UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District Office
Steens Mountain Cooperative Management and Protection Area
Finding of No Significant Impact
Wildland Juniper Management Area Interpretive Trail
Environmental Assessment
DOI-BLM-OR-B060-2009-0078-EA

INTRODUCTION

The Andrews Resource Area staff, Burns District, has prepared an Environmental Assessment (EA) to analyze the construction of the Wildland Juniper Management Area (WJMA) Interpretive trail. The proposed action would take place in the WJMA located approximate 72 miles south of Burns, Oregon on the North Steens Road on Steens Mountain. The 3,268-acre WJMA was designated in the Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) for purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain. The panels and brochures would meet the following goals and objectives from the 2005 : *Steens Mountain Cooperative Management and Protection Area, Record of Decision and Resource Management plan, 2005 - pg.29,*
Wildlands Juniper Management Area: Steens Mountain Cooperative Management and Protection Area, Record of Decision and Resource Management plan, 2005 - pg.29.

Goal - *Manage the WJMA for the purposes of experimentation, education, interpretation, and demonstration nof active and passive management intended to restore the historic fire regime and pre-settlement native vegetation communities on Steens Mountain, compatibly with preservation of desirable juniper woodland ecological values in nonexperimental areas.*

Objective. Establish a series of demonstration areas within the 3,267-acre WJMA for technology transfer and public education. Evaluate different treatments and management strategies for plant communities dominated by western juniper.
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SUMMARY OF THE PROPOSED ACTION

In order to meet the education and interpretation elements expressed in the Steens Act, the BLM proposes a short network of interpretive trails including 2 to 6 informative panels and markers

coinciding with a brochure and extension of existing pullouts. The trails would allow visitors a close view of juniper experimental treatments and their success in restoring native vegetation.

FINDING OF NO SIGNIFICANT IMPACT

Consideration of the Council on Environmental Quality (CEQ) criteria for significance (40 CFR 1508.27), both with regard to context and intensity of impacts, is described below:

Context

The Proposed Action would occur in *Wildland Juniper Management Area, along North Steens Road* and would have local impacts on affected interests, lands, and resources similar to and within the scope of those described and considered in the 2005 Steens Mountain Cooperative Management and Protection Area Proposed RMP/Final Environmental Impact Statement (FEIS). There would be no substantial broad societal or regional impacts not previously considered in the 2004 Steens Mountain Cooperative Management and Protection Area PRMP/FEIS. The actions described represent anticipated program adjustments complying with the 2005 Steens Mountain Cooperative Management and Protection Area RMP/Record of Decision, and implementing recreation management programs within the scope and context of this document.

Intensity

The CEQ's ten considerations for evaluating intensity (severity of effect):

1. The EA considered potential beneficial and adverse effects. Project Design Features were incorporated to reduce impacts. None of the effects are beyond the range of effects analyzed in the Steens Mountain Cooperative Management and Protection Area Proposed RMP/FEIS, to which the EA is tiered.

   Soils, Vegetation, Noxious Weeds & Biological Soil Crusts: While impacts are anticipated to the soil and vegetation, primarily on the trail corridor and adjacent areas, this impact would generally heal through natural processes. Introduction of new weed species is possible and specific design elements would be followed such as washing of equipment prior to entering the project area. Monitoring for noxious weeds would be performed annually and weeds treated as needed.

   Soils, vegetation and biological soil crusts would be altered along the trail route during construction and continued as the trail is used and maintained. However by keeping people primarily on the interpretive trail, impacts would be minimized. While some people may leave the designated trail for short periods, it is expected soils would generally heal through natural processes from year to year.

Migratory Birds and Wildlife:

Migratory birds and wildlife could be affected as people travel on the trails, however overall populations in the area would not be affected. Construction of the trail would have no effect on migratory birds if the work was completed after July 15 which would be after fledging of young birds. There would be no effect to the mule deer population.

- *Cultural Resources:* Cultural resources would be affected by bringing visitors into the area with the potential for artifact removal and disturbance. While the archeological sites inventoried in 2009 are in the general area of the proposed trail, the trail does not cross any of the sites. Utilizing the trail design features, such as Anti-looting signs to reinforce the notion that artifacts and site should remain intact in order to preserve their data potential but also to provide interest to the WJMA visitor. Yearly monitoring of the site for artifacts would occur by district staff.

All other resources would not be affected by the Proposed Action or alternatives.

2. *Degree to which the Proposed Action affects public health and safety:* No aspect of the Proposed Action or alternatives would have an effect on public health and safety.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.* Unique characteristics for the Wildland Juniper Management Area include the only designated juniper management area in the country. The 3,268-acre WJMA was designated in the Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) for purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain [Sec. 501 (b)]. Cultural resources have been found in the vicinity and will be mitigated with the project design features and annual monitoring.

4. *The degree to which effects on the quality of the human environment are likely to be highly controversial:* No unique or appreciable scientific controversy has been identified regarding the effects of the Proposed Action or alternatives.

5. *Degree to which effects on the quality of the human environment are likely to be highly controversial:* The analysis has not shown there would be any unique or unknown risks to the human environment nor were any identified in the AMU/CMPA Proposed RMP/FEIS to which this proposal is tiered.

6. *Degree to which the action may establish a precedent for future actions with significant impacts or represents a decision in principle about a future consideration:* This project neither establishes a precedent nor represents a decision in principle about future actions. This interpretive trail is unique in nature because it occurs in the only designated juniper Management Area in the country. However, the area was designed for experimentation, education, interpretation and demonstration of active and passive juniper management.

7. W*hether the action is related to other actions with individually insignificant but cumulatively significant impacts.* The environmental analysis did not reveal any cumulative effects beyond those already analyzed in the AMU/CMPA Proposed RMP/FEIS which encompasses the WJMA.

8. *Degree to which the action may adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places:* There are no features within the project area listed or eligible for listing in the National Register of Historic Places.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat.* There are no known threatened or endangered species or their habitat affected by the Proposed Action or alternatives.

10. *Whether an action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.* The Proposed Action and alternatives do not threaten to violate any law. The Proposed Action is in compliance with the CMPA RMP/ROD, which provides direction for the protection of the environment on public lands.

On the basis of the information contained in the EA and all other information available to me, it is my determination that: 1) The implementation of the Proposed Action or alternatives will not have significant environmental impacts beyond those already addressed in the AMU/CMPA PRMP/FEIS (2004; 2) The Proposed Action and alternatives are in conformance with the CMPA RMP/ROD (2005); 3) There would be no adverse societal or regional impacts and no adverse impacts to affected interests; and 4) The environmental effects, together with the proposed Project Design Features, against the tests of significance found at 40 CFR 1508.27 do not constitute a major Federal action having a significant effect on the human environment. Therefore, an EIS is not necessary and will not be prepared.

_____ _____

Andrews Resource Area Field Manager, Burns Date

Wildland Juniper Management Area Interpretive Trail

Environmental Assessment
DOI-BLM-OR-B060-2009-0078-EA

Bureau of Land Management
Burns District Office
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TABLE OF CONTENTS

Chapter I. Purpose of and Need for Action....1

A. Introduction....1
B. Purpose and Need for Action....2
C. Goals and Objectives....2
D. Decision Framework....2
E. Decision Factors....2
F. Decision to be Made....3
G. Conformance with Land Use Plans....3
H. Consistency with Laws, Regulations, and Policies....3

Chapter II. Alternatives Including the Proposed Action....4

A. No Action Alternative....4
B. Proposed Action....4
C. Proposed Action Alternative with Connector Trail....5
D. Alternatives Considered but not Fully Analyzed....5

Chapter III. Affected Environment/Environmental Consequences....6

A. Resources/Issues....6

1. Cultural Resources....7
2. Soils, Vegetation, Noxious Weeds, and Biological Soil Crusts....9
3. Migratory Birds and Wildlife....13

B. Discussion on Cumulative Effects....15

Chapter IV. Consultation and Coordination....17

A. List of Preparers....17
B. Persons, Groups, or Agencies Consulted....17

Appendix A Map....18

Wildland Juniper Management Area Interpretive Trail
DOI-BLM-OR-B060-2009-0078-EA

CHAPTER I: PURPOSE OF AND NEED FOR ACTION

A. Introduction

This Environmental Assessment (EA) describes potential impacts of a trail and joining features in the Steens Mountain Cooperative Management and Protection Area (CMPA). The EA provides the decision maker, the Andrews/Steens Resource Area Field Manager, with descriptions, analysis, and decision criteria necessary to determine if there are significant impacts not already analyzed in the Steens Mountain CMPA/Andrews Management Unit Proposed Resource Management Plan/Final Environmental Impact Statement (2004) (PRMP/FEIS) and whether or not a Finding of No Significant Impact (FONSI) would be appropriate.

The Proposed Action would take place in the Wildland Juniper Management Area (WJMA) located approximately 72 miles south of Burns, Oregon, on Steens Mountain. The 3,267-acre WJMA was designated in the Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) for purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain [Sec. 501 (b)].

Various mechanical and prescribed fire treatments were established for six demonstration plots in the WJMA. Plots included cutting and piling, cutting and leaving, cutting and burning piles, prescribed burning, using explosive cords around trees, and no treatment. Implementation on the demonstration plots began in 2006 and work on the project is ongoing.

Signing, to date, includes six interpretive panels. Three are at the first pullout and three are at the study plots. Panels were installed in July 2009. A brochure is also under development and should be complete by summer 2012 in coordination with this proposal. Signs and a brochure are the result of an Oregon Watershed Enhancement Board grant.

The Bureau of Land Management (BLM) is now proposing to build two trailheads and 1.2 miles of trails, extend existing pullouts, and install additional interpretive panels within the WJMA to provide visitors the opportunity to view juniper expansion and experimental treatments.

B. Purpose and Need for Action

The need for action is established by the Steens Act as stated in Title V Sec. 501 (b), "special management practices shall be adopted for the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic wildland fire regime and native vegetation communities on Steens Mountain."

In order to meet the education and interpretation elements expressed in the Steens Act, the BLM proposes a short network of interpretive trails including two to six informative panels and markers coinciding with a brochure. The trails would allow visitors a close view of juniper experimental treatments and their success in restoring native vegetation. Implementation of these actions would meet the following goals and objectives:

Wildland Juniper Management Area: Steens Mountain Cooperative Management and Protection Area, Record of Decision and Resource Management Plan, 2005 - pg. 29.

C. Goals And Objectives

Goals - Manage the WJMA for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and pre-settlement native vegetation communities on Steens Mountain, compatibly with preservation of desirable juniper woodland ecological values in nonexperimental areas.

Objectives - Establish a series of demonstration areas within the 3,267-acre WJMA for technology transfer and public education. Evaluate different treatments and management strategies for plant communities dominated by western juniper.

D. Decision Framework

The Andrews/Steens Resource Area Field Manager is the responsible official who will decide which alternative analyzed in this EA best meets the purpose and need for action based on the interdisciplinary analysis presented here. The decision will specify all terms and conditions intended to mitigate any regulatory or environmental effects of the Proposed Action.

E. Decision Factors

Decision factors are additional questions or statements used by the decision maker to choose between alternatives that best meet project goals and resource objectives. These factors generally do not include satisfying legal mandates including requirement under the National Environmental Policy Act (NEPA), which must occur under all alternatives.

Rather, decision factors assess, for example, the comparative cost, applicability, or adaptability of the alternatives considered. The following decision factors will be relied upon by the authorized officer in selecting a course of action from the range of alternatives fully analyzed that best achieves the goals and objectives of the project:

1. Would the Proposed Action balance the proposed project's purpose and need with the BLM's other responsibilities to manage lands it administers?

2. Would the Proposed Action promote cost effectiveness?

F. Decision to be Made

The BLM will decide whether to construct trails, install interpretive panels, and extend pullouts within the WJMA and if so, the appropriate locations of each.

G. Conformance with Land Use Plans

The Proposed Action and alternatives are in conformance with the CMPA RMP/ROD, dated August 2005, even though they are not specifically provided for, because they are clearly consistent with the RMP/ROD goals and objectives stated above under the Purpose and Need.

H. Consistency with Laws, Regulations, and Policies

The following documents provide the framework and guidance for management of BLM lands within the Burns District relevant to the Proposed Action:

- The Steens Act, P.L. Steens Act P.L.106-399 Pg. 4 Title V (2000)
- NEPA, 42 U.S.C. 4321-4347 (1970)
- Federal Land Policy and Management Act, 43 U.S.C. 1701 (1976)
- State, Local, and Tribal land use plans and regulation
- BLM National Sage-grouse Habitat Conservation Strategy (2004)
- Greater Sage-grouse Conservation Assessment and Strategy for Oregon (Hagen - 2011)
- 1998 Burns District Noxious Weed Management Program EA (OR-020-98-05)

CHAPTER II: ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. No Action Alternative

Under this alternative, the BLM would not construct trails or trailheads or extend the two turnouts. The BLM would rely solely on the interpretive panels along the road to inform and educate the public. Visitors could still walk through the WJMA without a trail.

B. Proposed Action with Loop and Wildland Juniper Management Area Trails

Under the Proposed Action BLM would construct a short network of trails within T. 32 S., R. 32½ E., Sections 28, 29, 30, 32, and 33 (Map Alternative B).

The trail layout is approximate and may vary when fully engineered. This would allow best trail practices to be implemented during construction to reduce the impact on the ground. One trail (Loop Trail) would start at the first set of existing interpretive panels along the WJMA and follow an existing road. This road would be converted to a trail, hence, amending the CMPA Travel Management Plan, 2007. Boulders would be placed by truck and backhoe to block vehicular traffic at this point. The trail would lead visitors above a small bowl where junipers have been cut. Visitors would have views of juniper treatments and encroachment, mountain mahogany, and aspen stands. A natural looking bench would be installed and would overlook the bowl and encroaching juniper along Mud Creek. The BLM would also install two interpretive panels and directional arrows to aid in navigating the trail. This loop would be approximately 0.94-mile.

The second interpretive trail (WJMA Trail) would start at the second set of existing interpretive panels in the WJMA and lead people through the juniper treatment units. This trail would be 0.26-mile and would provide visitors a closer look at the effects of different juniper treatments.

Both trailheads would be marked with small signs and wooden comment boxes would be installed. Two different sets of brochures at the trailheads would be provided to coincide with markers along the trails. One set of brochures would be designed for youth and another set for adults. The brochure and marker system would be designed by BLM so the agency can easily update the information and change the subjects highlighted.

In order to improve parking opportunities for larger vehicles such as school buses, the Proposed Action includes extending turnoffs in front of both trailheads. The turnoffs would both be 60 feet in length and constructed using heavy equipment such as road graders and rollers to extend the turnoffs. Both areas would be graveled.

The BLM would use a 10 to 15 member trail crew to construct the trails. Work would include brushing, falling trees, removing topsoil, and moving boulders. Trail crew members would use mechanized and nonmechanized tools including but not limited to axes, chain saws, grubbers, pulaskis, rock bars, and nippers. The trail would be 24 to 30 inches wide. Brush vegetation taller than 2 feet within 3 feet of the trail would be removed. The corridor ceiling would be 8 feet. The trail would be designed to reduce shortcutting and erosion. Where needed, BLM would also install water bars to protect the trail**.** The work would be accomplished in the summer months and take approximately 4 weeks to complete.

Project Design Elements:

- Ensure equipment is washed and free of dirt, mud, and plant parts prior to arrival at the project location to minimize the potential for new weed introductions.
- Cultural sites would be surface collected by BLM staff annually to remove temptations to surface collect.
- The trail brochure or interpretative signs would also interpret the prehistoric sites along with the ecological themes predominant in the WJMA.
- Anti-looting signs would be installed at offsite locations on the trail in order to reinforce the notion that artifacts and sites should remain intact to both preserve their data potential but also to provide interest to the WJMA visitor.
- Work on the trail would not occur before July 15.
- Drainage features will be installed on trail locations with slopes above 6 percent.

C. Proposed Action Alternative with Connector Trail

Under this alternative, BLM proposes to construct all trails and joining features mentioned under the Proposed Action with Loop and WJMA Trails. Also included in this alternative is a connector trail to provide hikers a trail from the Loop Trail to the WJMA Trail (Map Alternative C). This trail would be 0.9-mile long. The trail layout is approximate and may vary when fully engineered. This would allow best trail practices to be implemented during construction to reduce the impact on the ground. The trail would lead visitors to an old-growth tree with an interpretive sign. The interpretive sign would discuss the characteristics of old growth trees, where juniper historically grew, and the benefits of protecting old growth trees.

All other actions including Project Design Elements discussed under the Proposed Action with Loop and WJMA Trails would pertain to this alternative.

D. Alternatives Considered but not Fully Analyzed

Additional locations for the BLM to develop an interpretive trail within the legislated WJMA that adequately demonstrate the lack of a historical fire regime and consequently, the spread of juniper, are limited due to the rough access roads and remote locations. Therefore, no alternative routes were considered.

CHAPTER III: AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

A. Resources/Issues

An Interdisciplinary Team has reviewed and identified issues and resources affected by the alternatives. The following table summarizes the results of that review. Affected resources/issues are in **bold.**

Resources/Issues		**If Not Affected, why?** **If Affected, Reference Applicable EA Chapter**
Air Quality (Clean Air Act)	Not Affected	Fugitive dust would be produced during the 2-week trail construction, but would not result in any long-term (after construction) affects.
American Indian Traditional Practices	Not Affected	
Areas of Critical Environmental Concern	Not Present	
Cultural Resources	**Affected**	**See Chapter III**
Environmental Justice (Executive Order 12898)	Not Affected	Implementation of the proposal would not result in a disproportionately adverse effect on minority or economically disadvantaged populations as such populations do not occur in or near the project area.
Flood Plains (Executive Order 13112)	Not Present	
Grazing Management	Not Affected	Overall livestock grazing management would not change if any of the alternatives were selected.
Hazardous or Solid Waste	Not Present	
Migratory Birds (Executive Order 13186)	**Affected**	**See Chapter III**
Noxious Weeds (Executive Order 13112)	**Affected**	**See Chapter III**
Paleontological Resources	Not Present	
Prime or Unique Farmlands	Not Present	
Recreation	Not Affected	The overall types of recreational uses would not be affected.
Social and Economic Values	**Affected**	**See Chapter III**
Soils/Biological Crusts	**Affected**	**See Chapter III**
Upland Vegetation	**Affected**	**See Chapter III**
Visual Resources	Not Affected	All areas within the WJMA are Visual Resource Management Class III. The objectives are to partially retain the existing character of the landscape. Management activities may attract attention but should not dominate the landscape. The trail should be built with minimal disturbance. Therefore, visual resources would not be affected.

Threatened or Endangered Species or Habitat	Fish	Not Present	
	Wildlife	Not Present	
	Plants	Not Present	
BLM Special Status Species (SSS) and Habitat	Fish	Not Present	
	Wildlife	Not Affected	Greater sage-grouse and seasonal habitats on which they depend are present near the project area but sage-grouse have not been observed at the project site. If they are present near the project site, they would move during visitor use of the various trails. Trail construction and use would be after nesting has concluded for sage-grouse so there would be no affects to sage-grouse habitat or population numbers. Pygmy rabbits are not known to inhabit areas on the Steens Mountain.
	Plants	Not Affected	*Carex cordillerana* (cordilleran sedge) is located in T. 32 S., R. 32½ E., Section 19 within the WJMA; however, this location is approximately 1- mile from any of the proposed activities and will not be impacted.
Water Quality (Surface and Ground)		Not Present	
Wetlands/Riparian Zones (Executive Order 11990)		Not Present	
Wild and Scenic Rivers		Not Present	
Wilderness/Wilderness Study Areas/ Wilderness Characteristics		Not Present	
Wildlife		**Affected**	**See Chapter III**
Wild Horses and Burros		Not Present	There are no Herd Management Areas within the WJMA.

1. Cultural Resources

Affected Environment

An area within the WMJA was inventoried in September 2009 by BLM. Prehistoric lithic scatters and remnants of historic refuse scatters were found. The prehistoric sites were likely short-term camps where people made and maintained stone tools, processed game animals for food and, possibly, dug and processed root plants. Many of the low sagebrush flats on Steens Mountain are veritable storehouses of spring root crops that were very important to the prehistoric inhabitants of the area. The sites are visible on the surface of the ground and the predominant artifacts seen are waste stone flakes, primarily of obsidian.

The newly proposed trail route and area within Loop Trail would be inventoried in spring 2011. Prehistoric lithic scatters and remnants of historic refuse scatters are likely (70 percent) to be found. Historic resources expected to be found in the project area are camp remains such as pre-1930s era tin cans and bottles associated with livestock grazing or juniper fencepost or firewood cutting.

Environmental Consequences

No Action Alternative:

The No Action Alternative would not affect cultural resources.

Affects Common to All Action Alternatives:

One project in the vicinity of the Proposed Action is planned, North Steens Ecosystem Management Project (North Steens Project). It is one unit of the Frazier Spring Juniper Cut. The cutting and piling associated with this project was completed in September 2009. The piles will be burned in 2011. This project would not add to the effects produced by the Proposed Action because archaeological sites are stationary objects. They can only be affected by other projects in a cumulative way if the other projects occur at the same location as the Proposed Action. Actions associated with the North Steens Project are occurring in the Moon Hill and Tombstone Areas of the CMPA. Again, because archaeological sites are stationary objects, they would not be cumulatively affected.

Proposed Action:

The Proposed Action would affect cultural resources because the project would bring people into the area in greater numbers. With enough visitation year after year, sites would be reduced to thin scatters of stone waste flakes and any artifacts would no longer be present. Each artifact or collection of artifacts that indicate some kind of specific activity are units of data that enable archaeologists to begin to decipher the various questions one would ask about prehistoric sites. When pieces of the puzzle (units of data) are gone the story of any prehistoric site is more difficult to tell.

Alternative C:

Alternative C would affect cultural resources in the same ways as the Proposed Action. Utilizing the project design features would mitigate effects of additional trail construction and future use.

2. Soils, Vegetation, Noxious Weeds, and Biological Soil Crusts

Affected Environment

Western juniper (*Juniperus occidentalis*) is a native plant species that occurs in the northwestern portion of the Intermountain West. Western juniper can be separated into old-growth and expansion age classes. Only a very small proportion of western juniper is considered old-growth throughout most of its range (an exception is the Mazama Ecological Province where the old-growth age class dominates). The term old-growth juniper is generally applied to trees established prior to 1870 (a date suggested by researchers as a cutoff between the two age classes); while expansion juniper refers to trees established after 1870.

The majority (estimated at 90 percent) of western juniper in the WJMA are under 140 years old and are considered expansion in terms of age class. Old-growth juniper in the WJMA is generally limited to rock outcrops or areas of low sagebrush where fire is restricted due to rocky soil and a natural lack of fuel.

Western juniper populations have expanded into other plant communities at a rapid rate over the last 130 to 140 years. This replacement of sagebrush, wildflowers, grasses, and other plants has been a cause for concern for some time. The loss of these plant communities and the associated increase in erosion, reduction of streamflow, reduction of forage, increase in noxious weed introduction and spread, and overall modification of habitat have led to various management proposals for controlling juniper expansion on public and private lands.

Mountain big sagebrush plant communities occupy the majority of the WJMA, but often in a reduced form due to encroaching juniper. Mountain big sagebrush plant communities occur on a variety of soils, but most are deep, well-drained soils such as those that typify the WJMA. Associated shrubs include antelope bitterbrush, wax currant, green rabbitbrush, gray rabbitbrush, and snowberry. Large, deep-rooted perennial grasses found include bluebunch wheatgrass, Idaho fescue, bottlebrush squirreltail, western needlegrass, and Thurber's needlegrass.

Mountain big sagebrush plant communities contain a very diverse forb component. Common genera include *Crepis, Agoseris, Lupinus, Astragalus, Phlox, Penstemon, Eriogonum,* and *Lomatium.* There are also a number of native annual forbs that are common to mountain big sagebrush plant communities.

Low sagebrush plant communities are found intermixed with mountain big sagebrush plant communities. Low sagebrush is a low-growing sagebrush found on shallow soils or soils with a restrictive layer within 18 inches of the soil surface. Bedrock or a heavy clay layer may restrict rooting on these sites.

Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, Nevada bluegrass, and Sandberg's bluegrass are common perennial grasses. A larger percentage of the forbs on these areas are mat-forming. Genera include numerous species from *Eriogonum* and *Phlox*. Low sagebrush plant communities also contain a strong population of *Lomatium* sp.

Quaking aspen is a conspicuous plant community that is also represented in the WJMA. This tree species is usually found on north slopes or areas where snow accumulates and persists into the spring. Productivity of these plant communities is greater than adjacent sagebrush plant communities. Vegetation occurs in multilayered mixtures of shrubs, forbs, and grasses. Over 300 plant species have been identified growing in quaking aspen stands across the Great Basin. Common grass and grass-like genera found include wheatgrass, bromes, wildrye, bluegrass, and sedges. Forb components include sweet cicely, geranium, aster, peavine, yarrow, and bedstraw. Numerous shrub species may be found in the understory.

Our database currently lists 36 noxious weed sites totaling 30.376 acres within 2 miles of the WJMA. There have been 10 different noxious weed species documented in the allotment. The numbers and acreages associated with each are displayed in Table 1 below:

Table 1: Noxious Weed Distribution

Noxious Weed Species	Number of Sites	Acres
Canada thistle	11	1.127
Bull thistle	5	0.054
Scotch thistle	2	0.020
Mediterranean sage	1	0.009
Diffuse knapweed	5	0.017
Spotted knapweed	3	0.087
Dalmatian toadflax	1	0.007
Yellow starthistle	1	0.000
Whitetop	5	0.275
Medusahead rye	2	28.797
Totals	***36***	***30.376***

Treatments for all weeds are ongoing. Some sites have been reduced to no visible signs of weeds but monitoring occurs on an annual basis.

Currently western juniper has reduced or eliminated much of the plant community once found in the understory. This reduction in the understory (available fuels) has reduced the potential for natural fire to regulate juniper populations because the fire cannot carry through the understory. Natural fires would have once burned through these areas at low to moderate intensity, but now that role is highly reduced.

Soils found within the WJMA are comprised of two general soil associations. Baconcamp-Clamp-Rock outcrop accounts for 2,394 acres of the WJMA; this association occurs at 5 to 80 percent slopes and is characterized by well-drained, shallow or moderately deep soils formed in residuum and colluvium. Ninemile-Westbutte-Carryback only occurs on 874 acres of the WJMA at 0 to 70 percent slopes and is also characterized by well-drained, shallow and moderately deep soils that formed in a similar fashion to Baconcamp-Clamp-Rock outcrop. Ninemile-Westbutte-Carryback occurs on tablelands and hills having 12 to 16 inches of precipitation.

Biological Soil Crusts (BSCs) also occur in the WJMA in the interspaces between vascular plants. The most developed BSCs in the WJMA occur in the low sagebrush communities where old-growth juniper is more common. The well armored soils provide microsites for BSC establishment; this coupled with the greater fire return interval typical of low sagebrush communities promotes development of climax BSC communities.

Common BSCs found in the project area are included in the following list of genera. *Bryum, Cladonia, Collema, Didymodon, Lecanora, Megaspora, Peltigera, Psora, and Tortula.*

Erosive forces can have an increased ability to displace soils in sites where juniper invasion has reduced the understory component of shrubs, forbs, and BSCs.

Environmental Consequences

No Action Alternative:

No trail would be constructed under this alternative. Natural forces would continue to shape soil and vegetative resources in the area of the proposed trail.

Existing use of the WJMA by the public would continue in an unorganized fashion as visitors would potentially use any portion of the WJMA as opposed to concentrated use on a trail. Transitory effects to soils and vegetation would result from this random use of the WJMA. BSCs would have an increased chance of disturbance with trending toward a decrease in cover across the entirety of the WJMA with no designated trails. Recovery can take from 5 to 50+ years depending on the species of BSC and the intensity of repeated disturbance.

Existing and future juniper treatments as well as future ground-disturbing activities such as road maintenance provide increased opportunities for new weed introductions. These new introductions could provide seed sources for new infestations in the WJMA.

Affects Common to All Alternatives:

Planned juniper treatments authorized under the North Steens t Project would have no interactivity with impacts to soil and vegetative resources under either the No Action or Action Alternatives. Existing and future juniper treatments within the WJMA would enhance soils and vegetation resources in the WJMA independently of either the No Action or Action Alternatives. Existing and future juniper treatments as well as future ground-disturbing activities such as road maintenance provide increased opportunities for new weed introductions. These new introductions could provide seed sources for new infestations in the WJMA.

Proposed Action:

Initially, the trail construction would follow an existing dirt road approximately .25-mile up a ridge which when compared to the existing road disturbance would result in additional soil, BSC, and vegetation disturbances. The proposed disturbances have the potential to encourage the introduction or spread of noxious weeds. Ensuring equipment is washed and free of dirt, mud, and plant parts prior to arrival at the project location would minimize the potential for new weed introductions. Some vegetation and to a lesser degree BSCs have encroached into the existing road disturbance and would be affected by new construction. The construction activities would remove the top layers of soil and vegetation (vascular and nonvascular) from the immediate area of the proposed trail location along the proposed 0.8-mile path. Impacts to vegetation would be greatest along the aspen stand due to the high productivity of the aspen stand understory. As the trail enters the juniper monoculture, there would be fewer impacts to vegetation resources as the understory vegetation (both vascular and nonvascular) has been reduced.

Soil horizons would be altered in the newly-constructed trail and compaction would occur from visitor use. Limited erosion of soils may occur along the newly-constructed trail and would be greatest where slope increases or where soil exposure has already increased due to juniper encroachment.

Following the initial construction of the WJMA Trail system, the overall impacts to BSCs would be minimized because disturbance and compaction would be limited to designated trails and not located randomly throughout the WJMA.

Impacts to adjacent soil and vegetation resources would be anticipated due to the concentration of visitors along the trail. The aforementioned impacts would result from short duration forays into areas adjacent to the constructed trail and would generally heal through natural processes from year to year. Increased visitor use has the potential to increase new weed introductions. The area would need to be monitored on an annual basis. If any new or existing weeds are found, they would be treated in a timely manner, using the most appropriate methods available.

Alternative C: Proposed Action with Connecting Trail

Effects will be similar to Alternative B, with the exception of the disturbance associated with the construction of the connecting trail. Implementation would add approximately 0.9-mile of trail to the WJMA Trail system and with the intent of reducing impact throughout the WJMA by confining soil compaction, vegetation loss, BSC loss, and introduction of noxious weeds to a designated area between the two trails proposed in Alternative B.

3. Migratory Birds and Wildlife

Affected Environment

Approximately 70 species of migratory birds have been documented in various habitats on Steens Mountain. Grassland species include vesper sparrow and horned lark. Sagebrush species include Brewer's sparrow, white-crowned sparrow, green-tailed towhee, sage thrasher, and sage sparrow. Woodland species include gray flycatcher, dusky flycatcher, dark-eyed junco, bushtit, Cassin's finch, pine siskin, western wood-peewee, and chipping sparrow. Species that may be found in two or more habitats include American robin, brown-headed cowbird, Lincoln's sparrow, lark sparrow, and western meadowlark. Red-tailed hawks, kestrel, and turkey vulture are present but may not use any of the above habitats regularly. Most migratory birds are only present from mid-March through late August each year but some species such as robins may be present during fall and winter months. Breeding activities may begin in April at lower elevations and extend until mid-June at higher elevations. Most of the project area would have breeding activity from late April through June 1, with most young fledged by late June or early July.

Wildlife species that could be found in the project are include mule deer, ground squirrels, chipmunks, deer mice, black-tailed jackrabbit, cottontail, woodrat, coyote, raven, magpie, snakes, and some species of lizards. The project area would include fall transitional range and spring fawning/summer areas for mule deer. The big sagebrush portion would be the most likely spot for does to have their fawns because of the amount of cover big sagebrush provides.

Other species would be present or active during the spring through fall months with some species migrating elevationally while others remain in burrows for most of the winter.

Environmental Consequences

No Action Alternative:

There would be no effects to migratory birds or wildlife from the No Action Alternative other than disturbance from hikers who might use the area during the same time of year. With no constructed trail identified, hikers are less likely to use the area and would drive by this spot for other areas of the Steens Mountain.

Affects Common to All Action Alternatives:

There would be no cumulative effects from this action since there would be no change to this portion of habitat for migratory birds or wildlife over time. Other actions such as the North Steens Project will have effects on habitat for most species of migratory birds and may shift species composition depending on the amount of various habitats available. Habitat structure would be within the normal range of variation over a long period of time for migratory birds and other wildlife.

Proposed Action:

Migratory birds would be affected during the late breeding, nesting and fledging (June 1 to July 15) by hikers along the trail through the sagebrush as well as the juniper stand. It is not known how much use the trail would receive during this time period but use would probably be minimal when the gate at Page Springs is first opened around June 1 but would probably increase as weather conditions improve and soils dry out. Migratory birds that nested along the trail before hikers were present could be flushed from the nest but would return after the disturbance has passed. If disturbance from hikers was constant, then a nest might be abandoned. The length of the trail through the sagebrush (0.25-mile) would probably only contain one or two nest sites that could be disturbed by hikers.

Construction of the trail would have no effect on migratory birds if the work was completed after July 15 which would be after fledging of young birds.

Mule deer could be affected by the presence of hikers along the trail. Some of the fawning season coincides with the opening of the Page Springs gate. If a doe had her fawn in the area of the trail, hikers could cause the doe to leave the fawn for a while but she would usually return. Mule deer fawns are mobile within a few hours of birth but may be left by the doe when disturbed or feeding. Even though the fawn is left alone, it will usually not be abandoned. It is unlikely that more than one doe would fawn in the area of the trail. And there would be no effect to the mule deer population.

Alternative C:

Due to the increase in the length of the proposed trail with the connector, effects to migratory birds and wildlife would be increased but the overall population in the area would not be affected. Approximately five to six migratory bird nests could be disturbed if the connector trail is used in conjunction with the Loop Trail and the juniper trail. If use on this trail is continuous as described in Alternative B, then those nests could be abandoned but the birds could renest and still have successful nests.

Mule deer would probably be affected as described in Alternative B, but only one or two females with fawns would be disturbed and would move away from the trail. No fawns would be abandoned due to disturbance and the overall population of mule deer in the area would remain the same.

B. Discussion on Cumulative Effects

As the Council on Environmental Quality (CEQ), in guidance issued on June 24, 2005, points out, the "environmental analysis required under NEPA is forward-looking," and review of past actions is required only "to the extent that this review informs agency decision-making regarding the Proposed Action." Use of information on the effects on past action may be useful in two ways according to the CEQ guidance. One is for consideration of the Proposed Action's cumulative effects, and secondly as a basis for identifying the Proposed Action's effects.

The CEQ stated in this guidance that "[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." This is because a description of the current state of the environment inherently includes the effects of past actions. The CEQ guidance specifies that the "CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions." Our information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in "illuminating or predicting the direct and indirect effects of a Proposed Action." The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects.

However, "experience with and information about past direct and indirect effects of individual past actions" have been found useful in "illuminating or predicting the direct and indirect effects" of the Proposed Action in the following instances: the basis for predicting the effects of the Proposed Action and its alternatives is based on the general accumulated experience of the resource professionals in the agency with similar actions.

The environmental consequences discussion described all expected effects including direct, indirect and cumulative on resources from enacting the proposed alternatives. Direct and indirect effects plus past actions become part of the cumulative effects analysis; therefore, use of these words may not appear. The EA described the current state of the environment (Affected Environment by resource, Chapter III) which included the effects of past actions. In addition, the Introduction Section of this EA, specifically the Purpose of and Need for Action, identifies past actions creating the current situation.

Reasonably Foreseeable Future Actions (RFFAs), also relevant to cumulative effects, include those Federal and non-Federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These Federal and non-Federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. These RFFAs must fall within the geographic scope and timeframe of the analysis being prepared. Some of the other RFFA actions taking place in the area which may have cumulative effects include the North Steens Project, the Steens Comprehensive Recreation Management plan and the Frazier Field Project. The cumulative effects of these actions were thoroughly addressed throughout Chapter III by resource.

CHAPTER IV: CONSULTATION AND COORDINATION

A. List of Preparers

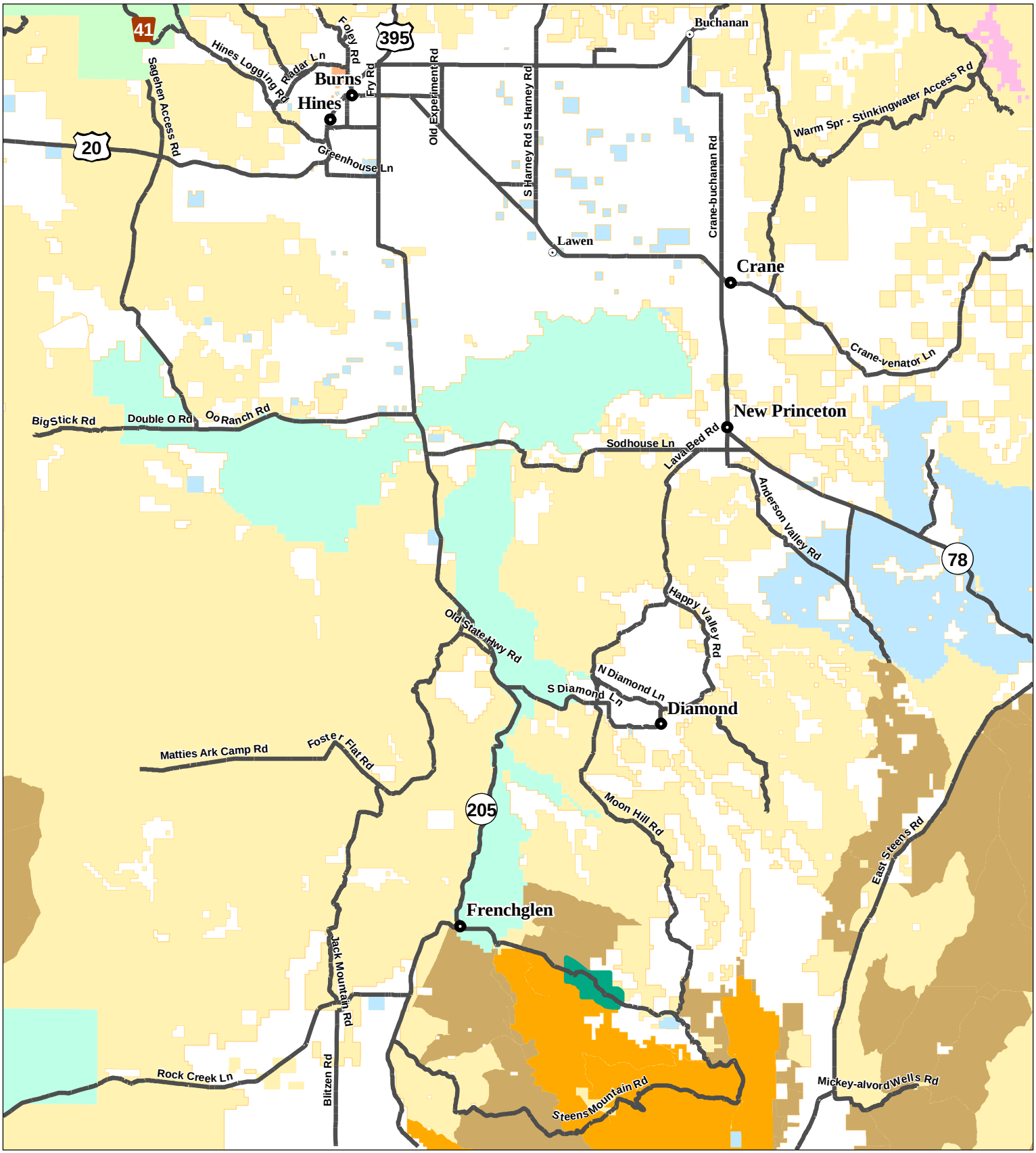
Daryl Bingham, Natural Resource Specialist (NRS) (Riparian, Wetlands, Water Quality, and Flood Plains)
Eric Haakenson, Outdoor Recreation Planner (Wilderness and Wild and Scenic Rivers)
Rhonda Karges, Planning and Environmental Coordinator (NEPA Review)
Michael Kelly, Outdoor Recreation Planner (Visual Resource Management)
Douglas Linn, NRS (BSCs, Vegetation and Soils)
Gary McFadden, Wild Horse and Burro
Matt Obradovich, Wildlife Biologist (Wildlife and SSS Fauna)
Lesley Richman, NRS (Noxious Weeds Coordinator)
Cam Swisher, Environmental Protection Specialist (Grazing Management)
Scott Thomas, Archaeologist

B. Persons, Groups, or Agencies Consulted

Harney County Watershed Council
Oregon Natural Desert Association
Oregon Watershed Enhancement Board
Steens Mountain Advisory Council

APPENDIX A

Map WJMA dated 07/17/2009



Vicinity Map ~ Wildland Juniper Management Area Interpretive Trail

- Wildland Juniper Management Area
- BLM Wilderness Study Area
- Steens Mtn. Wilderness
- Bureau of Land Management
- U.S. Forest Service
- U.S. Fish and Wildlife Service
- State
- Bureau of Indian Affairs
- Other Federal
- Private

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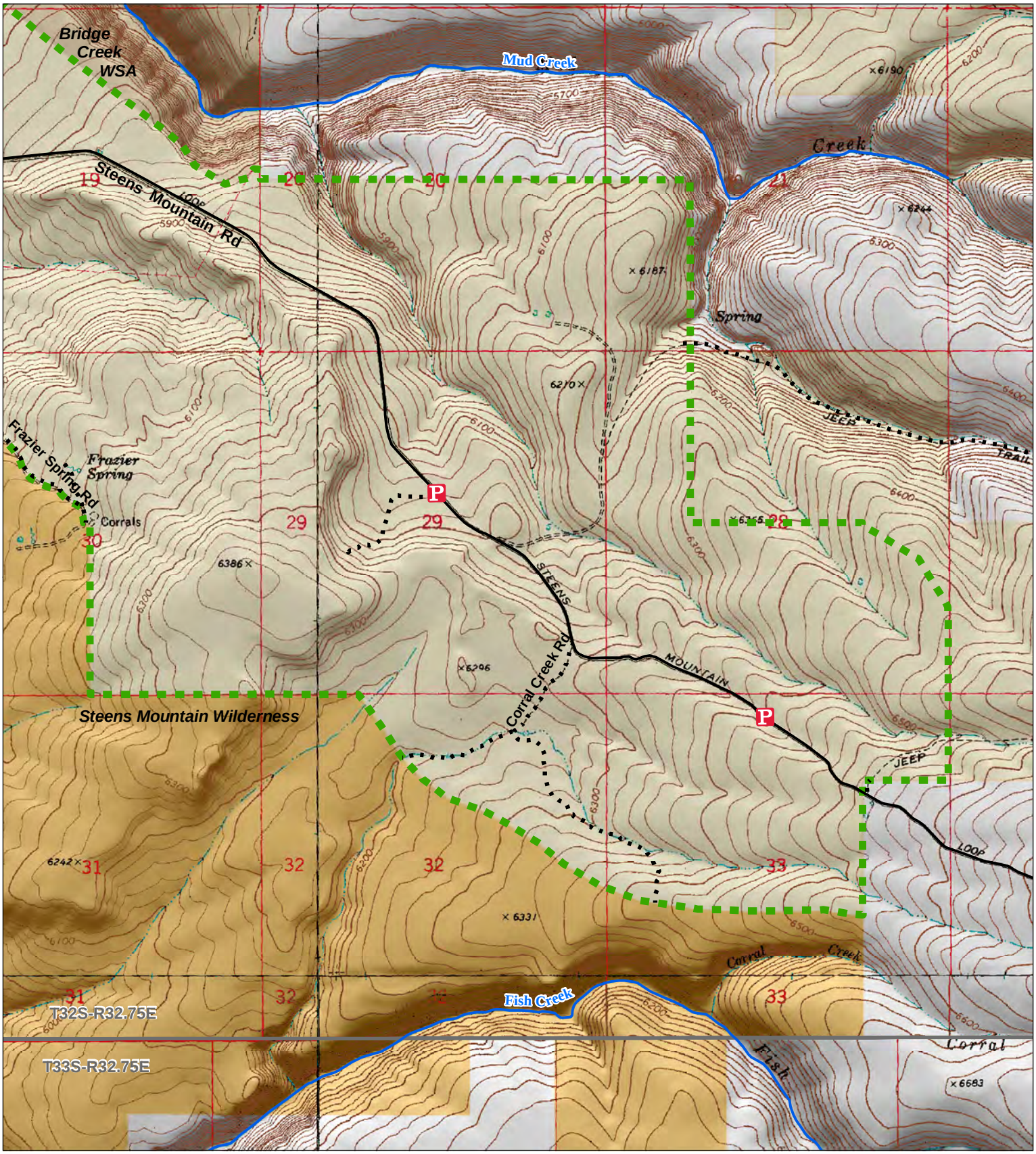

Alternative A ~ Wildland Juniper Management Area Interpretive Trail

- Wildland Juniper Management Area
- Existing Interpretive Turnouts (2)
- Non-Paved Improved Road
- Primitive Road Surface
- BLM Wilderness Study Area
- Steens Mtn Wilderness
- Bureau of Land Management
- Private Land

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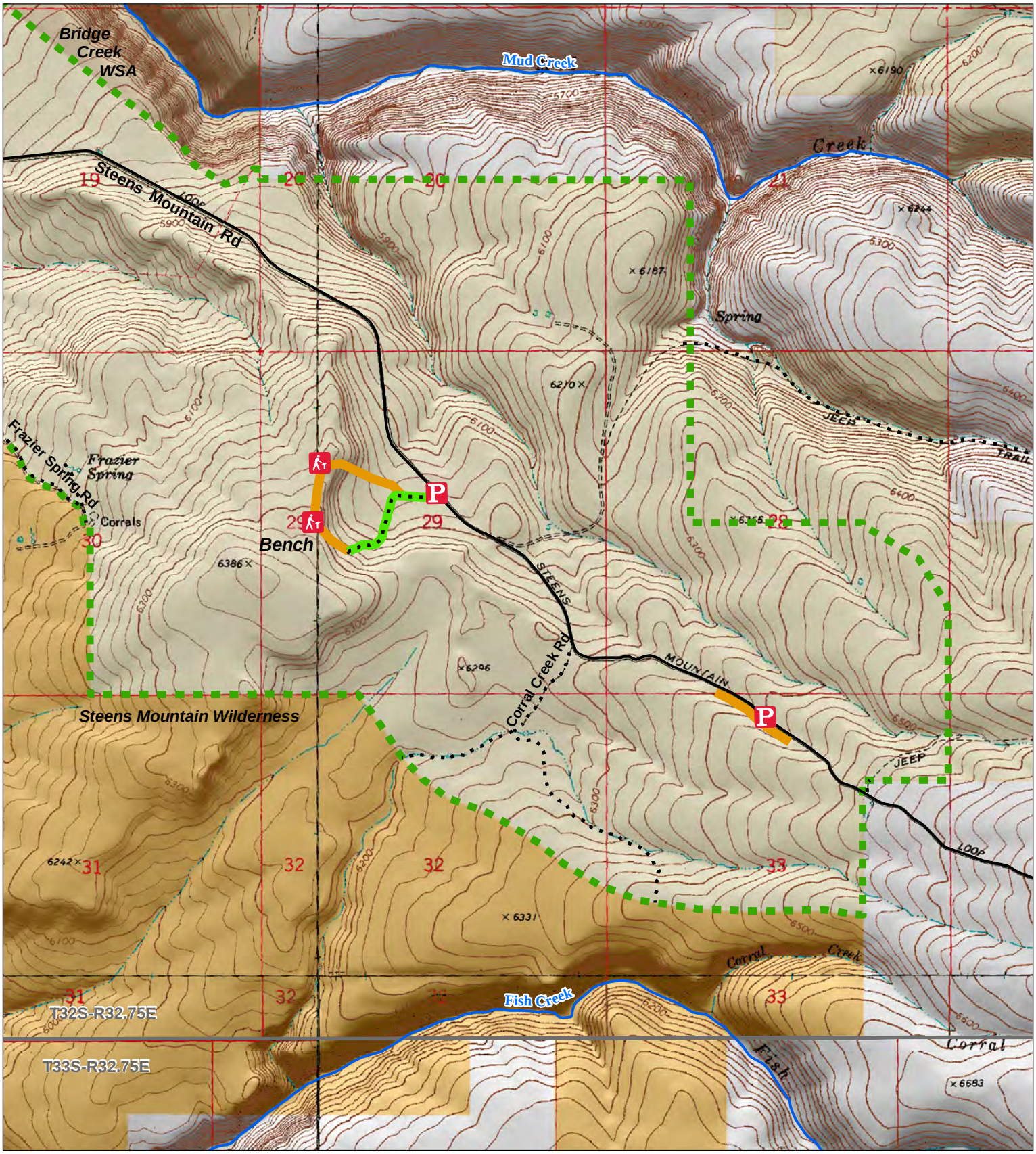

Alternative B ~ Wildland Juniper Management Area Interpretive Trail

- Wildland Juniper Management Area
- Proposed Interpretive Panel (2)
- Proposed Expanded Parking Area (2)
- Proposed Trail Construction
- Proposed Road Converted to a Trail

Disclaimer: The location of the trails are subject to change.

- Non-Paved Improved Road
- Primitive Road Surface
- BLM Wilderness Study Area
- Steens Mtn Wilderness
- Bureau of Land Management
- Private Land

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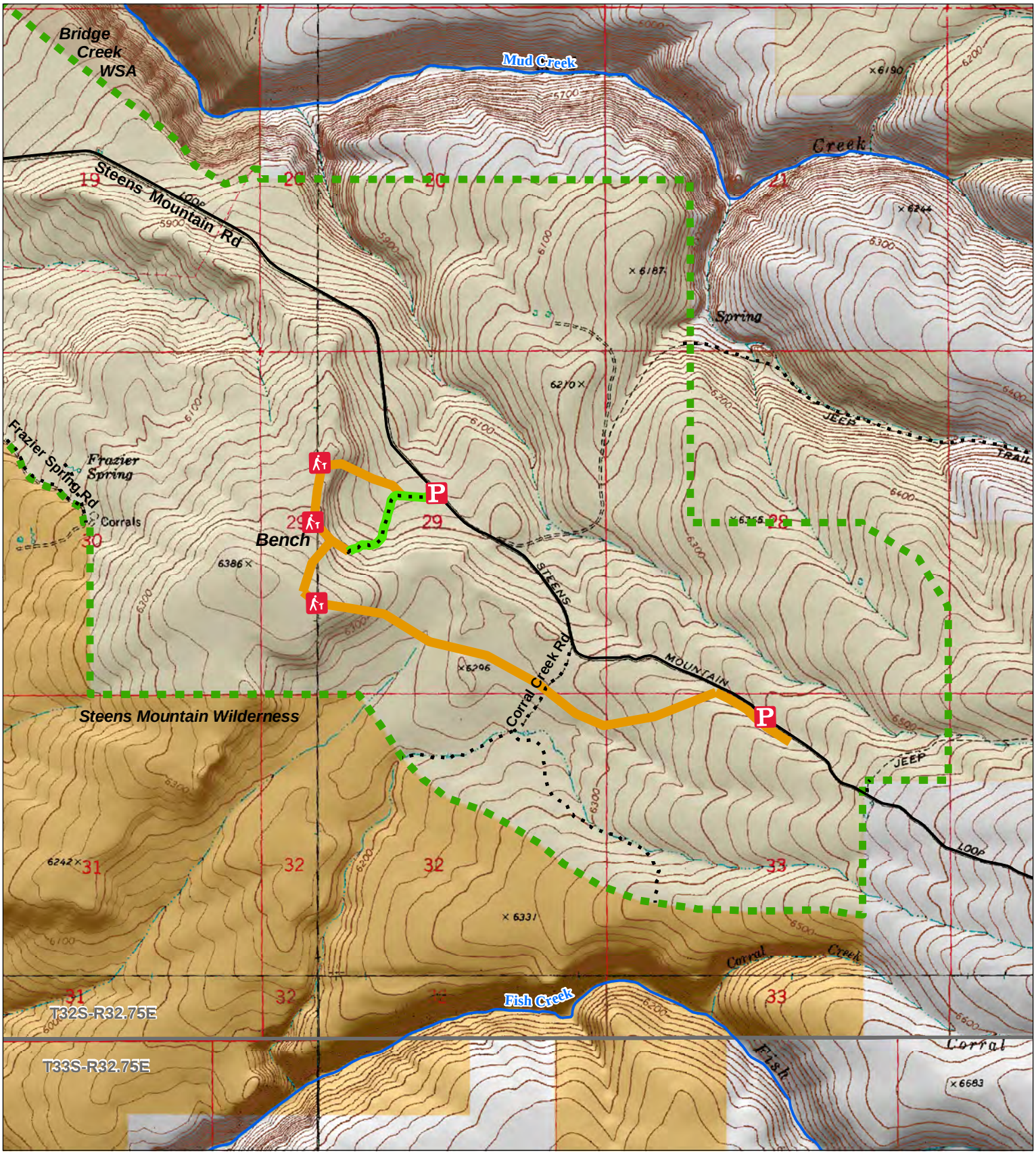

Alternative C ~ Wildland Juniper Management Area Interpretive Trail

- Wildland Juniper Management Area
- Proposed Interpretive Panel (3)
- Proposed Expanded Parking Area (2)
- Proposed Trail Construction
- Proposed Road Converted to a Trail

Disclaimer: The location of the trails are subject to change.

- Non-Paved Improved Road
- Primitive Road Surface
- BLM Wilderness Study Area
- Steens Mtn Wilderness
- Bureau of Land Management
- Private Land

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