

# Summary

---

## Table of Contents

Proposed Action.....	S-1
Purpose and Need.....	S-1
Decision to be Made.....	S-2
Issues.....	S-2
Alternatives Considered in Detail .....	S-5
Alternatives Eliminated from Detailed Analysis.....	S-7
Affected Environment.....	S-8
Environmental Consequences.....	S-8

## **SUMMARY**

### **Silvies Canyon Watershed Restoration Project Malheur National Forest, Oregon**

#### **Proposed Action**

The Malheur National Forest proposes to conduct restoration activities in the Silvies Canyon Watershed. The main actions proposed are:

- Vegetation treatments, including commercial, precommercial, and intermediate thinning, juniper reduction, and restoration of aspen and cottonwood;
- Landscape-level fuels reduction treatments;
- Riparian restoration at spring sites;
- Manual treatment of noxious weed sites; and
- Access and travel management, including closure, decommissioning, reconstruction and maintenance of roads.

#### **Purpose and Need for Action**

The purpose of this 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 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 Forest Plan, (Silvies WA 2000, Step 6, Pages 2-11),
4. Adjust dedicated old growth (DOG) areas and identify replacement old growth (ROG) and feeding areas as appropriate to meet habitat needs for old-growth dependent species, and meet requirements of the 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).

#### ***Access and Travel Management Need***

Open road densities in the project area exceed Forest Plan standards in both winter and summer ranges for elk. Approximately 33 miles of road are within Riparian Habitat Conservation Areas and may be contributing to water quality problems in the project area. At least one road is of specific concern due to allowing access to the Roadless Area. There is a need to manage the Access and Travel system within the project area to meet Forest resource objectives.

#### ***Riparian Habitat, Water Quality, and Fisheries Habitat Condition Need***

The Silvies River and Myrtle Creek do not meet Clean Water Act standards for water temperature, and both have sediment problems. Stream systems within the Silvies Canyon Watershed area have been impacted by road location, construction, and lack of maintenance.

Aspen and cottonwood habitat provide diversity, contribute to the quality and quantity of riparian habitat, and are important habitat components for many wildlife species. These habitats are in decline and, in several cases, in danger of disappearing from the project area. Springs in the project area have been degraded by past management practices. There is a need to manage and restore riparian habitats within the project area.

### ***Vegetation Condition Need***

Past land management (including timber and range practices) and fire suppression have dramatically altered the composition and densities of forested areas in the project area from historic conditions. Non-forested areas such as meadows, riparian areas, and arid shrublands have experienced conifer encroachment and conversion to forested stands. Currently, the vegetation condition throughout much of the project area is at risk to stand replacing events such as epidemic insect and disease outbreak or wildfire. There is a need to address these concerns in forested and historically nonforested areas and implement management actions to begin to move vegetation toward historical conditions.

### ***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.

### **Decision to be Made**

The Forest Supervisor of the Malheur National Forest is the responsible office and will decide to:

- Select the Preferred Alternative, an alternative to the Preferred Alternative, or the No Action alternative; or
- Modify an alternative.

### **Issues**

Comments received during public and internal scoping of this project were used to define issues; the following issues guided the development of alternatives.

#### Issue 1 - Access and Travel Management

Roaded access provides for recreational, commercial, and management opportunities, as well as access for traditional Tribal uses of the project area. However, road densities within the Silvies Canyon Watershed are contributing to several resource impacts.

#### Issue 2 –Roadless Areas

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. Recently, there has been interest expressed by environmental groups in designating the Myrtle-Silvies Roadless Area as wilderness.

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

The Silvies River and Myrtle Creek do not meet Clean Water Act standards for water temperature, and both have sediment problems. 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.

Over 80% of the aspen surveyed in the watershed are classified as overmature 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.

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.

#### Issue 4 - Vegetation Condition

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 western larch. Conifer species are now dominant in stands that were historically dominated by aspen and 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.

## Issue 5 - Big Game Habitat

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.

***Other Issues***

Several issues were raised that were not used to formulate alternatives. These include:

1. **Economics.** Various levels of vegetation treatments are proposed in the Action Alternatives, and the economic effects of these are disclosed in the Socio-Economic section of Chapter 4.
2. **Social Impacts.** The Silvies Canyon watershed is a high use area for numerous recreation and resource extraction activities. The Burns Paiute tribe uses the project area for traditional activities, and is concerned about access. Elderly people and low-income people were also identified as potentially impacted by the proposed actions. Road closures are of specific concern, and effects to these groups are disclosed in the Access and Travel Management and Socio-Economic sections of Chapter 4.
3. **Cattle Grazing.** Several commenters were concerned about the resource damage being done by cattle, while at least one was a grazing permittee concerned about effects to his allotment. Changes in grazing permits are outside the scope of this project and are not addressed in the FEIS. Cattle grazing is a component of the cumulative effects on resources in the area.
4. **Air Quality.** Effects related to prescribed fire and wildfire are disclosed in the Air Quality section of the Chapter 4.
5. **Clearcutting.** There was some concern about clearcutting; this activity was not proposed in any alternative, and so is not an issue.
6. **Proposed, Endangered, Threatened, and Sensitive (PETS) Species and Management Indicator Species (MIS).** Concern was expressed that proposed activities would impact the viability of PETS and MIS species. The Malheur Forest Plan sets standards and guidelines for the protection of these species. Effects to these species were compared to the standards and guidelines and are disclosed in Chapter 4.
7. **Soil Productivity.** Concern was expressed about soils and soil productivity. Effects of the alternatives were compared to Forest Plan standards and guidelines and are disclosed in Chapter 4.
8. **Snags.** Concern was expressed about the existing levels of snags and down woody material in the project area, and how the proposed actions would affect these levels. Existing levels of snags and logs would be retained by all alternatives, and in some cases, new snags and logs would be created. Effects to snag and log habitat are disclosed in Chapter 4.

9. **Non-connected Actions.** Including “non-connected actions” in one NEPA document makes it extremely difficult to understand and evaluate alternatives, effects, and supporting analysis. Actions not related to the Purpose and Need for Action were not analyzed, except as necessary in analysis of cumulative effects.
10. **Emphasize Timber Production on Management Area 1.** One commenter expressed concern that timber in MA1 is not being managed in accordance with the Forest Plan. Management goals for MA1 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 is sustainable in the long term.
11. **Use of Herbicides, Pesticides and Fertilizers.** Opposition was expressed to the use of toxic or lethal “animal damage control” and any use of herbicides, pesticides or toxic chemicals. The action alternatives propose manual methods for noxious weed control, and no alternative proposes the use of animal damage control, herbicides, pesticides, or fertilizers.
12. **Commercial Harvest Trees Greater than 21” dbh.** There was both opposition to and support for the restriction of limiting commercial harvest to trees less than 21” dbh. Action alternatives follow the standards set by Region Forester’s Amendment #2 for harvesting trees greater than 21” dbh.

## **Alternatives Considered in Detail**

### ***Alternative One – No Action***

No activities would take place under this alternative. There would be no changes to current management. Sixty-three miles of road closures and treatment of noxious weed treatments approved under other decisions would be implemented. No additional road closures, road maintenance, or vegetation management would take place. Fire would not be reintroduced into the project area.

### ***Projects Common to All Action Alternatives***

All action alternatives include proposals to restore spring habitat with juniper reduction, snag creation, and precommercial thinning of conifers; restore aspen stands with precommercial thinning of encroaching conifers or conversion of conifers to snags and large woody material (LWM), and protection of the stands through fencing or placement of other barriers; restore cottonwood stands with fencing, planting cuttings, and precommercial thinning or conversion to snags/LWM of competing conifers; manual treatment of 12 noxious weed sites; reconfiguration of and treatments to protect and maintain designated old growth areas; designation of replacement old growth areas; and treatments to protect and maintain a bald eagle management area.

### ***Alternative Two – The Proposed Action***

This alternative was developed to meet the purpose and need of the project. It would move an estimated 43,880 acres (67% of project area) toward historic conditions with commercial, noncommercial, and precommercial activities, which would include 5,885 acres of commercial thin, 7,216 acres of intermediate thin, and 15,109 acres of precommercial thin. About 121 acres of commercial harvest activities would take place in aspen stands, outside of Riparian Habitat

Conservation Areas (RHCA). There would be 537 acres of juniper reduction and 268 acres of aspen restoration. Post and pole sales would be offered on 452 acres of lodgepole pine stands. Prescribed burning would be utilized on 39,277 acres to move the area toward historic conditions. Miles of open roads would be reduced to 45% of current levels by closing and decommissioning one hundred forty-three miles of road. Road maintenance at varying levels would take place on 164 miles of road. Activities in the Myrtle-Silvies Roadless Area would include 5,526 acres of prescribed burning, riparian habitat restoration at two springs, permanent closure of 1.51 miles of road, and seasonal closure of .58 miles of road.

### ***Alternative Three***

This is a non-harvest alternative. It responds minimally to ecosystem health, watershed improvement, and economic objectives. This alternative would move an estimated 43,212 acres (66% of the project area) in the project area toward historic conditions with precommercial and noncommercial activities, including 16,060 acres of precommercial thin. There would be 515 acres of juniper reduction and 268 acres of aspen restoration. Prescribed burning would be utilized on 39,277 acres. Miles of open road would be reduced to 41% of current levels by closing and decommissioning one hundred sixty miles. Activities in the Myrtle-Silvies Roadless Area would include 5,526 acres of prescribed burning, 729 acres of precommercial thinning, riparian restoration at two springs, permanent closure of 2.56 miles of road, decommissioning of .3 miles of road, and seasonal closure of .16 miles of road.

### ***Alternative Four***

This alternative proposes the greatest amount of commercial and noncommercial restoration, and responds to ecosystem health, watershed improvement, and economic objectives more than any other alternative. This alternative would move an estimated 44,450 acres (68% of the project area) in the project area toward historic conditions with commercial, noncommercial, and precommercial activities, including 7,107 acres of commercial thin, 8,437 acres of intermediate thin, and 16,186 acres of precommercial thin. About 121 acres of commercial harvest activities would take place in aspen stands outside of RHCA. There would be 715 acres of juniper reduction and 268 acres of aspen restoration. Prescribed burning would be utilized on 39,277 acres. Miles of open roads would be reduced to 41% of current levels by closing and decommissioning one hundred sixty miles. Activities in the Myrtle-Silvies Roadless Area would be identical to Alternative Three.

### ***Alternative Five***

This alternative proposes the least amount of commercial and noncommercial restoration; it responds to ecosystem health, watershed improvement, and economic objectives. This alternative would move an estimated 35,248 acres (54% of the project area) in the project area toward historic conditions with commercial, noncommercial, and precommercial activities, including 4,411 acres of commercial thin, 5,388 acres of intermediate thin, and 13,733 acres of precommercial thin. About 121 acres of commercial harvest activities would take place in aspen stands outside of RHCA. There would be 535 acres of juniper reduction and 268 acres of aspen restoration. Post and pole sales would be offered on 452 acres of lodgepole pine stands. Prescribed burning would take place on 25,311 acres. Open roads would be reduced to 74% of current levels by closing and decommissioning thirty-seven miles. Activities in the Myrtle-Silvies Roadless Area would include 5,526 acres of prescribed burning, 729 acres of precommercial thinning, riparian restoration at two springs, permanent closure of .09 miles of road, and decommissioning of .3 miles of road.

***Alternative Six***

This alternative proposes the smallest quantity of noncommercial restoration in response to concerns about availability of funding; it responds minimally to ecosystem health, watershed improvement, and economic objectives. It would attempt to meet most management objectives through the use of prescribed fire. It would move an estimated 38,300 acres (58% of the project area) in the project area toward historic conditions. Precommercial thinning would be done on 10,799 acres. There would be 268 acres of aspen restoration; juniper removal would be accomplished within burn units using prescribed fire. Prescribed burning would take place on 36,454 acres. Open roads would be reduced to 61% of current levels by closing and decommissioning eighty-seven miles. Roads identified as contributing sediment to streams that are not closed would be reconstructed. Activities in the Myrtle-Silvies Roadless Area would include 5,526 acres of prescribed burning, 729 acres of precommercial thinning, riparian restoration at two springs, permanent closure of 1.51 miles of road, and decommissioning of .3 miles of road.

***Alternative Seven – The Preferred Alternative***

The Preferred Alternative was developed in response to management concerns over issues. It proposes the greatest amount of commercial and noncommercial restoration, and responds to ecosystem health, watershed improvement, and economic objectives while maintaining open road access at manageable levels. It would move an estimated 44,450 acres (68% of the project area) in the project area toward historic conditions with activities including 7,107 acres of commercial thin, 8,473 acres of intermediate thin, and 16,186 acres of precommercial thin. About 121 acres of commercial harvest activities would take place in aspen stands outside of RHCAs. Juniper reduction would be done on 715 acres and aspen restoration on 268 acres. Post and pole sales would be offered on 452 acres of lodgepole pine stands. Prescribed burning would take place on 39,277 acres. Open roads would be reduced to 61% of current levels by closing and decommissioning eighty-seven miles. Roads identified as contributing sediment to streams that are not closed would be reconstructed. Activities in the Myrtle-Silvies Roadless Area include 5,526 acres of prescribed burning, 729 acres of precommercial thinning, riparian restoration at two springs, 1.51 miles of permanent road closure and decommissioning of 4.3 miles of road.

***Alternative Seven-A***

This alternative was developed in response to concerns about treatments in the Myrtle-Silvies Roadless Area. It is identical to Alternative Seven, except that it reduced proposed activities in the Myrtle-Silvies Roadless Area to 1.51 miles of permanent road closure and .3 miles of road decommissioning. No fuels treatments, precommercial thinning, or riparian restoration would take place in the Roadless Area. Treatments throughout the rest of the project area would remain the same as proposed in Alternative Seven. An estimated 39,144 acres (60% of the project area) in the project area would be moved toward historic conditions.

**Alternatives Eliminated from Detailed Analysis**

Additional alternatives were considered but not given detailed analysis for reasons discussed in Chapter 2 of the FEIS. These include:

1. Prescribed burning in the Myrtle Creek portion of the Myrtle-Silvies Roadless Area, additional to treatments proposed in the Proposed Action.

2. Moving the watershed immediately to a condition approximating Historical Range of Variation circa 1860-1900, including open, park-like stands of ponderosa pine (clumps of 2-10 large trees with spacing of 80-100 feet between clumps) and no roads.
3. A combination of activities proposed in Alternative Four and commercial harvest treatments within the Myrtle Canyon portion of the Myrtle-Silvies Roadless Area.
4. Designating Replacement Old Growth for Old Growth Area 02017 based on ecological stand boundaries rather than a Forest Road.
5. Treatment on public lands administered by BLM and on private property.
6. Using prescribed fire for fuels reductions without associated thinning treatments.
7. Using chemical as well as manual methods to manage noxious weed infestations.

### **Affected Environment**

The analysis occurs within the Silvies Canyon Watershed. The project area is about 65,000 acres, and includes the Myrtle Park, Sage Hen Creek, Stancliffe Creek, Burnt Mountain, Boulder Creek/Fawn Creek, Myrtle Creek, and Red Hill subwatersheds. The project area contains about 30,500 acres of General Forest and Rangeland, 14,929 acres of Big Game Winter Range, 7,916 acres of Semi-Primitive Non-Motorized Recreation Area (including the Myrtle-Silvies Roadless Area), 1,537 acres of Old Growth Management Area, 1,702 acres of Visual Corridors, and 5,528 acres of Riparian Habitat Conservation Areas. About 3,026 acres within the project area boundary are management by the BLM or are private property.

Chapter 3 describes the project area in detail and the environment that could potentially be affected by the alternatives.

### **Environmental Consequences**

Chapter 4 discloses the potential environmental consequences of the proposed action and alternatives. The evaluation considers:

- direct effects
- indirect effects
- cumulative effects
- probable environmental effects that cannot be avoided
- possible conflicts with the plans and policies of other jurisdictions
- relationship between short-term use and long-term productivity
- irreversible and irretrievable commitment of resources.

Direct effects are caused by the action and occur at the same time or place. Indirect effects are caused by the action and are later in time or farther removed in distance. Cumulative effects are the impacts that result from the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency or person undertakes such actions.

### ***Major Direct and Indirect Effects of Alternative Seven – The Preferred Alternative***

The main activities proposed in the Preferred Alternative (Alternative Seven) are vegetation management, including commercial harvest, precommercial thinning, prescribed burning; riparian restoration, including aspen and cottonwood restoration; and road management, including

permanent and seasonal road closures, road decommissions, and road maintenance. The major effects of these activities are as follows:

- 1. Vegetation treatments.** About 7,107 acres of commercial thinning, 8,473 acres of intermediate thinning, and 16,186 acres of precommercial thinning would reduce stocking from below, reduce risk of stand-replacing events, improve health and vigor of remaining trees, and move stands toward historical compositions and densities in treated areas. Incidence of mistletoe and bark beetles would be reduced on 13,249 acres of treated ponderosa pine stands; risk of Douglas-fir tussock moth and associated insects would be reduced on 6,869 acres of mixed conifer. Fuel reductions (including precommercial thinning and prescribed burning) over 39,178 acres of the project area would reduce the current levels of natural fuels and break up the continuity of remaining fuels, thus reducing the risk of stand-replacing wildfire in the project area as a whole.

The project **May Affect but is Not Likely to Adversely Affect** bald eagle nesting habitat, and is expected to have a **Beneficial Effect** on roosting habitat. The project **May Impact Individuals or Habitat, but will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability** of western sage grouse, gray flycatchers, and spotted frogs. The project would have **No Effect/No Impact** on any other proposed, endangered, threatened or sensitive fish or terrestrial animal species.

Short-term, localized negative impacts to some wildlife may occur. These include disturbance and displacement of individuals, possible nest failures during spring prescribed burns, and reduction of some habitat components (hiding and thermal cover for big game, preferred forest structure for northern goshawks). Long-term (20+ years) benefits to wildlife include reduced risk of habitat loss from stand-replacing events, improved health and resiliency in late- and old-structure forest for the species that use that habitat type, and increases in cover.

The project **May Impact Individuals or Habitat, but will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability** to a population of Deschutes milkvetch, and would have **No Impact** on any other sensitive plant species.

Potential impacts to soils resulting primarily from commercial harvest activities, including compaction and puddling over Forest Plan soil standards, would be minimized or avoided through use of design criteria and mitigation measures.

Potential impacts to water quality and watershed condition would be minimized or avoided through application of Best Management Practices (BMPs), INFISH buffers, and Forest Plan standards.

Manual treatment of 12 noxious weed sites in the project area would slow the spread and reduce the size of these populations, but would not eradicate them. Commercial and noncommercial harvest activities and natural fuels treatments would create potential seed beds in newly disturbed areas; increased human and vehicle activity associated with these treatments could bring in more weed seeds, providing opportunities for the establishment of new weed sites. Design criteria and mitigation measures are in place to prevent new weed sites from becoming established.

2. **Riparian Restoration.** Overall, the project is expected to improve water quality and fish habitat through aspen and cottonwood restoration, reduction of sedimentation from roads, reduction of juniper and noxious weeds, and improved vigor of native ground vegetation resulting from prescribed burns. Short-term negative effects include temporary increases in water temperature from conifer removal at aspen sites and localized increases in sedimentation from road treatments. Negative effects would be minimized or avoided through application of BMPs, INFISH buffers, and Forest Plan standards. There would be no effect to any 303(d) listed stream.
3. **Road Management.** Road closures would benefit wildlife, especially big game, forest carnivores, and woodpeckers and other species dependent upon snag and log habitat, by reducing open road densities and human access. Closure or maintenance of roads identified as adding sediment to streams would improve water quality. Road closures may also benefit recreationists who prefer a non-roaded experience, including hikers and some hunters and anglers.

Road closures may negatively impact some segments of society, including members of the Burns Paiute Tribe, who rely on the project area for traditional uses such as hunting and gathering, as well as some elderly, disabled, or low-income people who use the project area for firewood, hunting, fishing, and other subsistence activities. Recreationists who prefer a roaded opportunity could be impacted. Motorized access to some dispersed campsites would be eliminated, impacting some forest visitors. Reduced road densities may increase the response time of initial attack crews to some fires, making these fires more difficult to suppress quickly. In general, the project area would still provide an adequate road system to meet all traditional, subsistence, recreational and administrative access needs. Forest visitors would be able to apply for a permit to access a closed area, if necessary.

### ***Cumulative Effects of the Preferred Alternative***

Effects of this project would be cumulative with the effects of past activities, previous decisions, ongoing activities, and reasonably foreseeable future activities. Past activities in the watershed include timber sales and fire suppression. Current activities in the project area include permitted livestock grazing and firewood cutting, implementation of approved road closures and noxious weed treatments, and various types of motorized and nonmotorized recreation. It is reasonable to predict that following implementation of this project, activities such as thinning and prescribed burning would be proposed to maintain these treatments and restore additional acreage in the watershed (such proposals would be analyzed in new NEPA processes). Also, it is likely that additional road closures, decommissions, and maintenance as well as culvert removals and replacements would take place as necessary and as budgets would allow. Cumulatively, present and future treatments would move the watershed toward historic conditions, in which a natural fire regime (5-23 year return intervals) would be restored. Watershed and forest health would be restored to the benefit of native wildlife and vegetation as well as human needs. Sustainability and overall health of the ecosystem would be improved.