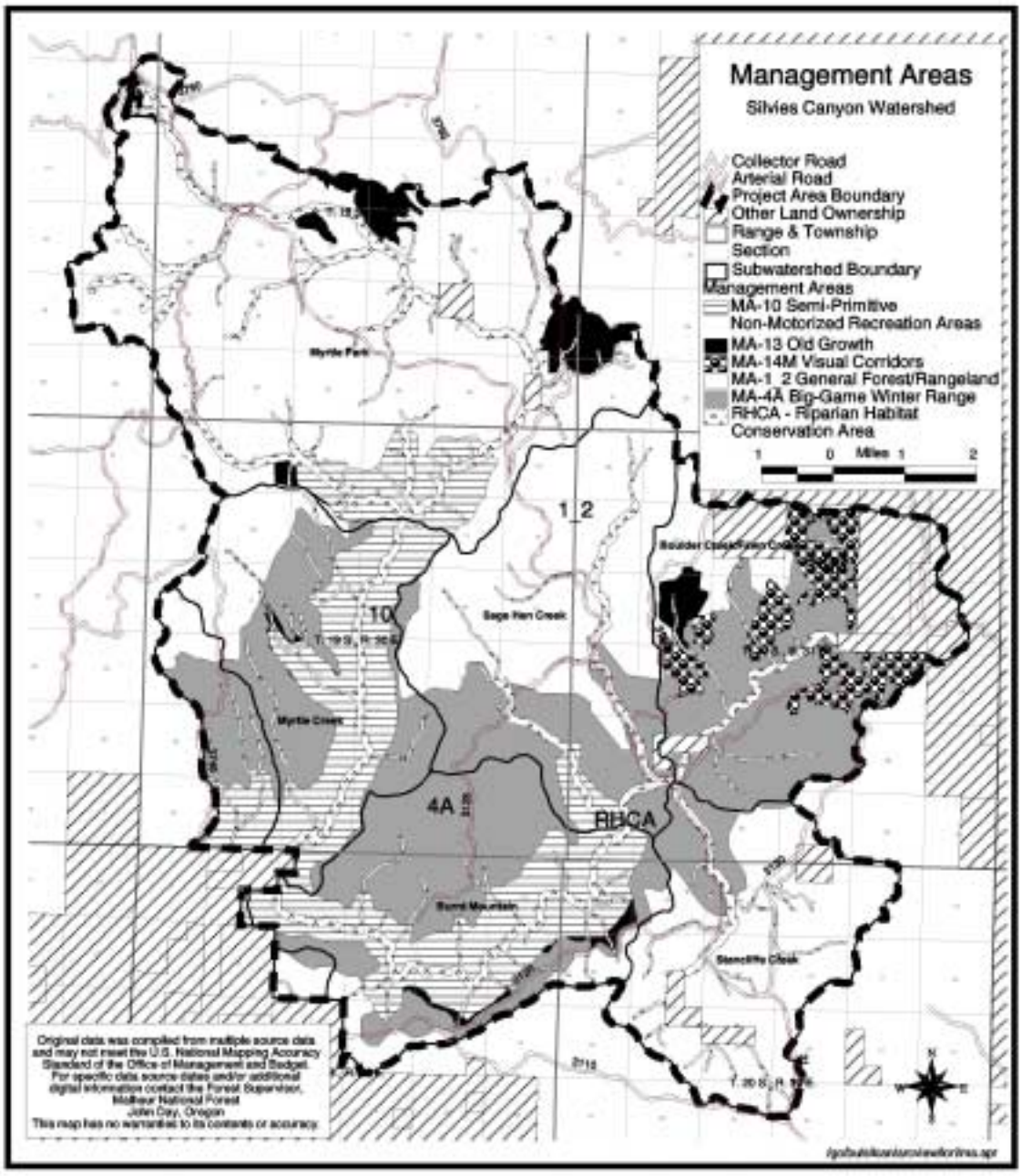


Figure 1-3. Silvies Canyon Watershed Management Areas – Management Areas in the Silvies Canyon Watershed Restoration Project.

Management Area Hierarchy

Overlap of Management Areas is inevitable. When a specific segment of land falls under the goals of two or more MAs, acres are assigned to the higher priority MA. The hierarchy developed to prioritize assignment of MAs is based primarily upon: established authority (i.e. Congress or Forest Supervisor), designated use, and forest requirements. The numbering of MAs does not reflect any hierarchy of acreage assignment. New standards, guidelines, and direction will supersede or replace conflicting direction described in the Forest Plan. For example, RHCAs are more restrictive than MA 3A and therefore supersede or replace them. The management hierarchy for National Forest System Lands that fall within the Silvies Canyon watershed is: RHCA – Riparian Habitat Conservation Areas, MA 10 - Semi-Primitive Non-Motorized Recreation Area, MA 13 – Old Growth, MA 5P – Potential Bald Eagle Winter Roosts, MA 14 - Visual Corridors, MA 3A – Non-Anadromous Riparian Areas, MA 4A – Big-Game Winter Range Maintenance, MA 1/2 – General Forest/Rangeland.

As an example, the Management Area for the Semi-Primitive Non-Motorized Recreation Area (MA 10) associated with the Myrtle-Silvies Roadless Area has acres that are classified as RHCAs but also has acres that are classified as old growth (MA 13), and a potential bald eagle winter roost (MA 5P), but these acres are tracked under the Semi-Primitive Non-Motorized Recreation Management Area. The hierarchy of MAs is the reason that MA 5P is not visible, and why only small portions of MA 13 are visible on Figure 1-3, Silvies Canyon Watershed Management Areas. Figure 1-4 shows the location of old growth areas (MA 13) and potential bald eagle winter roost areas (MA 5P).

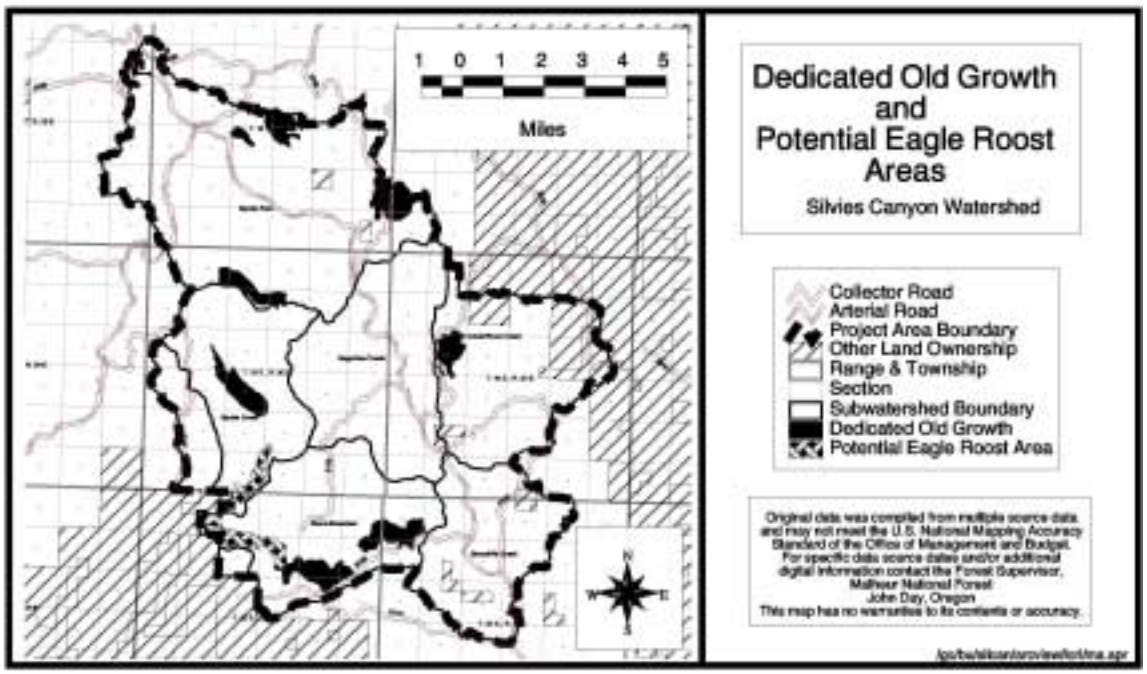


Figure 1-4. Silvies Canyon Watershed Dedicated Old Growth and Potential Eagle Roost Areas.

Purpose of and Need for Action

The purpose of proposed activities for the Silvies Canyon Watershed Restoration Project is to:

1. Improve watershed conditions by reducing road related-impacts, specifically negative impacts to water quality, fish habitat, and wildlife habitat; and meet requirements of the Malheur National Forest Plan, (Silvies WA 2000, Step 6, Pages 4-6),

2. Improve riparian and overall watershed conditions through enhancement of riparian vegetation, and management of upland and riparian vegetation structure and composition; and meet requirements of the Malheur National Forest Plan, (Silvies WA 2000, Step 6, Pages 2-4),

3. Improve the health, vigor, and resiliency of vegetation to insects, disease, wildfire, and other disturbances, to more closely resemble historical conditions in order to promote long-term forest sustainability and wildlife species diversity; and meet requirements of the Malheur National Forest Plan, (Silvies WA 2000, Step 6, Pages 2-11),

4. Adjust dedicated old growth (DOG) areas and identify replacement old growth and feeding areas (ROG) as appropriate to meet habitat needs for old-growth dependent species, and meet requirements of the Malheur Forest Plan (Silvies WA 2000, Step 6, Page 9).

5. Capture the economic value of those trees that are surplus to other resource needs on lands identified in the Forest Plan as suitable for harvest (Forest Plan, III-1, IV-2) (Silvies WA 2000, Step 3, Pages 41-42, and Step 6, Pages 9-10).

The need for action is based on the current conditions of resources within the watershed. This section provides a summary of the need for action. Chapter 3 presents the baseline environment and a more detailed description of relevant resource components of the existing environment.

Access and Travel Management Need

Road densities in the Silvies Canyon Watershed are exceeding Forest Plan standards in both winter and summer range for elk. Forest Plan road density standards are 2.2 mi/mi² in elk winter range, and 3.2 mi/mi² in elk summer range. Open road densities within the watershed average 2.4 mi/mi² in elk winter range, and 3.7 mi/mi² in elk summer range. There is a need to reduce road densities to meet Forest Plan standards.

There are about 33 miles of road within RHCAs that cross or parallel tributary streams within the Silvies Canyon Watershed. Additionally, twelve roads were identified during surveys as contributing fine sediment directly to stream channels and degrading aquatic habitat. A specific road of environmental and public concern is a portion of forest road 3100035, which was identified in the Forest Plan for closure at its first river crossing. This closure has been ineffective. Forest road 3100035 is within the Myrtle-Silvies Roadless Area and makes it possible for motorized vehicles to ford the Silvies River and illegally travel into the semi-primitive non-motorized recreation area, thus violating non-motorized standards for this area. Illegal use of this area by motorized vehicles has not been monitored; however, it is estimated that between 50 and

100 motorized vehicles access this area yearly. There is a need to reduce erosion and sedimentation from roads within RHCAs.

Riparian Habitat, Water Quality, and Fisheries Habitat Condition Need

Water quality standards as set forth in the Oregon Administrative Rules (OAR) that are known to be exceeded, or are suspected of being exceeded, are placed on a listing in Chapter 303(d) of the Water Quality Act as specified by the OAR, in accordance with the Clean Water Act (CWA). Myrtle Creek, Stancliffe Creek and the Silvies River have been monitored for water temperature and all have exceeded the maximum water temperature standards established by ODEQ at least once during the period of 1995-1999. To date, Myrtle Creek is listed on the 303(d) list for not meeting temperature standards. A high degree of embeddedness is a sign that the watershed is producing an excessive amount of sediment to the stream system. Streams with reaches found to have a high degree of embeddedness based on pebble count data include Sage Hen Creek, West Myrtle Creek and Myrtle Creek.

Stream systems within the Silvies Canyon Watershed area have been impacted by road location, construction, and lack of maintenance. Stream data indicate road, or other types of disturbed ground as being sources of sediment routed into the stream. There are almost 33 miles of roads within RHCAs. The potential for sedimentation from these roads is high because of grade of road, lack of adequate drainage, or lack of vegetative cover between the road and stream to filter sediment. Specifically, twelve roads were identified during surveys as contributing fine sediment directly to stream channels and degrading aquatic habitat. There is a need to reduce erosion and sedimentation from roads in the Watershed.

Example of riparian habitat in need of restoration
Gribble Spring
Note the heavily browsed riparian shrubs

Aspen and cottonwood are special habitats that provide diversity, contribute to quality and quantity of riparian habitat, and are an integral part of plant or animal life cycles within the area. A diverse riparian habitat including aspen and cottonwood improves fish, amphibian and invertebrate habitat, by reducing stream bank erosion and correlated siltation, increasing shade to maintain lower water temperatures, and periodically contributing material to the stream channel. Within the 50,035 acres of forested lands in the watershed there are 268 acres of located aspen stands and only two known sites of cottonwood (less than 5 acres). Approximately 50% of the perennial water sources in the watershed originate in these aspen stands, and 60% of the bird species that use the area rely upon riparian vegetation, which is dependant upon these water sources, for feeding or reproduction Additionally, a large number of mammal species rely upon the same riparian vegetation. There is a need for proper management of aspen to prevent the loss of this important component of the ecosystem.

There are 46 mapped springs throughout the watershed, although many springs have not been mapped. Springs within the Myrtle Creek and upper Stancliffe areas connect to the stream network and augment flows and influence water temperatures. Springs near Sage Hen and Little Sage Hen Creeks appear to be linked with roads and may be the result of intercepted subsurface flows brought to the surface by road cuts. Riparian habitat (spring) restoration activities are needed for wildlife habitat and watershed enhancement.

Vegetation Condition Need

Non-forest vegetation within the watershed is dominated by a variety of perennial grasses, forbs, and shrubs. Non-forest vegetation includes grasslands, shrublands, riparian and woodlands. The composition is the result of interactions among such factors as tree canopy cover; big game use; historical and current livestock use, forest management activities, and the presence or absence of fire in the ecosystem. These factors have caused the conversion of meadows, riparian areas, and rangelands into forested lands and conifer encroachment into areas where they were not historically prevalent. There has been an increase in annual species and a decrease in perennial species due to past grazing practices, fire suppression, and the increase of woody vegetation, which has reduced soil moisture. There is a need to implement management actions that would begin to move non-forested vegetation toward its historic range and composition.

Current composition and densities of forested areas are unhealthy and outside the historic range of variability (HRV). Forested areas within the watershed were historically dominated by ponderosa pine. Although most of the watershed is not ponderosa pine climax, periodic, low-intensity fires maintained most of the areas in the ponderosa pine seral stage. With the advent of fire suppression in the early 1900's, the decline in American Indian burning, and past management practices such as timber harvest and grazing, the levels of Douglas-fir and white fir have increased dramatically within the last 100 years, thus changing the forest's species composition, density, and structure. Current tree stocking levels are higher than historic levels. Due to these changes in species composition and stocking conditions, forested areas are experiencing above-normal mortality from insects, causing higher disease levels, lower vigor, and higher mortality rates than normal. Additionally, overstocked conditions, high fuel loading, and increased ladder fuels have increased the risk of large, stand replacement fires.

Throughout the watershed, the large ponderosa pine trees have drastically decreased in percentage of stand composition. This is due to past harvesting of large pines and lack of understory treatment. The existing large pines often have a dense understory, which competes with them for water, the limiting factor in this ecosystem. This has caused a decrease in tree growth, and increased mortality rates. Stress on large ponderosa pines has allowed them to become susceptible to drought and pests such as western pine beetle.

The mixed conifer stands have a much higher component of white fir and Douglas-fir than historically existed while there is a corresponding decrease of ponderosa pine. This is due to past harvesting of large ponderosa pine and effective fire control. This has caused the more shade tolerant fir species to survive in the understory of mixed conifer stands. Additionally, most of the white fir in this understory has been infected with Indian paint fungus stem decay. Dwarf mistletoe in Douglas-fir is wide-spread throughout the watershed. This understory in most areas is generally stunted due to overstory shading and will not develop into healthy, large diameter trees.

Some mixed conifer stands dominated by lodgepole pine are overstocked and at risk to mountain pine beetle attacks. Western larch is found in some stands and needs intervention to reproduce. Many mixed conifer sites are experiencing above normal mortality from insects, higher than normal disease levels, low vigor, and mortality due to overstocked conditions. Additionally, these stands are increasingly vulnerable to stand-replacing wildfires due to high fuel loads. Current composition, structure, and densities of mixed conifer stands are outside HRV. There is a need to address these concerns in forested areas and implement management actions that would begin to move forested vegetation toward its historic range and composition.

Juniper has been increasing its range for the last 120 years throughout the watershed into areas where it previously did not grow because of fire control. Juniper is now common throughout the watershed, including riparian areas. Once established, junipers utilize a majority of available soil moisture causing shrub, forb and grass species to decline. Eventually juniper root systems will utilize most of the available soil moisture to a point that shrub lands can be over taken by juniper woodland, reducing total ground cover and leaving bare ground that is more susceptible to erosion and invasion of non-native plant species. There is a need to implement management actions that would begin to move juniper woodlands toward its historic range and composition.

Aspen mainly occurs in riparian areas as stringer stands, and is declining due to competition with conifers, lack of regeneration, browsing of regeneration by ungulates and lack of disturbance, especially fire. Aspen stands were once more extensive, as shown by the numbers of remnant snags, and down woody material. Surveys conducted in the mid-1800s recorded "jungles of aspen" in some meadows on the Malheur National Forest. The present aspen stands are the remnants of these much larger stands. Existing stands are small and generally late to old structure with very few stands having a young component. Over 80% of the aspen surveyed in the watershed are classified as over-mature to decadent and at risk of loss. There is a need to implement management actions that would begin to restore aspen stands before this important part of the ecosystem is lost.

Not much is known about the historical occurrence of cottonwood in the project area or the Emigrant Creek Ranger District. It is surmised from looking at the distribution of the known sites, and the frequency that maps refer to cottonwood, that it once was more common. Now black cottonwood occurs in only two sites within the watershed. On one of these sites, cottonwood is declining due to competition and lack of reproduction. The other site consists of a single black cottonwood tree. Throughout the Emigrant Creek Ranger District cottonwood is rare and seldom reproduces. Lack of reproduction is due to changes in stream function, browsing pressure and lack of genetic exchange. Generally, the existing cottonwoods within the watershed are decadent and susceptible to disease, pests and wind damage. There is a need to implement management actions that would begin to restore black cottonwood stands before this important part of the ecosystem is lost.

Late and Old Structure Stands

Currently, about 14% (9255 acres) of the project area is made up of stands classified as late and old structure stands (LOS) (a term used in the Regional Forester's Amendment #2, which refers to timber stands where large trees (greater than 21" dbh) are common). Almost all of these stands (99.7%) are classified as old forest multi-stratum (OFMS). A HRV analysis shows that historically 30-70% of the forested watershed was classified as old forest multi-stratum. Refer to Chapter 3 for more information on plant association groups, stand structures and HRV analysis. The LOS

components (large trees) in some stands are under stress and dying at an accelerated rate because of competition from overstocking (see "Purpose and Need for Action"). There is a need to address overstocking in selected LOS stands and to move younger forest stands in the direction of old forest stands to increase and replace the declining LOS stands.

Potential Eagle Roost Stands

There are two potential eagle roost stands within the Myrtle-Silvies Roadless Area. The Silvies River potential eagle roost is about 482 acres, and Myrtle Creek potential eagle roost is about 277 acres. Surveys suggest a decline is underway in roost suitability in the Silvies River potential eagle winter roost. This is due to shifts in tree species composition, mortality of large ponderosa pine due to competition, and increased risk of loss to fire. There is a need to restore suitable tree composition and structure and lower the risk of fire associated with the buildup of fuels and presence of fire ladders (continuous fuel from ground to tree canopy) within potential eagle roost stands.

Dedicated Old Growth and Replacement Old Growth

Under the Forest plan, the six Dedicated Old Growth areas (DOGs, all of which are included in this analysis) were set aside primarily for the management of pileated woodpeckers. Replacement old growth (ROG) and pileated woodpecker feeding areas, as required by the Forest Plan, have not been established for these old growth areas. The old growth network on the Malheur National Forest was first established in the early 1980s. Since then, various levels of field validation and modification of those DOG areas has occurred because associated activities and new studies have made better information about pileated woodpecker habitat available. There are six DOG areas and a portion of a seventh within the watershed. The majority of the seventh DOG lies outside the watershed and already has a ROG designated, and therefore will not be included in this analysis. In order to meet Forest Plan requirements, there is a need to adjust DOG boundaries and establish ROG and pileated woodpecker feeding areas.

Fire and Fuels

The Silvies Canyon Watershed was historically maintained within a low-severity fire regime by frequent (5 to 23 years) fire of low intensity (Maruoka and Agee 1994). Effective fire suppression for the past 100 years has contributed to a dramatic increase in fuel loading, the arrangement of fuels (fuel ladders), and changes in vegetation composition, structure and density. Generally, because of fire suppression and overstocking of multi-storied stands, the forest ecosystem has changed from large, open pine stands to thick-forested stands with fewer large trees, and overstocked understories of white fir and Douglas-fir. These changes in landscape ecology have radically transformed the effects of the fire regime. A high-severity fire regime (infrequent but intense fire, resulting in almost total tree mortality) has been introduced to an ecosystem that was once quite stable in the presence of fire (Agee 2000).

Example of Stand-Replacing Wildfire Outside the Silvies Canyon Watershed 6,000 Acre Jordan Springs Fire Summer 1994

Fires in recent years have increased in intensity and size. Recent examples of large, stand replacement fires on the Emigrant Creek Ranger District include Bald Butte (1979), 1,250 acres; Sawtooth (1987) 600 acres; Whiting Springs (1990) 6,000 acres; Buck Springs (1990) 18,230 acres; Pine Springs Basin (1990) 77,000 acres; and Jordan Springs (1994) 6,000 acres. The watershed is currently at risk of experiencing large, high intensity, stand-replacing wildfires above historic levels. There is a need to reestablish fire regimes near historical cycles to reduce this risk.

Noxious Weeds

Sixty-five noxious weed sites in the watershed were identified and analyzed for treatment under the Environmental Assessment, Noxious Weed Control, Malheur National Forest, April 2000. Manual treatment at these sites is included in the cumulative effects analysis of this FEIS (see Chapter 4).

Twelve additional noxious weed sites, (five Canada thistle, three Russian knapweed, two spotted knapweed and two Dalmatian toadflax) have been located since completion of Forest Noxious Weed Control EA. Untreated noxious weed sites would reduce the effectiveness of the Forest's noxious weed program and would allow further spread of noxious weeds in the watershed and adjoining areas. In order for the noxious weed program to be effective, there is a need to treat known noxious weed sites.

Economic Need

One of the key issues that guided the development of the Forest Plan was economic stability (Forest Plan, II-1). The Forest's primary zone of influence has been determined to be Grant and northern Harney counties. Malheur National Forest policies have a direct impact on local, dependent industries, which in turn, affect business income, wages, employments, and revenues to the counties. Forest management activities and the resulting outputs influence job opportunities, incomes, and the way of life of the approximately 15,000 residents in local communities. Changes in Forest outputs and activities will affect the social and economic life of the local population (Forest Plan III-1). Forest Plan Goal #42 states: *Contribute to the social and economic health of communities which are significantly affected by National Forest management* (Forest Plan IV-3). Therefore, there is a need to provide raw materials and employment opportunities through contracts to aid in community stability.

The Proposed Action

The IDT developed the Proposed Action using the direction found within the Project Initiation Letter (March 1999), signed by District Ranger Jim Keniston. The project was expanded and the Project Initiation Letter modified to incorporate the changes in December 1999. The Proposed Action was used in the scoping process to invite public participation and refine the scope of this project. After this initial scoping process, changes were made to the Proposed Action in response to public comments and after additional analysis. These changes were documented in Chapter 2, page 2-2 of the Silvies Canyon Watershed Restoration Project DEIS. Because of these changes, the Proposed Action was named the Modified Proposed Action in the DEIS. After receiving comments on the DEIS the IDT recognized there was confusion due to this renaming. Forest Service Handbook (FSH) 1909.15 (11) states, *Scoping includes refining the proposed action*…and CEQ regulations (40 CFR 1503.4) allow for modification of "alternatives including the proposed

action" in response to comments. Therefore the IDT decided to forego the name change to the Proposed Action for this FEIS.

The Proposed Action was developed to meet the purpose and need for the project and responds to ecosystem health, watershed improvement, economic objectives and public comments. This section provides a summary of activities proposed under this alternative. A detailed description of the Proposed Action is presented in Chapter 2. Activities already under permit or contract, or authorized under other NEPA based decisions, would continue.

To accomplish the purpose and need for management activity the USDA Forest Service is proposing to move approximately 29,000 acres of forested stands in the project area toward historic ecosystem conditions with the use of commercial, non-commercial and precommercial activities. Moving stand compositions and densities toward more resilient, historic levels would improve tree vigor and reduce the risk of insect and disease. Prescribed burning would be utilized on 39,277 acres to move the area towards HRV (5-23 year fire cycle) and reduce the risk of large stand-replacement wildfires. Miles of open road in the watershed would be reduced to 45% of current levels in order to reduce sediment in the area streams, reduce harassment of wildlife species, reduce maintenance costs, and meet Forest Plan road density standards while meeting other management objectives. Closing and decommissioning roads would reduce the current level of motorized access but not eliminate it. Proposed access changes would allow for resource management, fire suppression, recreation and other uses.

Access and Travel Management Activities

Two hundred sixteen roads or segments of roads totaling 78 miles would be permanently closed with an earth berm, sign, or gate; 85 roads totaling 62 miles would be seasonally closed with a sign; and 5 roads totaling 3 miles would be decommissioned. For site-specific information on these activities refer to chapter 2.

Activities Proposed Within the Myrtle-Silvies Roadless Area

Proposed activities within the Myrtle-Silvies Roadless Area include:

- prescribed burning activities on 5526 acres (fuel block 6);
- riparian habitat (spring) restoration activities on two springs;
- permanent closure of 10 roads totaling 1.51 miles; and
- seasonal closure of six roads totaling 0.58 miles.

These activities are consistent with the interim direction for Roadless Area Protection published in the *Federal Register* on August 22, 2001 (66 FR 44111) and Forest Transportation System Analysis and Roadless Area Protection on December 20, 2001 (66 FR 65796). For more information on these activities, please refer to the following sections, Access and Travel Management Activities, Vegetation Condition Activities, Riparian Habitat, Water Quality, and Fish Habitat Activities.

Riparian Habitat, Water Quality, and Fisheries Habitat Restoration Activities

Restoration activities are proposed on all known aspen stands (268 acres) to enhance decadent aspen. See Appendix B for a complete list of aspen stands and proposed restoration activities. Specific actions under the Proposed Action includes the following methods: commercial harvesting of competing conifers, converting competing conifers to snags and large woody material, precommercial thinning competing conifers less than 7 inches diameter at breast height (dbh), and fencing aspen stands for protection from ungulates. For specific information on these activities refer to Chapter 2 and Maps 11 and 12.

Caged Cottonwood Cutting
Silvies River RHCA

Restoration of site-specific riparian (spring) habitat is proposed for improvement of wildlife habitat and watershed enhancement. Restoration activities include juniper reduction, snag and large woody material creation as necessary to move toward Forest Plan standards, precommercial thinning of conifers, fencing to protect riparian vegetation, developing spring boxes to provide water for livestock where needed, and protection from commercial harvesting activities. For specific information on these activities refer to Chapter 2 and Map 24.

Restoration activities are needed to improve the conditions of cottonwoods, an important component of the ecosystem. There is just one remaining cottonwood stand within the watershed. Planting of cottonwood cuttings is currently occurring within the watershed on an ongoing basis. Specific actions proposed include fencing one historical cottonwood site (about ½ acre or less than 500 feet of fence) for protection, planting and protecting additional cuttings, and precommercial thinning of competing conifers or converting competing conifers to snags or large woody material. For specific information on these activities refer to Chapter 2 and Map 25.

Vegetation Condition Activities

A reduction of the numbers of juniper is proposed to move this species' densities and distribution toward historical conditions. Loewen (project files, April 2001) shows that before Euro-American settlement, most juniper stands were open, sparse, and savanna in nature. The rapid increase in juniper establishment occurred between 1885 and 1920, during a period of higher moisture along with reduced fire frequency and intensity. An estimated 95% of western juniper is less than 100 years old. Juniper reduction would be accomplished commercially (where economical) and non-commercially on 537 acres (Reference Maps 11 and 12).

Commercial harvesting and associated fuels disposal activities (and precommercial thinning where commercial harvesting is not viable) are proposed on 13,222 acres. Approximately 50,000 hundred cubic feet (CCF) or 26 million board feet (MMBF) would be harvested on several timber sales over the course of several years (refer to Table 2-21 at the end of Chapter 2 for the proposed schedule of activities). Specifically, the Forest Service proposes to commercial thin 5885 acres, and intermediate thin 7216 acres. Commercial thinning removes commercial size trees (7 to 21" dbh)

from a stand for the purpose of increasing the spacing between residual trees, while intermediate thinning removes commercial size trees for the purpose of improving the stand composition and increasing the spacing between the residual trees. In both cases, trees of undesirable species, form, and condition would be removed by cutting from below. Commercial harvest activities may take place in 121 acres of aspen stands to accomplish restoration objectives (Reference Maps 11 and 12).

Road maintenance and temporary road construction are necessary to access harvest units. Approximately 164 miles of road would have maintenance activities. For specific information on maintenance activities refer to Chapter 2. No new permanent road construction is proposed. Approximately 3.5 miles of temporary roads would be constructed and rehabilitated after use (Reference Maps 11 and 12 for proposed location of temporary roads).

Post and pole sales are proposed on 452 acres of lodgepole pine stands that are susceptible to mountain pine beetle (Reference Maps 11 and 12).

Precommercial thinning and associated fuels treatment activities are proposed for 15,109 acres. Fuels would be treated either mechanically or manually to reduce fuel accumulations for introduction of prescribed fire (Reference Maps 11 and 12).

Landscape scale fuels treatment activities are proposed on 39,277 acres within twelve fuel blocks. Prescribed fire would be the main tool in removing the excess fuel accumulations and reducing the risk of large stand-replacement fires. Some areas may require treatment prior to reintroducing fire into the area, or a combination of treatments. These treatments include commercial harvesting, precommercial thinning, juniper reduction, and post and pole sales as described above (Reference Map 23).

Twelve noxious weed sites, including five Canada thistle, three Russian knapweed, two spotted knapweed and two Dalmatian toadflax, would be treated under the action alternatives in this FEIS using manual methods (hand pulling and grubbing) (Reference Map 27).

Reconfiguration of Dedicated Old Growth Areas 02011, 02012, 02015, 02016, and 02039

Existing boundaries of dedicated old growths 02011, 02012, 02015, 02016, and 02039 would be adjusted to provide boundaries on logical breaks and where boundaries are easily identified on the ground. This action would not relocate existing DOGs or affect the existing DOG network.

Reconfiguration of Dedicated Old Growth Area 02017

Approximately 75 acres (16%) of DOG 02017, which is classified as young forest multi-stratum, would be reallocated as part of the corresponding proposed ROG.

Treatments of Dedicated Old Growth (DOG)

DOGs 02015 and 02039 would be precommercial thinned as a pretreatment for prescribed burning. Generated slash would be lopped, handpiled and later burned. Prescribed burning would be accomplished through limited ground creep between burn piles.

DOGs 02016 and 02017 have had prescribed fire introduced through the South Silvies Prescribed Burn CE. These DOGs would be burned under this project as part of Burn Block 6.

Designation and Treatment of Replacement Old Growth (ROG) and Pileated Woodpecker Feeding Areas

To meet Forest Plan direction of providing ROG and pileated woodpecker feeding areas for DOG units, ROG and feeding areas for DOGs 02011, 02012, 02016, 02017, and 02039 are proposed for designation. Long-term management strategies for each replacement area, which maintain or enhance the capability of timber stands to provide suitable old growth habitat in the future are also proposed. Management strategies include: Intermediate thinning of understory, PCT, handpile and burn activity slash. Treat aspen inclusions to stimulate suckering and protect from browsing. Natural fuels would also be reduced if the ROG areas were included in fuel blocks. For more information on these activities refer to Chapter 2.

Treatments in Silvies River Bald Eagle Management Area

To protect and maintain stand characteristics in the Silvies River Bald Eagle Management Area (BEMA), silvicultural treatments would consist of precommercial thinning of the understory on 144 acres and commercially thinning 29 additional acres within close proximity of the bald eagle nest. Fuels management would consist of introducing low intensity prescribed fire into about 174 acres of forest habitat within the BEMA. These acres are a portion of Burn Block 12. All activities would be done outside of the bald eagle nesting season (see sections on Design Criteria and Mitigations in Chapter 2).

Public Involvement

Scoping

Scoping for this project began in the spring of 1999. The NEPA scoping process (40 CFR 1501.7) was used to invite public participation, to refine the scope of this project, and identify preliminary issues. The Forest Service sought information, comments, and assistance from Federal, State, and local agencies, American Indian Tribes, and from other groups and individuals interested in or affected by the Proposed Action. Approximately 25 groups or individuals responded during the scoping process up to the issuance of the DEIS. The following steps were included in the public scoping process:

Schedule of Proposed Actions

Public involvement for this project began in the spring of 1999 when the Silvies Canyon Watershed Restoration Project was included in the Forest Schedule of Proposed Actions (SOPA). This project has appeared quarterly in the SOPA since that issue.

Public Mailing

On November 29, 1999, a scoping letter seeking public comment was mailed to approximately 225 groups and individuals who had previously indicated interest in receiving notification of proposed activities on the Emigrant Creek Ranger District, Malheur National Forest. Thirteen groups or individuals responded directly to the scoping document and requested additional information.

Public Notice

On Wednesday, December 8, 1999, a notice of public comment was published in the *Blue Mountain Eagle*, John Day, Oregon; and the *Times Herald*, Burns, Oregon.

Notice of Intent (NOI)

On December 9, 1999, a Notice of Intent (NOI) was published in the Federal Register.

Public Mailing

Thirteen additional information packets were mailed to the groups or individuals that requested additional information.

Public Meeting

On December 13, 1999, a public meeting was held in conjunction with the National Roadless EIS public meeting held in Burns, Oregon at the Harney County Senior Center.

Meetings with American Indian Tribes, Other Agencies, Organizations, and Individuals

On December 15, 1999, Planning Assistant Joan Suther held a telephone conference with Elaine Somers of the Environmental Protection Agency (EPA). They discussed the EPA's scoping comments and specific concerns the EPA had regarding the project.

On the evening of January 18, 2000, Emigrant Creek District Ranger Jim Keniston and Planning Forester Lori Bailey met with the Harney County Watershed Council at the Eastern Oregon Agricultural Research Center to discuss the project. Topics included an overview, scoping process, and timelines.

On April 6, 2000, Emigrant Creek District Ranger Jim Keniston, Blue Mountain District Ranger Doug Robin, Public Affairs Officer Sharon Sweeney, and several members of the Silvies Canyon and Southeast Galena IDTs met with Ms. Linda Reed-Jerofke and other representatives of the Burns Paiute Tribe. Topics included an overview of each project, and alternatives and timelines for the Silvies Canyon Watershed Restoration Project EIS.

On April 21, 2000, representatives from the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of Warm Springs Reservation of Oregon, and the Columbia River Inter-Tribal Fish Commission met with Forest Service representatives at the Federal Building in John Day, Oregon. Topics included an overview of the project, and alternatives and timelines.

On July 21, 2000, representatives from the Southeast Oregon Resource Advisory Council met with Forest Supervisor Bonnie Wood, District Ranger Jim Keniston, Burns Paiute Tribal Member Cecil Dick and other Forest Service representatives to tour the watershed. Topics included vegetation and fuel conditions, roads and road closures, and grazing.

Draft Environmental Impact Statement

The Silvies Canyon Watershed Restoration Project DEIS was completed in February 2001, and was made available to the public the week of March 9, 2001. The 45-day review period began on March 9, 2001, the day the Notice of Availability was printed in the Federal Register. The review period ran through April 23, 2001. The DEIS was mailed to over 100 interested individuals, agencies, and groups. Additional copies were given to 10 individuals, agencies, and groups following the initial mailing. Comments on the DEIS were received from 18 individuals, agencies, and groups. These comments, with the agency responses, are located in Appendix D.

Additional Meetings with Burns Paiute Tribe

On April 27, 2001, Planning Forester Lori Bailey held a telephone conference with Ms. Linda Reed-Jerofke of the Burns Paiute Tribe to obtain clarification of comments. Ms. Reed-Jerofke requested a map of the Preferred Alternative Access and Travel Management proposal. The map was made available for the May 4, 2001, Elders Meeting.

On August 24, 2001, several members of the Burns Paiute Tribe joined Emigrant Creek Ranger District NEPA Coordinator Joan Suther, Malheur National Forest Archaeologist Don Hann, and Emigrant Creek Ranger District Archaeologist Roy Schroeder on a District field trip. Topics discussed regarding the project centered on motorized vehicle access to traditionally used plant and hunting areas.

Supplemental Draft Environmental Impact Statement

During comment review of the DEIS for Silvies Canyon, comments were received from the Burns Paiute Tribe concerning the lack of social and economic disclosure of effects to the Tribe and its use of the area. Additionally, concerns were raised over disclosure of effects to minorities, elderly, and other under-represented groups in order to comply with 40 CFR § 1598.14. On May 22, 2001, the Forest Supervisor decided to prepare a supplemental draft EIS. The supplement disclosed additional information not included in the DEIS. The supplement discloses a social assessment completed in response to public concerns. The Silvies Canyon Watershed Restoration Project SDEIS was completed in November 2001, and was made available to the public the week of November 9, 2001. The review period began on November 9, 2001, the day the Notice of Availability was printed in the Federal Register. The review period ran through December 31, 2001. The SDEIS was mailed to approximately 60 interested individuals, agencies, and groups. Comments on the SDEIS were received from nine individuals, agencies, and groups. These comments, with the agency responses, are located in Appendix D.

Proposed Wilderness Designation by the Oregon Wilderness Coalition

In the April 24, 2002 edition of the Blue Mountain Eagle, the Oregon Natural Resources Council (ONRC) and a coalition of 130 environmental groups announced their intention to designate as wilderness 4.8 million acres in Oregon. Proposed wilderness designations include the "Malheur Basin Wilderness" 143,000 acres located on portions of the Malheur and Ochoco National Forests and the Burns BLM District. This proposed wilderness area includes the Myrtle-Silvies Roadless Areas as well as adjacent areas the coalition refers to as "uninventoried roadless" which total about 15,097 acres (see Figure 1-5). However, recommendations for wilderness designation

by the agency are done as part of the forest plan revision process (see 36 CFR 219.17). The Malheur National Forest will start the revision process in fiscal year 2004.

The Myrtle-Silvies Roadless Area is 11,776 acres (Forest Plan, Appendix C) and is fully described in Chapter 3. The Forest Plan divided National Forest Lands into Management Areas (MA), each with different management goals, resource potential, and limitations. The Forest Plan also identified roadless areas (see Management Areas on page 1-6). The Record of Decision for the Forest Plan states that the portion of the Myrtle-Silvies Roadless Area that is within the semi-primitive non-motorized MA (7,916 acres) is to be managed with no scheduled timber harvest and in an unroaded condition, but for multiple use. As per the Forest Plan, areas within the Myrtle-Silvies Roadless Area but outside the semi-primitive non-motorized MA as well as adjacent areas the coalition refers to as "uninventoried roadless" are assigned to a variety of management emphases as determined by the specific MA they fall under.

The activities proposed within the Silvies Canyon Watershed Restoration Project are consistent with the direction for Roadless Area Protection published in the *Federal Register* on January 12, 2001 (66 FR 3244) and Forest Transportation System Analysis and Roadless Area Protection on December 20, 2001 (66 FR 65796). Specifically, this project does not propose road construction or reconstruction in unroaded portions of roadless areas. Additionally, this project does not propose commercial cutting, sale or removal of timber in roadless areas. Because of these reasons, implementation of activities proposed in this FEIS within the Myrtle-Silvies Roadless Area would not preclude the area's potential to be designated wilderness in the future. Figure 1-5 displays the area proposed for wilderness designation by the Oregon Wilderness Coalition.

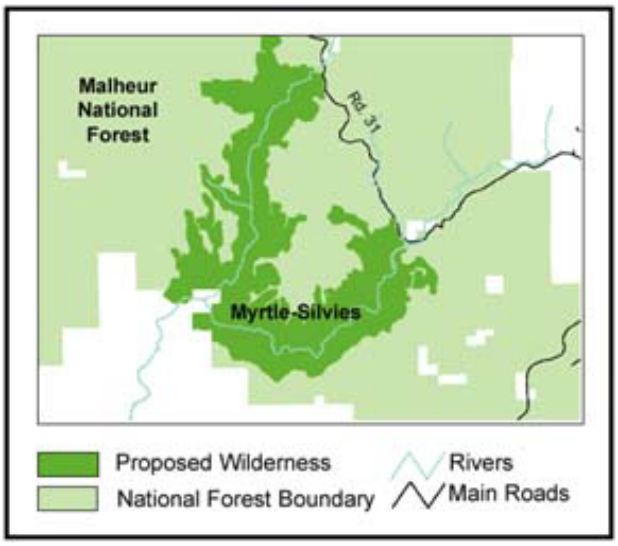


Figure 1-5. Area proposed for wilderness designation by the Oregon Wilderness Coalition.

Issues

Internal and public responses to the scoping document and Proposed Action, the DEIS, and the SDEIS were analyzed by the decision maker to define issues. Issues were identified based on the relevancy to the purpose and need (context), geographical distribution (extent), the length of time the issue is likely to be of interest (duration), and the level of interest or conflict generated (intensity). The significant issues have been revised since the completion of the DEIS and SDEIS. The decision maker determined the following concerns with the Proposed Action to be significant issues. The sources for each issue are located in the planning record.

Issue 1 - Access and Travel Management

Concern: Roaded access provides for recreational, commercial and management opportunities as well as access for traditional Tribal uses. Road densities within the Silvies Canyon Watershed are exceeding Forest Plan standards in both winter and summer range for big game. Additionally, there are almost 33 miles of roads within RHCA that cross or parallel several tributaries. Sixty-three miles of roads, identified as either previously closed, proposed to be closed under past environmental documents, historic closures, or those closures which have been breached, are contributing to road densities and impacts to watershed function.

Resolution: The Action Alternatives propose varying levels and types of road closures, decommissioning, road maintenance and reconstruction, and temporary road construction. Under the No Action Alternative, no additional roads would be reconstructed, no temporary roads constructed, no additional roads closed, or decommissioned. All alternatives would construct self-maintaining drainage structures and implement the closure of 63 miles of roads identified as either previously closed, proposed to be closed under past environmental documents, historic closures, or those closures which have been breached. None of the action alternatives proposes to designate additional roadless areas.

Measure: Miles of road reconstruction, temporary road construction, road closures, seasonal road closures, and road decommissions. Open road density compared to Forest Plan standards.

Issue 2 –Roadless Areas

Concern: The National Roadless Area EIS was completed in November 2000, and a final rule at 36 CFR 294 published in the Federal Register (66 FR 3244) on January 12, 2001. Other roadless area direction was published as part of the final planning regulations 36 CFR 219 (65 FR 67514) on November 9, 2000. During scoping for the Silvies Canyon EIS, some individuals felt roadless areas should not be logged or roaded; they should be set aside until a decision is made with the National Roadless Area EIS. One individual felt that these stands have some of the worst forest health issues on the District, and are prime candidates for stand replacement fires. This individual favored entering these stands on a light touch basis to improve forest health and reduce the risk of large-scale fires or insect and disease outbreaks. Recently, there has been interest expressed by environmental groups in designating the Myrtle-Silvies Roadless Area as wilderness. This issue was determined to be outside the scope of this analysis and is more appropriately addressed during the Forest Plan revision scheduled for 2004.

Resolution: All proposed activities within the Myrtle-Silvies Roadless Area are consistent with the National Roadless Area Conservation Policy and direction for Roadless Area Protection published in the *Federal Register* January 12, 2001 (66 FR 3244) and Forest Transportation System Analysis and Roadless Area Protection on December 20, 2001 (66 FR 65796). No new road construction or reconstruction is proposed within the existing Myrtle-Silvies Roadless Area. No commercial harvest treatments are proposed within the existing Myrtle-Silvies Roadless Area.

Measure: Miles of proposed road closures within the existing Myrtle-Silvies Roadless Area. Acres and types of treatments proposed within the existing Myrtle-Silvies Roadless Area.

Issue 3 - Riparian Habitat, Water Quality, and Fish Habitat

Concern: Myrtle Creek is listed on the final 1998 303(d) list for not meeting temperature standards set by the federal CWA. Current USDA Forest Service data indicate the Silvies River does not meet the temperature standard. The Silvies River may be listed in the future as a 303(d) stream for not meeting the temperature standard and both Myrtle Creek and the Silvies River may be listed in the future because current sediment loads exceed standards of the CWA administered by the State of Oregon.

Stream data indicate roads or other types of disturbed ground are sources of sediment being routed into the streams. Specifically, twelve roads were identified during surveys in the watershed as contributing fine sediment directly to stream channels and degrading aquatic habitat. Additionally, there are almost 33 miles of roads within RHCAs that cross or parallel several tributaries within the Silvies Canyon Watershed. The potential is high for sedimentation from portions of these roads.

Quaking aspen and black cottonwood are special habitats that provide diversity and improve fish, amphibian and invertebrate habitat by reducing stream bank erosion and correlated siltation, increasing shade to maintain lower water temperatures, and by periodically contributing material to the stream channel. Aspen stands are isolated, declining, and smaller in number than they were historically. Aspen are declining generally due to competition; browsing of regeneration by

ungulates and lack of regenerating disturbance, especially fire. Over 80% of the aspen surveyed in the watershed are classified as over mature to decadent and at risk of loss. Black cottonwood occurs on only two sites in the watershed and is declining due to competition and lack of reproduction. Lack of reproduction is due to changes in stream function, browsing pressure and lack of genetic exchange. Generally, the existing cottonwoods within the watershed are decadent and susceptible to disease, pests and wind damage.

Springs within the Myrtle Creek and upper Stancliffe areas connect to the stream network and augment flows and influence water temperatures. Several springs near Sage Hen and Little Sage Hen Creeks appear to be linked with roads and may be the result of intercepted subsurface flows brought to the surface by road cuts.

Resolution: Closing, decommissioning, or reconstructing roads within RHCAs would reduce road related impacts, specifically negative impacts to water quality, fish habitat, and wildlife habitat. Restoring aspen, cottonwood and springs would improve fish, amphibian and invertebrate habitat, augment flows and influence water temperatures. The Action Alternatives propose an array of aspen restoration methods, road closures, decommissioning and reconstruction. All Action Alternatives propose similar cottonwood and spring restoration activities. Under the No Action Alternative no activities are proposed.

Measure: Miles of road closures, decommissions and reconstruction within RHCAs. Number of the twelve roads identified as contributing sediment to streams closed. Acres of aspen and cottonwood restoration and number of springs treated.

Issue 4 - Vegetation Condition

Concern: Many forested stands in the watershed are outside HRV in terms of composition, density and structure. Tree vigor and health throughout the watershed are declining as overstocked conditions limit water and nutrients. Many stands are at risk of epidemic insect attacks and are vulnerable to disease. Fir species are now dominant in stands that were historically dominated by fire-resistant ponderosa pine and to a lesser extent, western larch. Conifer species are now dominant in stands that were historically dominated by aspen and to a lesser extent, cottonwood. Treatments would reduce stocking levels and move species composition towards historic levels and proportions.

The composition of non-forested vegetation within the watershed is the result of interactions among many factors including tree canopy cover, big game use, historical and current livestock use, management activities, and the presence or absence of fire in the ecosystem. Many of these factors have enabled conifer encroachment into meadows, riparian areas, and rangelands. This increase of woody vegetation reduces soil moisture, thereby causing an increase in annual species and a decrease in perennial species.

The Silvies Canyon Watershed is within the low-severity fire regime where fire is frequent (every 5-23 years) and of low intensity (Maruoka and Agee 1994). Past timber harvest activities and effective fire suppression have changed the forest ecosystems in the watershed generally from large open pine stands and grasslands to stands with dense understories and encroaching fir. This has created higher fuel loading and more ladder fuels, increasing the risk of stand-replacement fires above historic levels. These changes have radically changed the landscape ecology of the fire

regime. Wildfires are now infrequent but much more intense, resulting in almost total tree mortality.

Resolution: The Action Alternatives propose varying levels of prescribed burning, commercial harvest treatments, post and pole sales, precommercial thinning treatments and associated fuels treatments to move stands toward HRV in terms of composition and density, to improve forest health and to reduce fuel loading, which would reduce the risk of stand-replacement fires. No commercial harvest activities would occur under Alternatives Three and Six. Under the No Action Alternative, no additional commercial, precommercial, or fuels treatments would occur.

Measure: Acres treated that move the areas closer to HRV by the implementation of commercial timber harvest, precommercial thinning, fuel treatments, post and pole, juniper reduction, noxious weeds, aspen restoration, cottonwood restoration and spring restoration.

Issue 5 - Big Game Habitat

Concern: Studies indicate that Rocky mountain elk and mule deer need a mixture of hiding and thermal cover as well as forage areas, calving/fawning and rearing areas. Forest Plan cover standards are specific to thermal cover. Harvesting timber could reduce thermal cover below Forest Plan standards. Hiding cover is important to reduce potential vulnerability to hunting and harassment. The habitat effectiveness index (HEI) model is used to analyze the arrangement and quality of cover and forage, and miles of open roads within the analysis area.

Resolution: All Action Alternatives include mitigations that reduce effects to hiding cover. The loss of cover would be mitigated by reducing road densities, which increases habitat effectiveness.

Measure: Effects to thermal and hiding cover and HEI.

Other Issues

Besides the significant issues, other concerns were identified by the responsible official as non-significant issues and were resolved without developing separate alternatives. The sources for each of these issues are located in the planning record.

Economics

Concern: Timber plays an important role in the economic stability of the local area. There is a need to make wood products available for local, regional, and national needs in the most cost-effective manner. Vegetation treatments are needed to reduce stocking levels and move conifer species composition towards historic levels (See Issue 4). Harvesting commercial timber on lands identified in the Forest Plan as suitable for harvest is an effective way of addressing the problem of overstocked forest conditions. Achieving some of the stocking level goals and moving species composition toward historic levels, through timber sales and other forest product sales, would reduce the need for appropriated funds from Congress to treat unsustainable vegetation conditions. Capturing the economic value of those trees that are surplus to other resource needs would provide raw materials to aid in community stability.

Resolution: The Proposed Action Alternative, The Preferred Alternative and Alternatives Four, Five and Seven-A would provide economic returns through service contracts and forest product sales. Alternatives Three and Six attempt to provide economic returns through service contracts only. The No Action Alternative would provide no economic return.

Measure: Present net value, and potential income and employment supported by contracting opportunities and timber harvesting.

Social Impacts

Concern: The Silvies Canyon watershed is a high use area for numerous recreation and resource extraction activities. The Burns Paiute tribe has traditionally used the Silvies Canyon Watershed for fishing, hunting, and gathering of terrestrial and aquatic resources. They have expressed concern regarding roaded access to resources within the area, especially for elders who may be mobility-impaired.

Other specific minority or disadvantaged groups, qualifying under the environmental justice executive order, were identified with potential to be impacted by various alternatives. These are: elderly people, especially those on low, fixed incomes, and low-income people in general.

Resolution: Items identified in proposed management alternatives that could potentially impact needs of elderly people, low-income people, and the Burns Paiute Tribe include the availability of firewood, level of motor vehicle access, level of restoration and sustainability work, and potential number of jobs provided. The action alternatives propose varying levels of activities that could potentially affect specific minority or disadvantaged groups.

Measure: Potential income and employment supported by contracting opportunities, timber harvesting, federal work force, livestock grazing, and recreation activities. Acres of firewood opportunity, miles of open roads, miles of road closures and decommissions, number of dispersed campsites available by motorized access, acres of restoration activities and potential number of jobs provided.

Cattle Grazing

Concern: Removal of cattle from the Silvies Canyon Planning Area needs to be analyzed since cattle would continue to impact plants and water quality. Keeping cattle out of riparian areas is a passive restoration measure. Cattle grazing is a component of the cumulative effects on resources in the area.

Resolution: Cattle grazing is a permitted use on the Malheur National Forest as documented in the Forest Plan. Changes to the permit, in the numbers, type, distribution, timing or duration of livestock grazed, are considered outside the scope of this project (40 CFR 1508.25). These activities are considered as part of NEPA for allotment management plans, which are tentatively scheduled for Silvies, Big Sagehen, Crooked Creek and Scotty allotments in 2005. Myrtle, West Myrtle and Scatfield allotments had grazing EAs completed in 1996; Rainbow allotment had a grazing EA completed in 1991. These actions were not considered in this analysis pursuant to 40 CFR 1502.4(c)(2). However, the effects of cattle grazing will be included in the cumulative effects analysis of this FEIS, located in Chapter 4.

Measure: No measure necessary because changes to existing livestock grazing permits are outside the scope of this project and are not being considered.

Air Quality

Concern: Air quality issues, especially the protection of human health and welfare, related to the use of wildland and prescribed fire should be disclosed in the EIS.

Resolution: Effects on air quality will be analyzed for all the alternatives.

Measure: PM 10 and PM 2.5 emissions by Alternative.

Clearcutting

Concern: Avoid clearcutting or any harvest method involving large canopy openings.

Resolution: None of the action alternatives propose clearcutting.

Measure: No measure necessary.

Proposed, Endangered, Threatened and Sensitive (PETS) Species and Management Indicator Species (MIS)

Concern: The proposed activities will jeopardize the viability of PETS and MIS species.

Resolution: The Forest Plan sets standards and guidelines for protection of PETS species and MIS. The alternatives will be analyzed and the effects on wildlife will be compared to the Forest Plan wildlife standards and guidelines. The Biological Assessment/Evaluation discloses more information regarding the potential impacts to PETS species. The Wildlife Analysis Report for the Silvies Canyon Watershed discloses more information regarding MIS. Chapter 4 discloses the effects for each alternative.

Measure: Comparative risk of effects to PETS species and MIS.

Soil Productivity

Concern: Soils and soil productivity are a concern, particularly nutrient cycling, microorganisms, mycorrhizae, soil compaction and displacement, erosion, and soil integrity.

Resolution: The Forest Plan standards and guidelines to manage soil and water resources to maintain or enhance the long-term productivity of the Forest will be met. The alternatives will be analyzed and the effects on soils will be compared to the Forest Plan standards and guidelines.

Measure: Comparative risk of effects to soil productivity.

Snags

Concern: Existing snag and down woody material levels are concerns, particularly levels remaining after proposed activities.

Resolution: The alternatives will be analyzed and the effects on snags will be compared to the Forest Plan standards and guidelines. Existing snags would be retained to provide foraging and nesting habitat for primary cavity excavators and secondary cavity users. Post-treatment snag surveys would be conducted as needed to determine the need to create additional snags. These surveys would be necessary to determine what action, if any, is needed to move the project area toward 100% potential population level (PPL) of management indicator species and secondary cavity excavators.

Measure: Comparative risk of effects to snag levels both present and future.

Non-Connected Actions

Concern: Including "non-connected actions" in one NEPA document makes it extremely difficult to understand and evaluate alternatives, effects, and the supporting analysis.

Resolution: The Silvies Canyon Watershed Restoration Project is a watershed restoration project, whose purpose was stated in the section titled "Purpose of and Need for Action" on page 1-11. The actions proposed were considered connected pursuant to 40 CFR 1502.4(c)(1) and 40 CFR 1502.4(c)(2) including actions occurring in the same general location, and relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.

Measure: No measure necessary.

Emphasize Timber Production on Management Area 1

Concern: The timber in MA 1 is not being managed in accordance with the Forest Plan.

Resolution: Management Area 1 primarily consists of forested lands. The management area goals (as amended by Regional Forester's Amendment #2) are to emphasize timber production on a sustained yield basis while providing for other resources and values. The intent of this project is to move vegetation toward a condition that can be sustained in the long term. The alternatives were designed through an interdisciplinary process to meet objectives for the different MAs, and watershed concerns where possible. Appropriate mitigation measures are addressed in Chapter 2.

Measure: No measure necessary.

Use of Herbicides, Pesticides, and Fertilizers

Concern: During scoping, some public comment indicated opposition to the use of toxic or lethal "animal damage control" and any use of herbicides, fertilizers or toxic chemicals.

Resolution: During the initial scoping period in December 1999, The Proposed Action, which was used to solicit comments, proposed the use of chemical methods to manage noxious weed infestations. Due to comments made and after further analysis, it was determined that chemical treatment was not warranted. Other methods such as manual control were considered for the twelve known noxious weed sites not analyzed under the Malheur National Forest Noxious Weed Control EA (April 2000). None of the action alternatives, including the Proposed Action, proposes the use of animal damage control, herbicides, pesticides or fertilizers.

Measure: No measure necessary.

Commercial Harvest Trees Greater Than 21 Inches DBH

Concern: There was both opposition to and support for the restriction of limiting commercial harvest to trees less than 21" dbh.

Resolution: Regional Forester's Amendment #2 sets standards and guidelines for harvesting trees greater than 21" dbh. Trees greater than 21" dbh would be maintained to provide large tree habitat for wildlife and late successional stand structure. Exceptions would be 1) trees considered hazardous to worker or public safety, and 2) trees considered to be inhibiting the restoration of identified aspen stands under Alternative Four, based upon biological or ecological urgency concepts (letters dated Oct. 2, 1997 and Dec. 23, 1997 from the Regional Forester to the Eastside Forest Supervisors concerning implementation of RF Amendment #2).

Measure: Acres of proposed harvest of trees greater than 21" dbh.

Project Record Availability

This FEIS with its Appendices provides adequate information for the Deciding Officer to make a decision. This EIS hereby incorporates by reference the Project Record (40 CFR 1502.21). The Project Record contains Specialist Reports and other technical documentation used in summary form to support the analysis and conclusions in this EIS. These Specialist Reports are for Access and Travel Management, Roadless Area, Watershed and Fish Habitat, Soils, Vegetation, Fuels, Air Quality, Sensitive Plants, Range Resources, Noxious Weeds, Socio-Economics, Wildlife, Recreation, Cultural Resources and Scenery Management for Silvies Canyon Watershed Restoration Project.

Relying on Specialist Reports and the Project Record helps implement the CEQ Regulations' provision that agencies should reduce NEPA paperwork (40 CFR 1500.4), that EISs shall be analytic rather than encyclopedic, and that EISs shall be kept concise and no longer than absolutely necessary (40 CFR 1502.2). The objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives and how these impacts can be mitigated, without repeating detailed analysis and background information available elsewhere.

The Project Record is available to the public upon request under the Freedom of Information Act (FOIA) and can be reviewed at the Emigrant Creek Ranger District Office, 265 Hwy. 20 South, Hines, Oregon, 97738 Monday through Friday, 8 a.m. to 4 p.m.