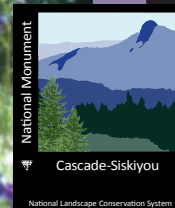


SODA MOUNTAIN WILDERNESS

FINAL STEWARDSHIP PLAN

BLM
Medford District Office

April 2012



**United States Department of the Interior
Bureau of Land Management**

**Final Soda Mountain Wilderness
Stewardship Plan**



**Bureau of Land Management
Medford District Office
3040 Biddle Road
Medford, OR 97504**



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Medford District Office
3040 Biddle Road
Medford, Oregon 97504
email address: Medford_Mail@blm.gov

IN REPLY REFER TO:

6300, 6360 (ORM040)

APR 13 2012

Dear Interested Party:

I am pleased to announce that the *Final Soda Mountain Wilderness Stewardship Plan* is complete. The Soda Mountain Wilderness was added to the National Wilderness Preservation System by the Omnibus Public Land Management Act of 2009 (Public Law 111-11, March 30, 2009). Public Law 111-11 designated 24,100 acres of the Cascade-Siskiyou National Monument (CSNM) as wilderness. This plan provides the primary guidance for managing the Soda Mountain Wilderness (SMW). This wilderness stewardship plan is an implementation-level plan that provides a set of decisions outlining management of the SMW over the next 10 years. These implementation actions are designed to meet the wilderness management goals and objectives and respond to those wilderness specific issues which were identified through scoping. All actions are supplemental to and consistent with wilderness laws, regulations, and policies.

The *Final SMW Stewardship Plan* focuses on enhancing wilderness character and values through a combination of actions that would include active and passive restoration as well as providing opportunities for solitude and primitive recreation including some roads to trails conversions. Restoration activities would include culvert removals; former vehicle route recontouring; removal and restoration of water developments; and removal of selected structures, fences, cattleguards, and other evidence of human influence.

The *Soda Mountain Wilderness Stewardship Plan and Environmental Assessment* (EA) (DOI-BLM-OR-M040-2011-001-EA) was released to the public for review on September 22, 2011. The EA presented the Proposed Action and three alternatives. A public meeting was held at the Green Springs Inn on October 13, 2011 to present the Proposed Action and alternatives in the EA. A 30-day comment period followed publication on the Medford BLM website. In response to a request, the initial comment period was extended for an additional 15 days, closing on November 8, 2011. This *Final Soda Mountain Wilderness Stewardship Plan* is a revision of Alternative 2, the Proposed Action in the *Soda Mountain Stewardship Plan and Environmental Assessment*. This final plan includes minor modifications and clarifications to the Proposed Action based on public comment.

This decision may be appealed to the U.S. Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals (Board or IBLA) by those who have a "legally cognizable interest" to which there is a substantial likelihood that the action authorized in this decision would cause injury, and who have established themselves as a "party to the case." (See 43 CFR § 4.410). If an appeal is taken, a written notice of appeal must be filed with the BLM officer who made the decision in this office by close

of business (4:30 p.m.) not more than 30 days after the date of service. Only signed hard copies of a notice of appeal that are delivered to *BUREAU OF LAND MANAGEMENT, MEDFORD INTERAGENCY OFFICE, Ashland Resource Area, 3040 Biddle Road, Medford Oregon 97504*, will be accepted. Faxed or e-mailed appeals will not be considered.

The person signing the notice of appeal has the responsibility of proving eligibility to represent the appellant before the Board under its regulations at 43 CFR § 1.3. The appellant also has the burden of showing that the decision appealed from is in error. The appeal must clearly and concisely state which portion or element of the decision is being appealed and the reasons why the decision is believed to be in error. If your notice of appeal does not include a statement of reasons, such statement must be filed with this office and with the Board within 30 days after the notice of appeal was filed.

This decision will become effective on the day after the expiration of the time during which a person adversely affected may file notice of appeal unless a petition for a stay pending appeal is filed together with a timely notice of appeal (43 CFR § 4.21 (a)(2)).

According to 43 CFR Part 4, you have the right to petition the Board to stay the implementation of the decision. Should you choose to file one, your stay request should accompany your notice of appeal. You must show standing and present reasons for requesting a stay of the decision. A petition for stay of a decision pending appeal shall show sufficient justification based on the following standards:

- The relative harm to the parties if the stay is granted or denied,
- The likelihood of the appellant's success on the merits,
- The likelihood of immediate and irreparable harm if the stay is not granted, and
- Whether the public interest favors granting the stay.

A notice of appeal with petition for stay must be served upon the Board and the Regional Solicitor at the same time such documents are served on the deciding official at this office. Service must be accomplished within fifteen (15) days after filing in order to be in compliance with appeal regulations (43 CFR § 4.413(a)). At the end of your notice of appeal you must sign a certification that service has been or will be made in accordance with the applicable rules (i.e., 43 CFR §§ 4.410(c) and 4.413) and specify the date and manner of such service. The IBLA will review any petition for a stay and may grant or deny the stay. If the IBLA takes no action on the stay request within 45 days of the expiration of the time for filing a notice of appeal, you may deem the request for stay as denied, and the BLM decision will remain in full force and effect until IBLA makes a final ruling on the case.

Additional contact addresses include:

U.S. Department of the Interior
Office of Hearings and Appeals
Interior Board of Land Appeals
801 N. Quincy Street, MS 300-QC
Arlington, Virginia 22203

Regional Solicitor
Pacific Northwest Region
U.S. Department of the Interior
805 S.W. Broadway, Suite 600
Portland, Oregon 97205

We appreciate your help in this planning effort and look forward to your continued participation as the plan is implemented. For additional information or clarification regarding the document or the planning process, please contact Kathy Minor at (541) 618-2245.

Sincerely,

for _____

Dayne C. Barron
District Manager
Medford District
Bureau of Land Management

4/13/2012

Date

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SODA MOUNTAIN WILDERNESS STEWARDSHIP PLAN

INTRODUCTION

The United States Congress established the National Wilderness Preservation System to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state. Only Congress, with Presidential approval, may designate areas as Wilderness. The Wilderness Act of 1964 defines wilderness characteristics, the uses of wilderness, and the activities prohibited within wilderness.

Wilderness areas provide a contrast to lands where human activities dominate the landscape. Wilderness areas are managed for the use and enjoyment of the American people in a manner that will leave them unimpaired for future use and enjoyment as wilderness, for their protection, for the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.

Wilderness character is summarized as:

- Untrammeled – wilderness is unhindered and free from modern human control or manipulation.
- Outstanding opportunities for solitude or a primitive and unconfined type of recreation – wilderness provides opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.
- Undeveloped – wilderness is substantially without permanent developments or modern human occupation.
- Natural – wilderness ecological systems, being affected primarily by the forces of nature, retain their primeval character and influence substantially free from the effects of modern human civilization.
- Unique/Supplemental Values – wilderness may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Scope of Wilderness Stewardship Plan

This plan provides the primary guidance for the Soda Mountain Wilderness (SMW). The plan also addresses actions outside the wilderness area, including wilderness access, trailheads, and interpretive and educational information provided to the public. This wilderness stewardship plan is an implementation-level plan that provides a set of decisions outlining management of the SMW over the next 10 years. The plan 1) identifies the conditions and opportunities which will be managed within the wilderness; 2) creates specific guidance for managing the resources and activities existing in the wilderness; and 3) preserves the area's wilderness characteristics cumulatively identified as untrammeled quality, outstanding opportunities for solitude or a primitive form of recreation, undeveloped character, and naturalness and primeval character.

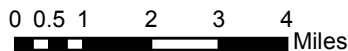
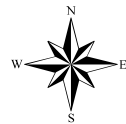
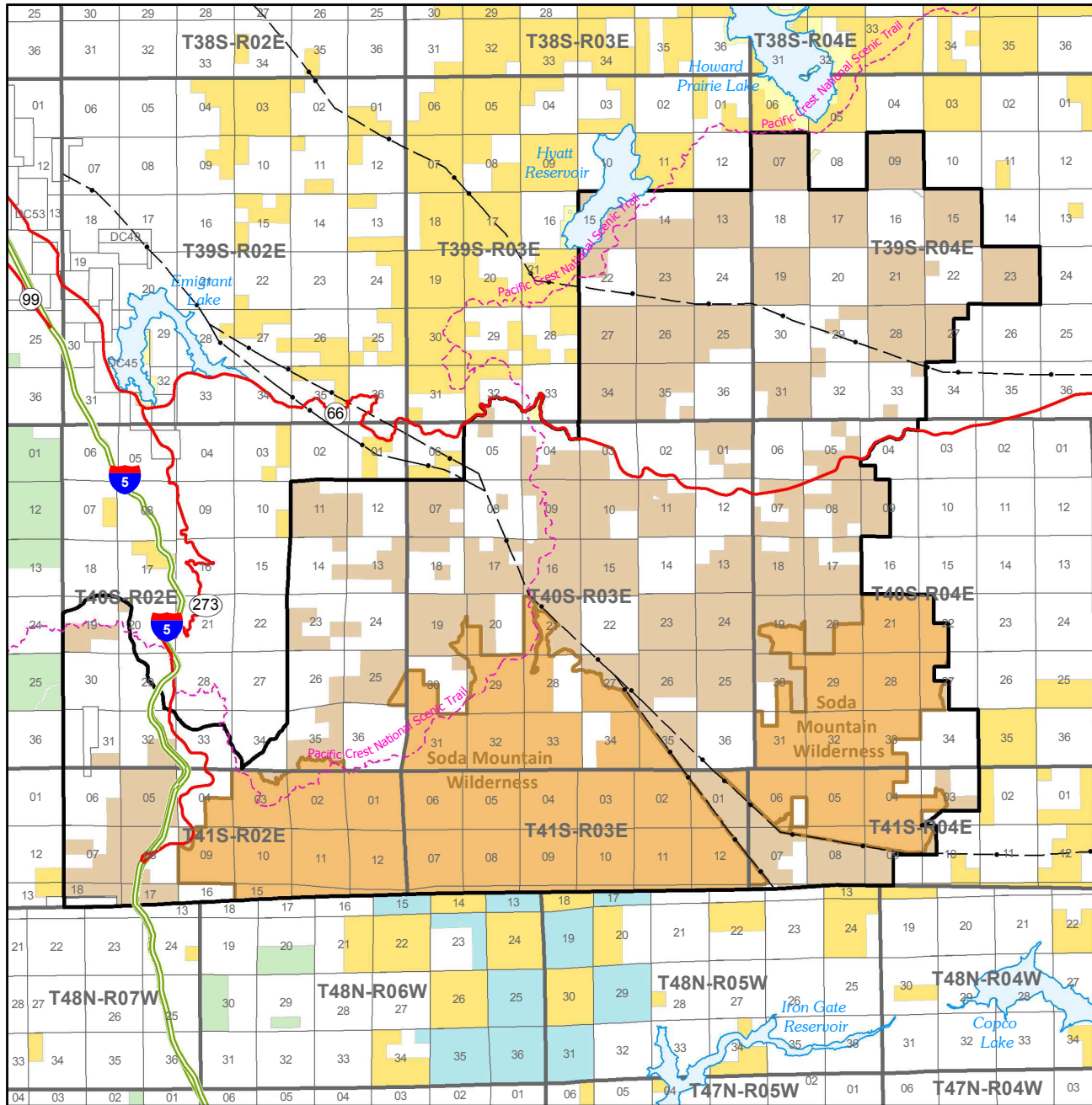
The plan is consistent with the following laws, regulation, and policy:

- The Omnibus Public Lands Management Act of 2009, Public Law No. 111-11, Section 1405 (March 30, 2009) (Appendix A).
- Wilderness Act of 1964.
- Code of Federal Regulations 43 Parts 6300 and 8560 (Management of Designated Wilderness Areas).
- BLM Manual 8560 (Management of Designated Wilderness Areas).
- BLM Manual 8561 (Wilderness Management Plans).
- The *Cascade-Siskiyou National Monument Record of Decision and Resource Management Plan* (USDI 2008).
- The *Cascade-Siskiyou National Monument Proposed Resource Management Plan/Final Environmental Impact Statement* (USDI 2005).







Wilderness Overview

The Soda Mountain Wilderness was added to the National Wilderness Preservation System by the Omnibus Public Land Management Act of 2009 (Public Law 111-11, March 30, 2009). Public Law 111-11 designated 24,100 acres of the Cascade-Siskiyou National Monument (CSNM) as wilderness (Map 1). The SMW is managed by the Bureau of Land Management (BLM), Medford District Office. There is a 240-acre private inholding

Map 1. Soda Mountain Wilderness Vicinity Map



Legend

-  Greater CSNM Boundary
-  Cascade-Siskiyou National Monument
-  Soda Mountain Wilderness
-  Other Bureau of Land Management
-  U.S. Forest Service
-  Other Federal
-  State
-  Private/Unknown

(private property entirely surrounded by wilderness) within the SMW. The BLM is currently in the process of acquiring this parcel.

The Soda Mountain Wilderness is located approximately 15 miles southeast of Ashland, Oregon. The wilderness lies on the south side of the Medford District. The entirety of the SMW is in Jackson County. The SMW encompasses the rich biological and geological diversity of the southern backcountry of the Cascade-Siskiyou National Monument. Elevations range from about 3,000 to 6,000 feet.

The heart of the wilderness is the 5,720-foot high Boccard Point where the great basin meets three mountain ranges. The older Klamath Range comes up from the south while the much younger Siskiyou Range extends from the west. Jutting up from the north is the very young Cascade Range. Evolution, long-term climatic change, and natural geologic processes (volcanism, mass wasting, etc.) operating across geological time continue to contribute to the high ecological richness of the area. There are two existing distinct designations within the SMW that recognize and protect special ecological characteristics of the area: the Scotch Creek Research Natural Area and the Oregon Gulch Research Natural Area.

Plant communities in the SMW present a rich mosaic of grass and shrublands, Gary and California black oak woodlands, juniper scablands, mixed conifer forests, and wet meadows. Stream bottoms support broad-leaf deciduous riparian trees and shrubs. Special plant communities include rosaceous chaparral and oak-juniper woodlands. Rare and endemic plants include Greene's mariposa lily, Gentner's fritillary, and Belliger's meadowfoam.

Animal species of interest include one of the highest diversities of butterfly species in the United States. The Jenny Creek portion of the SMW (and the CSNM) is a significant center of fresh water snail diversity, and is home to three endemic fish species, including a long-isolated stock of redband trout. The SMW contains important populations of small mammals, reptile and amphibian species, and ungulates. Bird species include the threatened northern spotted owl, western bluebird, western meadowlark, pileated woodpecker, flammulated owl, and pygmy nuthatch.

BLM roads off Highway 66 and Highway 99 provide access to the wilderness. Most visitations occur via the Pacific Crest National Scenic Trail which runs through the northwest edge of the western portion of the SMW. Pilot Rock is a popular destination for hikers.

The *Cascade-Siskiyou National Monument Proposed Management Plan/Final Environmental Impact Statement* (FEIS) (USDI 2005) and the *Cascade-Siskiyou National Monument Record of Decision (ROD) and Resource Management Plan (RMP)* (USDI 2008) provide detailed descriptions of the affected environment within the SMW, as the SMW is a specific designation within the CSNM.

Public Involvement in the Process

The BLM initiated the wilderness planning process by undertaking a "scoping" process in which the public was invited to identify issues to be addressed in the environmental analysis. Two public scoping meetings were held at the Bellview Grange in Ashland on May 13, 2010. A scoping letter inviting comments was mailed to interested members of the public and posted on the Medford BLM website. Issues identified during the scoping period were considered in developing the range of alternatives that was analyzed in the environmental assessment (EA).

The *Soda Mountain Wilderness Stewardship Plan and Environmental Assessment* was released to the public for review on September 22, 2011. The EA presented the Proposed Action and three alternatives. A public meeting was held at the Green Springs Inn on October 13, 2011 to present the Proposed Action and alternatives in the EA. A 30-day comment period followed publication on the Medford BLM website. In response to a request, the initial comment period was extended for an additional 15 days, closing on November 8, 2011. This *Final Soda Mountain Wilderness Stewardship Plan* is a revision of Alternative 2, the Proposed Action in the *Soda Mountain Wilderness Stewardship Plan and Environmental Assessment*. This final plan includes minor modifications and clarifications to the Proposed Action based on public comment.

Wilderness Characteristics

The Soda Mountain Wilderness possesses a wide variety of geographic landforms and natural resources that have attracted humankind to the area for at least the past 10,000 years. The Takelma, Shasta, and Klamath Indians utilized this area for subsistence activities, including resource extraction for food and tool materials. This way of life for the Indian people changed little over time, until the arrival of the first Euro-Americans in 1827, and the Indians subsequent removal to reservations by 1856.

By 1850, emigrants flooded into southwestern Oregon, bringing with them their cultural values and beliefs. A striking contrast exists between the ways in which Indians and Euro-Americans related to the land. Native peoples, who had no concept of individually owned land, managed resources for a subsistence way-of-life. Euro-Americans, on the other hand, extracted wealth from the landscape through logging, ranching, and agriculture in ever-increasing amounts and locations (Oregon Historical Society 2012). Consequently, past human activities have influenced the development of the area and evidence for that long-term human presence can be observed across the SMW landscape today.

The SMW does provide outstanding opportunities for solitude or primitive and unconfined types of recreational experiences including hiking, scenic viewing, hunting and exploration. The natural character of the wilderness is free from human imprint in many areas; however, in other areas, the human imprint is clearly evident including approximately 80 miles of former vehicle routes, 46 human-created water developments, 66 miles of fence, and additional effects from modern civilization (i.e., refuse dumps, irrigation pipe, remnants of hunting camps, structures, installations, etc.). The primeval character of the area is impacted by non-native invasive species. Additional wilderness features of the SMW are the scenic, educational, and ecological values that have long been associated with the area.

GOALS OF WILDERNESS MANAGEMENT

1. To provide for the long-term protection and preservation of the area's wilderness character under a principle of non-degradation. The area's natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historical value present will be managed so that they will remain unimpaired.
2. To manage the wilderness for the use and enjoyment of visitors in a manner that will leave the areas unimpaired for future use and enjoyment as wilderness. The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use.
3. To manage the wilderness using the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently. Management will seek to preserve spontaneity of use and as much freedom from regulation as possible.
4. To manage nonconforming but accepted uses permitted by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the area's wilderness character. Nonconforming uses are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.

WILDERNESS MANAGEMENT OBJECTIVES

The following objectives address management of the SMW based on the wilderness management goals identified above. The objectives are not listed in order of priority.

- Provide outstanding opportunities for primitive recreation with minimal supporting actions. Trails may be used to help manage impacts.
- Maintain existing opportunities for solitude by monitoring visitor use patterns that trigger need for management action.

- Provide for the use and enjoyment of the wilderness in such a way that protects natural conditions through minimal regulation of visitor activities.
- Maintain or enhance the natural appearance of the wilderness by removing unnecessary facilities and minimizing or restoring human-caused surface disturbances.
- Remove human effects (i.e., refuse; remnants of hunting camps, structures, installations; and graffiti or similar vandalism) quickly.
- Preserve the primeval character and influence of the wilderness through prevention, control, or eradication of non-native plants.
- Manage for healthy, viable, and naturally distributed native wildlife and plant populations with the least amount of trammeling actions necessary.

WILDERNESS MANAGEMENT ACTIONS

The following site specific actions will be implemented in the Soda Mountain Wilderness. These actions are designed to meet the wilderness management goals and objectives and respond to those wilderness specific issues which were identified through scoping. All actions are supplemental to and consistent with wilderness laws, regulations, and policies (see *Scope of Wilderness Stewardship Plan* section above). These policies will be further consulted in the event of future unforeseen issues.

Minimum Requirements Analysis

For each of the site specific implementation decisions in this stewardship plan, a Minimum Requirements Analysis (MRA) was conducted to identify, analyze, and select management actions that are the minimum necessary for wilderness administration. An MRA considers all aspects of a course of action that is necessary to do with the least amount of impact to wilderness. Basically, an MRA is a two-step process to:

1. Determine if any action is necessary, and
2. Outline an appropriate range of possible actions and decide which of them meets the minimum requirement for utilizing the least amount of an otherwise prohibited use - which may sometimes be none at all.

The MRA applies direction from the Wilderness Act and BLM Wilderness Regulations (43 CFR 6300) and Policy Manual 8560. The concept of Minimum Requirements comes from Section 4(c) of the Wilderness Act of 1964:

Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area (emphasis added).

Applicable actions include, but are not limited to, scientific monitoring, research, recreational developments (trails, bridges, signs, etc.), and activities related to special provisions mandated by the Wilderness Act or subsequent legislation (such as grazing, exercising mineral rights, access to inholdings, maintenance of water developments, and commercial services).

BLM Regulations (43 CFR 6300) and Policy Manual 8560 provide guidance on the minimum requirements decision process. 43 CFR 6303.1 states:

As necessary to meet minimum requirements for the administration of the wilderness area, BLM may:

- (a) Use, build, or install temporary roads, motor vehicles, motorized equipment, mechanical transport, structures or installations, and land aircraft, in designated wilderness;
- (b) Prescribe conditions under which other Federal, State, or local agencies or their agents may use, build, or install such items to meet the minimum requirements for protection and administration of the wilderness area, its resources and users;

- (c) Authorize officers, employees, agencies, or agents of the Federal, State, and local governments to occupy and use wilderness areas to carry out the purposes of the Wilderness Act or other Federal statutes; and
- (d) Prescribe measures that may be used in emergencies involving the health and safety of persons in the area, including, but not limited to, the conditions for use of motorized equipment, mechanical transport, aircraft, installations, structures, rock drills, and fixed anchors. BLM will require any restoration activities that we find necessary to be undertaken concurrently with the emergency activities or as soon as practicable when the emergency ends.

BLM Policy Manual 8560.13 provides guidance on minimum tools:

Minimum Tool. Tools, equipment, or structures may be used for management when they are the minimum necessary for protection of the wilderness resource or when necessary in emergency situations for the health and safety of the visitor. Management must use the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently.

Conducting an MRA follows the direction of both law and agency policy. Although there are a number of different minimum requirements forms available for use, the form the BLM used is the Minimum Requirements Decision Guide (MRDG) worksheet developed by the interagency Arthur Carhart National Wilderness Training Center (2011). The MRDG process was used when actions ordinarily prohibited by Section 4(c) of the Wilderness Act were proposed in the EA. The types of actions included the following:

- Maintenance, restoration, and rehabilitation;
- Scientific monitoring or research;
- Recreational developments, such as trails, bridges and signs; and
- Activities related to special provisions mandated by the 1964 Wilderness Act or subsequent legislation, such as control of fire, insects, and diseases, helispot maintenance, access to inholdings, maintenance of water developments, and commercial services.

All MRDGs completed during the environmental analysis process for site specific implementation decisions are located in the analysis file at the Medford District BLM Office.

Decisions Carried Forward from Cascade-Siskiyou National Monument Record of Decision and Resource Management Plan

The SMW is part of the CSNM. The CSNM ROD/RMP was approved in August 2008. It provides overall direction for management of all resources on BLM-administered land comprising the CSNM, including those lands within the SMW. Management of the SMW is further guided by the Wilderness Act of 1964 and national BLM wilderness policy as set forth in BLM Manual 8560 (1983 and 2000). This wilderness stewardship plan incorporates many of the approved decisions made in the CSNM ROD/RMP that comply with the Wilderness Act and BLM wilderness policy. The decisions carried forward from the CSNM ROD/RMP include the following:

- Animal Stock Use REC-1 and REC-2 except weed-free feed required, no stock use in Research Natural Areas (RNAs), except by disabled persons.
- Collections/Special Forest Products REC-7, REC-8, REC-9, REC-10, NAT-1, COLL-1, COLL-2, COLL-3, and COLL-4.
- Campfires REC-4.
- Dispersed Camping REC-11 and REC-12, except group size changes.
- Climbing REC-6.
- Technical Climbing on Pilot Rock REC-29, and REC-30 plus free climbing, temporary anchors, and chalk information.
- Hiking on Pilot Rock REC-31 and REC-32 with reroute proposal.
- Hunting and Fishing REC-19 and no game carriers.
- Paint Ball REC-26.
- National Scenic Trails PCT-1.

- Visitor Facilities REC-39, REC-40, REC-41, and REC-42, except parking at the horse corrals along Old Highway 99 in T. 41 S., R. 2 E., Section 9 will no longer be maintained.
- Special Recreation Permits (SRPs) REC-36, except no SRP would be issued for competitive use or vending.
- Special Areas REC-37.
- Science and Research SCI-1 and SCI-2.
- Stabilization, Rehabilitation and Restoration Following Wildland Fire REHAB-1, with the addition that efforts will conform to the wilderness stabilization and rehabilitation objectives, and follow the general guidance list and the specific guidance in Appendix D and REHAB-2, except rehabilitation of burned areas undisturbed by firefighting efforts will only occur to protect wilderness resources or to provide for public safety.
- Air Quality Management AQ-1.
- Cultural Resources CULT-1 and CULT-2.
- Archaeological Sites ARCH-1.
- Riparian Areas and Aquatic Resources RIPA-4, RIPA-5, RIPA-6, RIPA-7, RIPA-10, RIPA-11 and RIPA-12.

Recreation

The Soda Mountain Wilderness provides outstanding opportunities for solitude or primitive and unconfined types of recreational experiences including hiking, scenic viewing, hunting and exploration. The wilderness is an ecological mosaic where Oregon's eastern desert meets its western towering mixed conifer and white fir forests. The biodiversity of the area includes fir forests, sunlit oak groves, meadows filled with wildflowers, and steep canyons. The area is home to a spectacular variety of rare species of plants and animals including Greene's Mariposa lily, Gentner's fritillary, Bellinger's meadowfoam, redband trout, Jenny Creek sucker, northern spotted owl, western bluebird, pileated woodpecker, flammulated owl, pygmy nuthatch, and one of the highest diversities of butterfly species in the United States.

Animal Stock Use

Recreational pack or saddle stock (e.g., horses, llamas or goats) use is allowed cross-country and on the Pacific Crest National Scenic Trail and other former vehicle routes proposed for conversion to designated trails (see Trails section below) in the SMW with the following restrictions:

- Commercial stock use is not allowed.
- Stock use is not allowed in the RNAs, except by individuals who demonstrate a physical need for stock use. Physical need can be demonstrated by an individual's prior and present possession of a valid "disabled person parking permit" issued by a state Department of Motor Vehicles agency. With prior BLM authorization, saddle stock day use by disabled individuals is allowed in the two RNAs. Prior authorization can be attained by the disabled person submitting a copy of his/her disabled parking permit to the BLM; upon approval, the BLM will keep this permit on file.
- The total number of stock on overnight trips is limited to four animals per group.
- The total number of stock on day trips is restricted to six animals per group.
- Administrative stock use on day and overnight trips may exceed the numbers allowed for recreational stock use with prior authorization, as long as the activity does not interfere with the protection of wilderness character and resources. Administrative stock use may be authorized for researchers, survey crews, restoration, or other authorized tasks.
- Animals are not allowed to overnight within 200 feet of any water's edge, or in any wet areas.
- Visitors with animal stock should camp on durable surfaces or at existing campsites.
- Where possible, tether animals over bare ground, not over live vegetation. When overnight camping, a high line should be used stretched between two carefully selected trees.
- To prevent damage to roots and bark, animals should not be tied to small live trees less than eight inches in diameter.
- Stock users are encouraged to feed saddle and pack animals certified weed-free feed 24 hours prior to entering the wilderness. Grazing is allowed by recreational stock visiting the wilderness; however, grazing

conditions vary and stock users should plan on carrying feed. As is required on all public lands within Oregon, animal stock must be fed certified weed-free feed (Instruction Memorandum OR-2011-019). It is prohibited on BLM lands in Oregon and Washington "...to possess, use, or store any hay, straw, or mulch that has not been certified as free of prohibited noxious vegetative parts and/or seeds at any time of the year. Certification must comply with the State, Regional, or Federal Weed-Free Forage Certification Standards (*Federal Register*, Volume 75, Number 159, August 18, 2010)."

- If monitoring indicates that excessive impacts to wilderness resources are occurring, seasonal restrictions may be implemented for specific locations or trails, or trails may be hardened at specific locations to prevent damage.

Dispersed Camping

As with the rest of the CSNM, dispersed "leave no trace" camping (Figure 1) is allowed across the SMW, except within 100 feet of water sources, the two RNAs, remaining structures at the former Box O Ranch, archeological or cultural sites, endangered plant sites, and other areas that may be easily damaged by camping.

- Camping is not allowed within 100 feet of water sources (i.e., springs, wet areas, ponds, and streams).
- Pre-existing campsites within 100 feet of sensitive areas will be closed and rehabilitated. Camping closures and rehabilitated sites may be temporarily signed to prevent continued use.
- Groups larger than 12 are not allowed to camp in the wilderness without prior authorization (see Group Size Limits section). Group camping in excess of 12 individuals (people and animals) per group may be allowed for administrative purposes as long as the activity does not interfere with the protection of wilderness values. Administrative purposes may include authorized research, survey crews, fire crews, or other authorized tasks requiring an overnight stay in the wilderness.
- Camping is limited to not more than 14 days in a 90-day period. The 14 days can be through one or multiple visits.

For campsites, the goal is to protect natural conditions so that the imprint of human activities is substantially unnoticeable. At the same time, the Wilderness Act provides for people to enjoy a primitive recreation experience, and so a little bit of impact on these dispersed campsites is permitted. However, if dispersed camping increases, it may be necessary to implement additional restrictions in order to protect wilderness resources. Additional actions related to dispersed camping would be implemented when a threshold of more than four campsites with bare core camp areas of greater than 100 square feet (ft²) occur within 0.25 miles of each other. The additional management actions would begin with the least restrictive means necessary to achieve an acceptable level of impact from dispersed camping and would be implemented in the following order from least restrictive to most restrictive.

1. A visitor education program highlighting wilderness purpose and the need for reducing resource impacts from camping.
2. Visitors would be informed of camping opportunities outside the wilderness.
3. Interpretive materials (e.g., maps, brochures) would be modified to reduce any potential emphasis on dispersed camping opportunities and enhance information on wilderness protection.
4. Permits for overnight camping would be required in areas where use exceeds the threshold. Camping permits would initially be free of charge. Permits would promote "leave no trace" techniques and direct visitors to appropriate existing durable sites rather than regulating where visitors could camp. This permit system would be in place for three years.
5. If, after three years with dispersed camping permits, conditions improve to acceptable levels, permits would no longer be required. If conditions do not improve, the permit system for dispersed camping would become more regulated. The number of permits issued for a specific area may be limited. The number of permits issued each year would be based on the results of monitoring.
6. If there is a need for additional restrictions, such as charging fees for camping or use of the wilderness, a detailed, project-level environmental analysis would be prepared.

Figure 1. Leave No Trace Principles

PLAN AHEAD AND PREPARE

Know the regulations and special concerns for the area you'll visit. Prepare for extreme weather, hazards, and emergencies. Schedule your trip to avoid times of high use. Visit in small groups. Split larger parties into smaller groups. Repackage food to minimize waste. Use a map and compass to eliminate the use of marking paint, rock cairns or flagging.

TRAVEL AND CAMP ON DURABLE SURFACES

Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow. Protect riparian areas by camping at least 200 feet from lakes and streams. Good campsites are found, not made. Altering a site is not necessary. In popular areas, concentrate use on existing trails and campsites. Walk single file in the middle of the trail, even when wet or muddy.

MINIMIZE CAMPFIRE IMPACTS

Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.

Where fires are permitted, use established fire rings, fire pans, or mound fires. Keep fires small. Only use sticks from the ground that can be broken by hand. Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.

RESPECT WILDLIFE

Observe wildlife from a distance. Do not follow or approach them. Never feed animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers. Protect wildlife and your food by storing rations and trash securely. Control pets at all times, or leave them at home. Avoid wildlife during sensitive times: mating, nesting, raising young, or winter.

BE CONSIDERATE OF OTHER VISITORS

Respect other visitors and protect the quality of their experience. Be courteous. Yield to other users on the trail. Step to the downhill side of the trail when encountering pack stock. Take breaks and camp away from trails and other visitors. Let nature's sounds prevail. Avoid loud voices and noises. Keep campsites small. Focus activity in areas where vegetation is absent. In pristine areas, disperse use to prevent the creation of campsites and trails. Avoid places where impacts are just beginning.

DISPOSE OF WASTE PROPERLY

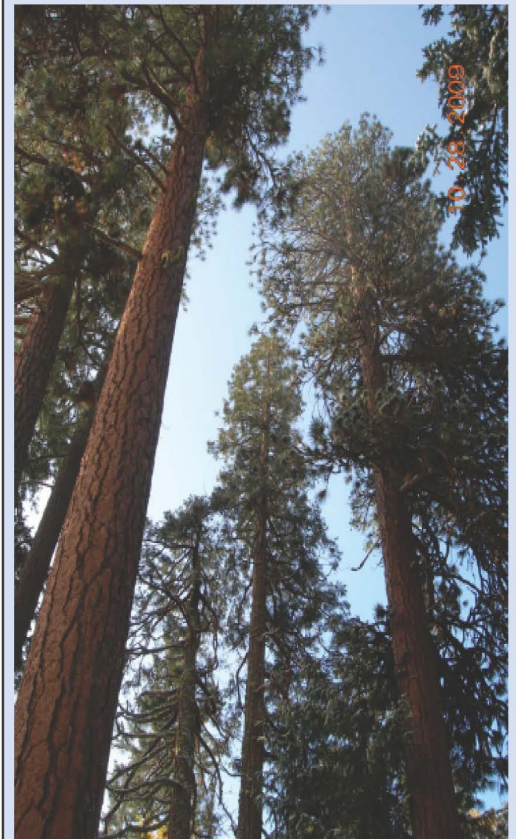
Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food, and litter. Deposit solid human waste in catholes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cathole when finished. Pack out toilet paper and hygiene products. To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.

LEAVE WHAT YOU FIND

Preserve the past: observe, but do not touch, cultural or historic structures and artifacts. Leave rocks, plants and other natural objects as you find them. Avoid introducing or transporting non-native species. Do not build structures, furniture, or dig trenches.

The Seven Principles of Leave No Trace

1. Plan Ahead and Prepare
2. Travel and Camp on Durable Surfaces
3. Minimize Campfire Impacts
4. Respect Wildlife
5. Be Considerate of Other Visitors
6. Dispose of Waste Properly
7. Leave What You Find



Oregon Gulch



The Leave No Trace Center for Outdoor Ethics has partnerships with the Bureau of Land Management, the National Park Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service. Together, the Center and these federal land management agencies work to educate all who visit and enjoy public lands about Leave No Trace, in order to minimize recreational impacts.

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Global Positioning System (GPS) Recreational Activities (Geocaching)

Geocaching is a high-tech treasure hunting game played throughout the world by outdoor adventure seekers equipped with GPS devices. Individuals and organizations set up caches and share the locations of these caches on the internet. GPS users utilize the location coordinates to find hidden containers, called geocaches. Once found, a cache may provide the visitor with a variety of awards. The visitor is asked to sign a logbook and to leave or replace items they find in the cache. The traditional cache is usually a small waterproof box.

Geocaching became possible in May 2000, when the Clinton administration ended a government-imposed degradation of the GPS signal. Until that time, in order to protect military communication, the government scrambled satellite signals for commercially available GPS units, rendering them accurate only to 100 yards. When the degradation signal was lifted, commercial units became accurate to 20 feet.

As geocaching's popularity has increased over the past decade, multiple alternative forms of geocaching have evolved including multi-caches, mystery or puzzle caches, letterbox, virtual caches, Wherigo™ caches, Earth-Caches™, event caches, Cache In Trash Out (CITO) caches, extreme caches, and many others. The various different caches can be grouped into two broad categories: physical caches and virtual caches.

Physical caches are those where an object is hidden at a particular location or objects are hidden at multiple locations and the geocacher follows clues in each cache in order to move to the next cache. Physical caches are typically a Tupperware™-style container, ammo box, or bucket filled with items. Physical caches impact wilderness character through the introduction of foreign, human-made items which are left behind and/or buried, impacting the natural character of the wilderness. Physical caches are in conflict with Section 2(c) of the Wilderness Act which defines wilderness as an area "...untrammeled by man, where man himself is a visitor who does not remain" and as an area that "...generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." Physical caches also have the potential to impact sensitive wilderness resources including riparian areas, erosive soils, wildlife habitat, archaeological sites, and heritage resources by drawing visitors to these locations.

Virtual caches provide GPS coordinates to existing, permanent landmarks of a unique nature. The seeker must answer a question from the landmark or take a picture and verify to the cache owner that he or she was physically at the location. Virtual caches or similar ideas that do not introduce foreign items into wilderness, could simultaneously preserve necessary wilderness character and educate people about lesser-known areas of the wilderness; however virtual caches that promote increased visitation may impact a wilderness' natural conditions and opportunities for solitude.

Geocaching.com, the activity's leading website, identifies four geocaches currently existing within the SMW. Within the SMW, geocaching is allowed with the following restrictions:

- Physical geocaches, where containers and/or items are left or buried in the wilderness are not allowed.
- Owners of existing physical geocaches will be notified that these caches are no longer permitted within the wilderness. Owners will be encouraged to retrieve their cached items and to remove the cache location from the internet. If the owner fails to remove the items cached, the items will be removed by the BLM. The BLM will also request the geocache sponsor to remove the site listing from the internet.
- Virtual caching is allowed, except in the two RNAs, with prior BLM authorization to ensure minimal impact to wilderness resources and conscientious land use ethics are followed.
- Authorized virtual caches will be monitored for impacts such as damage to sensitive resources, social trails, or increases in visitor encounters. Additional restrictions and/or termination of the authorization may be necessary to protect the wilderness.

Group Size Limits

The activities of large groups can affect the solitude of others and can increase impacts to wilderness resources, particularly around campsites and near water. Groups also impact enjoyment of the wilderness by others. People enter wilderness partially to escape intrusions from other people. Sights of large groups and sounds from these

groups can detract from the wilderness experience. Wilderness visits by large groups in the SMW are fairly uncommon. Larger groups associated with area schools and hikes led by non-governmental organizations (NGOs) occur on an infrequent basis. In order to minimize impacts to solitude and enhance the wilderness experience of visitors, the following guidelines related to group size apply within the SMW:

- Groups larger than 12 are not allowed in the wilderness without prior authorization. A group is a combination of people and animals. Dogs are counted as part of the group.
- Groups larger than 12 are required to separate into smaller groups (12 or fewer individuals) and each smaller group must be separated by more than 400 feet.
- Groups larger than 12 may be authorized on a case-by-case basis for environmental education, trail maintenance crews, and other organized events. Factors considered when evaluating requests for groups larger than 12 would be timing, duration, location, and purpose of the visit.

Hang Gliding and Para-Sailing/Gliding

Hang gliding and para-sailing/gliding are not allowed in the SMW.

Hiking

Hiking is permitted throughout the wilderness. Groups larger than 12 individuals are not permitted without prior BLM authorization (see Group Size Limits section).

Hunting, Fishing, and Trapping

While recreational hunting, fishing, and trapping opportunities are still allowed within the SMW, the prohibition of motorized or mechanized vehicles and equipment within wilderness makes some areas less accessible. However, most of the former vehicle routes within the SMW (94 percent) were previously closed by either the presidential proclamation establishing the CSNM (Appendix B) or by decisions made in the CSNM ROD/RMP (USDI 2008). Visitors can enjoy a more primitive hunting, fishing, or trapping experience in the SMW with the following restrictions:

- Visitors participating in hunting and fishing activities within the wilderness must comply with regulations set by the Oregon Department of Fish and Wildlife.
- Game carriers are not allowed within the wilderness.
- Animal trapping is not permitted in the RNAs.

Rock Climbing

Rock climbing within the wilderness follows the same general guidelines for rock climbing within the rest of the CSNM. Technical rock climbing, climbing with the use of rope to ascend or descend rock, is only allowed on Pilot Rock. Specific restrictions for technical rock climbing on Pilot Rock are contained in the CSNM ROD/RMP (USDI 2008, p. 98). Pilot Rock is now situated within the SMW. Non-technical rock climbing, also referred to as bouldering or scrambling, is basically climbing or walking over rocks without the use of ropes or fixed anchors. Although not specifically mentioned in the CSNM ROD/RMP, non-technical rock climbing is allowed throughout the CSNM and SMW. The following additional rock climbing guidance is intended to clarify the approved guidance for technical rock climbing on Pilot Rock in the CSNM ROD/RMP and highlight minor differences associated with wilderness designation:

- No new fixed anchors or fixed anchor routes can be established.
- Existing fixed anchors on the four Pilot Rock routes requiring them can be replaced on an “anchor-by-anchor” basis when failure occurs with prior BLM authorization. Replacement of an anchor will require limiting impacts to the minimum area necessary to replace the anchor that has failed. Bolts needed for fixed anchors may only be installed using a non-mechanized hand drill and hammer.
- Placement of temporary anchors (those left less than 24 hours) is permitted. Temporary placement of anchors must not cause undue damage to the rocks.
- Rock alterations by chipping, chiseling, sculpting, drilling, defacing, dry tooling, trundling, or gluing/epoxying of holds (hand and foot) are not permitted except on existing fixed anchor routes with prior BLM authorization.
- Brushing away or removing vegetation of any type to clear a climbing route is prohibited.

- Because colored chalk can permanently stain rock and may impact the wilderness experience, only water-soluble, white chalk can be used for technical rock climbing; no chalk is permitted for use in non-technical rock climbing.
- All webbing (climbing gear) must be removed upon conclusion of climbing activities.

Special Recreation Permits and Outfitter-Guides

A special recreation permit (SRP) is an authorization that allows specified recreational uses of public lands and related waters. They are issued as a means to manage visitor use, protect natural and cultural resources, and provide a mechanism to accommodate recreational uses. There are five types of SRPs issued by the BLM: commercial use, competitive use, vending, special area use and organized group activities and event use. Definitions of these SRPs are found in BLM Handbook 2930-1. The issuance of an SRP is a discretionary action.

Decisions regarding the issuance of SRPs within the wilderness will consider the overall direction for the management of wilderness as provided by the Wilderness Act (1964), BLM Manual 8560 (1983), and 43 CFR 6300 and 8560 Wilderness Management (2000). The following sections of The Wilderness Act address the issuance of SRPs and the roles of outfitter-guides within wilderness areas:

Section 4(b) Use of Wilderness Areas

Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

Section 4(c) Prohibition of Certain Uses

...there shall be no commercial enterprise within any wilderness area except as provided for in this Act.

Section 4(d)(6) Special Provisions

Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.

In addition to the Wilderness Act, 43 CFR 6300 and 8560 Wilderness Management (*Federal Register*, Vol. 65, No. 241, December 14, 2000) prohibits issuance of competitive use SRPs in wilderness, "It is prohibited in wilderness to engage or participate in competitive use, including those activities involving physical endurance of a person or animal, foot races, water craft races, survival exercises, war games, or other similar exercises."

In accordance with this direction for managing wilderness and the direction in the CSNM ROD/RMP, the following direction applies to the issuance of SRPs within the SMW:

- SRPs will be considered on a case-by-case basis and may be denied based on potential impacts to wilderness resources; wilderness character; a prohibited activity in wilderness; public health and safety; the applicant's past performance; or the inability of the managing office to manage or monitor the proposed use.
- SRPs will not be issued for competitive use events or vending (commercial enterprise).
- SRPs involving commercial stock use such as horses, llamas, or goats are not permitted, except by individuals who demonstrate a physical need for stock use. Physical need could be demonstrated by an individual's prior and present possession of a valid "disabled person parking permit" issued by a state Department of Motor Vehicles agency. With prior BLM authorization, animal stock use by disabled individuals will be allowed. Prior authorization can be attained by the disabled person submitting a copy of his/her disabled parking permit to the BLM; upon approval, the BLM will keep this permit on file.
- SRPs for commercial services not involving the use of animal stock may be issued. All applicable management actions in this plan apply to commercial outfitter-guides including group size limits and camping restrictions described in BLM Manual 8560.31 (B)(3)(d)(2).

- In response to excessive resource damage or if visitor encounter standards are determined to be exceeded by the presence of outfitter-guides within the SMW, the number of SRPs authorized for outfitter-guides may be reduced or SRPs may not be issued.

Solitude and Visitor Encounters

Section 2(c) of the Wilderness Act defines wilderness in part as a place that “has outstanding opportunities for solitude or a primitive and unconfined type of recreation.” However, the Wilderness Act itself provides limited guidance on what is specifically meant by solitude or primitive and unconfined recreation.

Solitude is defined as the “state of being alone or remote from society (Webster’s Dictionary 1976).” Bob Marshall (1930), one of the key players in the wilderness movement and one of the founders of The Wilderness Society, expressed the notion of solitude as: “For me, and for thousands with similar inclinations, the most important passion of life is the overpowering desire to escape periodically from the clutches of a mechanistic civilization. To us, the enjoyment of solitude, complete independence, and the beauty of undefiled panoramas is absolutely essential to happiness.”



The climb up Pilot Rock.

Primitive recreation in wilderness has largely been interpreted as travel by non-motorized and non-mechanical means (such as horse, foot, canoe) that reinforces the connection to our American heritage. However, primitive recreation also encompasses reliance on personal skills to travel and camp in an area, rather than reliance on facilities or outside help. Unconfined means “not kept within limits” and encompasses attributes such as self-discovery, exploration, and freedom from societal or managerial controls (Lucas 1986, Nash 1996, Hendee and Dawson 2002). Marshall (1937) wrote passionately about the adventure and challenge of primitive, unconfined environments: “To countless people the wilderness provides the ultimate delight because it combines the thrills of jeopardy and beauty. It is the last stand for that glorious adventure into the physically unknown.”

Visitors to the SMW have outstanding opportunities for solitude or primitive and unconfined recreation. The SMW is approximately 15 miles southeast of Ashland, the closest full service community. Due to the distance from highly developed, populated areas and screening from vegetation, visitor intrusions from outside sights and sounds are infrequent. The only exception is high elevation

views from within the SMW looking to the northwest in the direction of the Rogue Valley. Views in this direction will likely include houses, lights, and other intrusions into the wilderness visitor’s solitude. Encounters with other visitors on trails and at frequently visited features, such as Pilot Rock and Boccard Point, during weekends and holidays can be expected. During weekdays, encounters with visitors on trails and at frequently visited features will be less likely to occur, but encounters are still expected. The remainder of the wilderness has outstanding opportunities for solitude where encounters with other groups (individuals traveling within sight or sound of one another) away from trails, frequently visited features, and further than one-half mile from the wilderness boundary will be infrequent.

In order to maintain an acceptable level of solitude and primitive recreation, establishment of visitor encounter standards within the SMW is necessary. Once visitor encounter standards are exceeded, management actions would be initiated in order to offer the wilderness visitor opportunities for solitude, independence from society,

self-discovery, and the restorative psychological and physical benefits that wilderness offers. Visitor encounter standards for the SMW include the following:

- On trails, at frequently visited features, and within one-half mile of the wilderness boundary, no more than 10 groups (up to 12 individuals (people and animals) in a group) encountered per day exceeded on no more than four days per year.
- Away from trails, frequently visited features, and further than one-half mile from the wilderness boundary, no more than four groups encountered per day exceeded no more than four days per year.
- Acceptable and desired levels of solitude and primitive recreation are not stable, but rather dynamic, changing with environmental and social circumstances through time. In response to these changes, visitor encounter standards, group size limits, and other actions affecting recreational distribution patterns will be adaptive in nature. Changes to visitor encounter standards, group size limits, or actions affecting visitor use patterns may be modified in response to visitor feedback, resources damage, or impacts to wilderness character.

Management actions that may be initiated if solitude or visitor encounter standards are exceeded would be prioritized as follows:

1. Educate visitors concerning wilderness character, ethics, and manners to reduce conflict with other visitors.
2. Inform visitors of non-wilderness recreational opportunities in the region.
3. Reduce the availability of or modify agency brochures or maps that may be promoting high use in excess of standards.
4. Reduce group size limits.
5. Limit parking availability.
6. Require free permits and regulate available number of permits.
7. Initiate revision of this plan and seek public input to reassess these standards and/or implement more direct controls.

Target Shooting

No target shooting is allowed within the wilderness. Hunting, if in season and under a valid state hunting license, is permissible within the SMW (see *Hunting and Fishing* section).

Trails

There are three existing trails within the SMW: the Pacific Crest National Scenic Trail (PCNST), the Pilot Rock Trail, and the connector trail from the PCNST to the Soda Mountain Road. These existing trails would be retained.

Pacific Crest National Scenic Trail

Approximately 7.1 miles of the PCNST runs through the northwest edge of the western portion of the SMW (Map 2). As the PCNST passes through the wilderness, it crosses private property twice (T. 40 S., R. 2 E., Section 36 and T. 40 S., R. 3 E., Section 30). Agreements with private landowners allow for access through private lands. As with the rest of the PCNST within the monument, the portion through the wilderness would be managed in accordance with the *Comprehensive Management Plan for the Pacific Crest National Scenic Trail* (USDA 1982) and the national interagency Memorandum of Understanding between USDA Forest Service, USDI National Park Service, Bureau of Land Management, California State Parks, and the Pacific Crest Trail Association (2003). Trail maintenance for the portion of the trail within the wilderness would be administered as follows (also see *Trail Maintenance* section):

- The PCNST would be maintained using primitive means, by hand with non-motorized, non-mechanized tools. The chosen tools would be the minimum necessary and ones that least degrade wilderness values temporarily or permanently. Likely tools may include cross-cut saws, pulaskis, hand drills, shovels, hazel hoes, etc.
- Occasionally, short segments of the PCNST may need to be rerouted around obstacles (e.g., large fallen trees or overhanging snags) or to protect resources (e.g., sensitive plants, stream crossings, etc.).

Former Bean Cabin Recreational Water Source

The water source at the former Bean Cabin site (T. 40 S., R. 3 E., Section 31) serves as a popular stopping and camping spot for users of the PCNST due to its close proximity to the trail and its importance as a key water source along the trail. The water source was originally developed as a range improvement, later modified to accommodate recreationists using the PCNST. The next closest summer water sources along the trail are located south approximately 7.5 miles and north approximately eight miles. The BLM finds that maintaining this water source to the extent below is the minimum structure and maintenance necessary to provide for wilderness visitor safety and protection of wilderness resources. It is the most reliable water along a 15 mile stretch and hikers depend on this source. It is not reasonable to expect most hikers to carry sufficient water for 15 miles in the summer – which can be very dry in this area. Moreover, if hikers were to venture away from this pipe to find the spring headwaters in the fragile wet meadows, it would lead to trampling of the meadow vegetation and impacts to hydrologic function in wilderness. If hikers were to leave the trail to find other water sources, this would lead to development of user-created trails and additional visual and vegetative impacts on wilderness.

The water source consists of a concrete cistern that collects water via a pipeline from a natural spring upslope from the cistern. Outlet pipes from the cistern gravity feed water to two locations: a hand operated spigot approximately 35 feet downslope of the cistern and a stand pipe that runs water into a metal animal stock water trough (stock tank) approximately 80 feet below the cistern. The pipe running to the stock tank does not have a mechanism for stopping water flow, except when the spigot at the first location is turned on and drains the water in the cistern to a level below the outlet pipe to the stock tank. When no one is using the spigot, water continuously flows to the stock tank, and once the stock tank is full, excess water spill over the sides of the stock tank where it percolates into the ground or flows into a hand dug stock tank once the ground is saturated. This situation is not ideal in that the ground around the stock tank is usually saturated and when used by animals is subject to compaction and “post-holing.”

Section 2(c) of the Wilderness Act states, “except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...there shall be...no structure or installation within any such area.” Section 2(a) of the Wilderness Act defines one of the purposes of wilderness, “for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness.” BLM Manual 8560 (Management of Designated Wilderness Areas) addresses the management of facilities such as the recreational water source at the former Bean Cabin site in the following sections:

8560.31 B(1) Minimum Facilities

Facilities and improvements such as trails, bridges, signs, and campsites, may be provided only where they are the minimum necessary to protect the wilderness resource and for the health and safety of persons within the area... Improvements should be constructed of materials which harmonize with the natural environment.

8560.36 A(3)(c). Existing Structures

- (1) Reservoirs, ditches, catchments, and related facilities for the control or use of water may have existed within the BLM wilderness under valid permits or other authority prior to the area’s designation as wilderness. These may be maintained if they are needed in the public interest, or are a part of a valid existing right.
- (2) Routine maintenance and repair of an existing structure which does not change the location, size or type, or increase the original intended storage capacity of a reservoir may be approved by the state director. The operation, maintenance, and repair of such facilities may include occasional motorized access where no other reasonable or practical alternatives exist.
- (3) Primitive means of transport and hand tools must be used wherever and whenever feasible.
- (5) The wilderness management plan should carefully evaluate each improvement to determine if the continuation of the use is in the public interest. Maintenance needs and methods must be specifically stated if the improvement is to remain.

In accordance with the guidance from the Wilderness Act and direction in BLM Manual 8560, the following repair, maintenance, and restoration activities would be implemented at the former Bean Cabin recreational water source:

- The concrete cistern as well as the associated inlet and outlet pipe to the spigot will remain. The concrete cistern and cover(s), where exposed above ground, would be modified aesthetically by adding rocks around the structure in its entirety. Natural rock would camouflage the cistern, giving it a more natural appearance, harmonizing with the surrounding landscape.
- The water spigot and associated inlet pipe will remain. Rock would be used around the spigot base to provide a more rustic appearance and improve the visitor's wilderness experience when using the water source. The water spigot and handle themselves would be replaced with a similar functioning spigot and handle that mimic natural colors, tones, and styles of elements found in the surrounding landscape.
- The stock tank and the stand pipe that runs water to it from the cistern will be removed. Water that previously flowed from the cistern to the stock tank would be hydrologically restored to a natural tributary of Dutch Oven Creek approximately 30 feet from the former stock tank location. This would eliminate the problems associated with actively encouraging animal stock use with water developments and will return the flow to the natural stream channel. Excess pipe below ground that ran to the former stock tank location will remain buried. Any associated pipe above ground (e.g., stand pipe filling the former stock tank) will be removed.
- The water source will be signed with a natural tone wood sign as untested and that further treatment of the water is required for human consumption.
- Rock from the old quarry site on former vehicle route 40-3E-30, approximately 0.25 miles from the water source, will be used for aesthetic structure improvements. Only rock pieces found already separated from the larger quarry rock wall will be used. No rock from the former quarry will be broken, chipped, chiseled or otherwise removed from the exposed quarry walls. Rock outside of the footprint of the former quarry area will not be used.
- Any needed maintenance or replacement of water source structures and facilities will be accomplished by hand with non-motorized, non-mechanized equipment.

Roads to Trails

The Wilderness Act does not specifically mention trails, but it does indicate that wilderness areas are "...for the use and enjoyment of the American people..." and they offer "...outstanding opportunities for solitude or a primitive and unconfined type of recreation..." in settings where wilderness character is preserved and natural conditions protected.

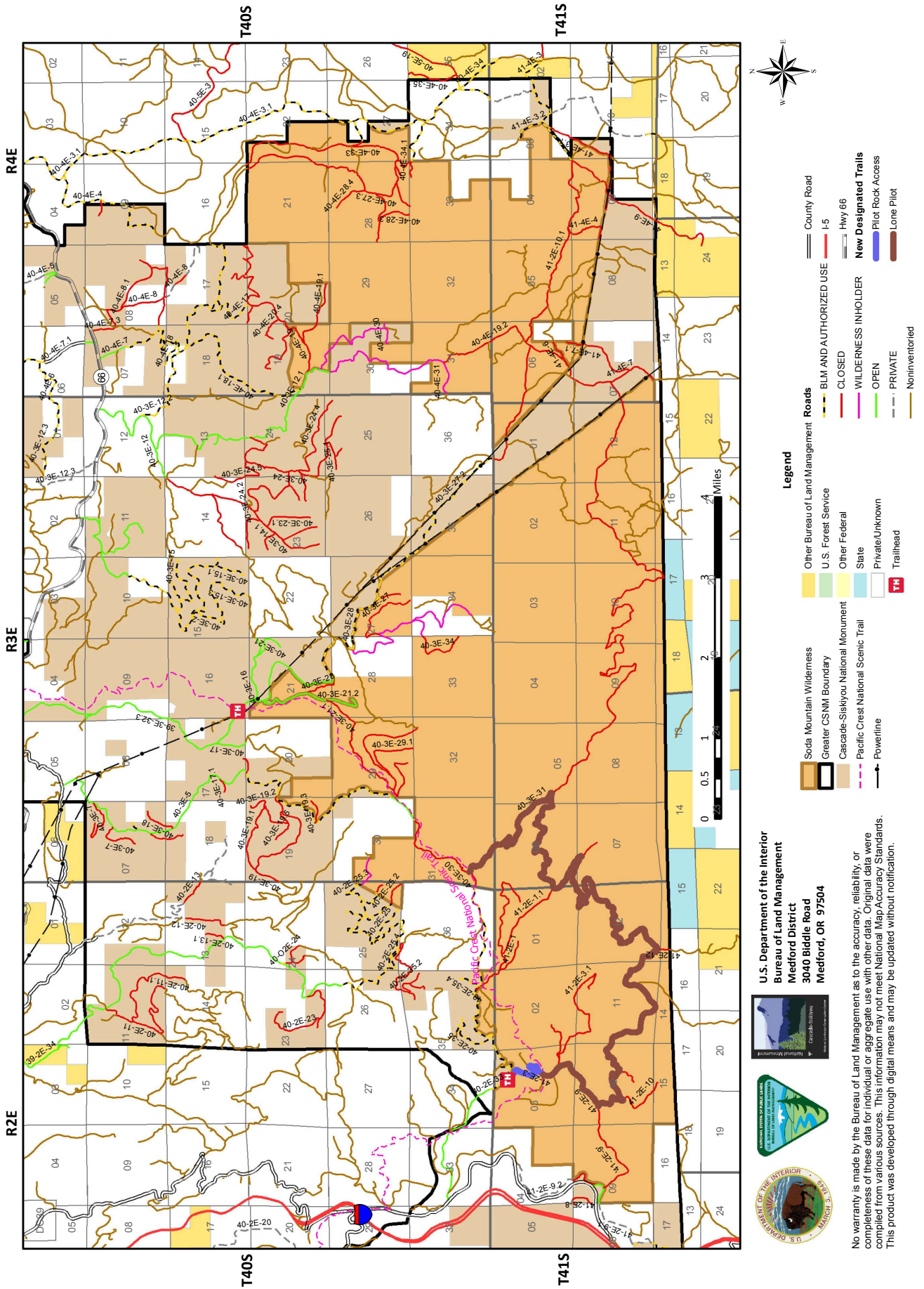
There are approximately 80 miles of former vehicle routes within the SMW. Most of these former roads (75 miles) were previously closed by either the presidential proclamation (7318) establishing the CSNM (Appendix B) or by decisions made in the CSNM ROD/RMP (USDI 2008). Designation of the SMW closed vehicular access on additional roads to popular destinations (e.g., Pilot Rock and dispersed camping areas). These routes have since been used by hikers and equestrian users to access these areas.

The PCNST provides access to the northwestern-most edge of the western portion of the SMW. Converting some of the former vehicle routes to designated trails would accommodate access to the interior of the wilderness and to popular destinations for public enjoyment of scenery and natural resources, while limiting impacts to wilderness character. Recontouring some of these former vehicle routes and retaining a hiking trail tread width (24 to 36 inches) would enhance the wilderness visitor's experience while restoring natural wilderness character and reducing impacts from cross-country foot and equestrian travel.

Two former vehicle routes that provide opportunities for visitors to experience the wilderness will be converted to designated trails within the SMW. Conversion of these two vehicle routes will provide an additional 12.7 miles of designated trail within the wilderness. The two new designated trails are 1) Lone Pilot Trail and 2) Pilot Rock Access Trail (Map 2). Conversion of these former vehicle routes to designated trails will follow these general guidelines:

- Trail construction or improvements on restored former road beds will be completed either during the road restoration by mechanical means or by hand using non-motorized, non-mechanized methods.

Map 2. Designated Trails to be Converted from Former Vehicle Routes and Designated Trailheads



- During mechanical restoration of former vehicle routes, a trail width tread (24 to 36 inches wide) will be left within the road prism as directed by the BLM. In certain circumstances, it may be necessary to construct the trail following road recontouring to prevent resource damage or address maintenance problems. Examples of when this may be necessary include when there is a need for drainage improvement, outcropping of the trail, a more stable trail location, or other resource concerns.
- Drainage control features (i.e., waterbars, rolling dips, outcropping) will be installed at appropriate locations on the designated trails to prevent erosion.
- Any trail work done after the mechanical road restoration is complete will be done in accordance with BLM Manual 8560 (*Management of Designated Wilderness*).
- Some of the trails include portions of former vehicle routes that are not proposed for mechanical restoration. These portions of the designated trails will persist on the landscape as former vehicle routes passively restoring themselves over time. In these areas, the former roads would be converted to trails in accordance with policies and standards found in BLM Manual 9114, the BLM National Wilderness Policy, and BLM Manual 8560 (*Management of Designated Wilderness Areas*).

The following sections provide a more detailed description of the two proposed new designated trails shown on Map 2.

Lone Pilot Trail

Access to this trail is from the PCNST. From the east, traveling west on the PCNST this trail would leave the PCNST on former Road 40-3-E-31 heading southeast. The trail would turn west at the junction of Road 41-2E-10.1 (former Schoheim Road) and follow 41-2E-10.1 for approximately 8.6 miles until Road 41-2E-10.1 meets Road 41-2E-10. At this point the trail turns north for approximately 0.3 miles and follows Road 41-2E-10 until it meets Road 41-2E-9. From here, the trail would follow Road 41-2E-9 northeast for approximately 0.8 miles until it meets Road 41-2E-3. The trail would then follow Road 41-2E-3 road until it meets the PCNST. This trail could be accessed from west to east as well.

Pilot Rock Access Trail

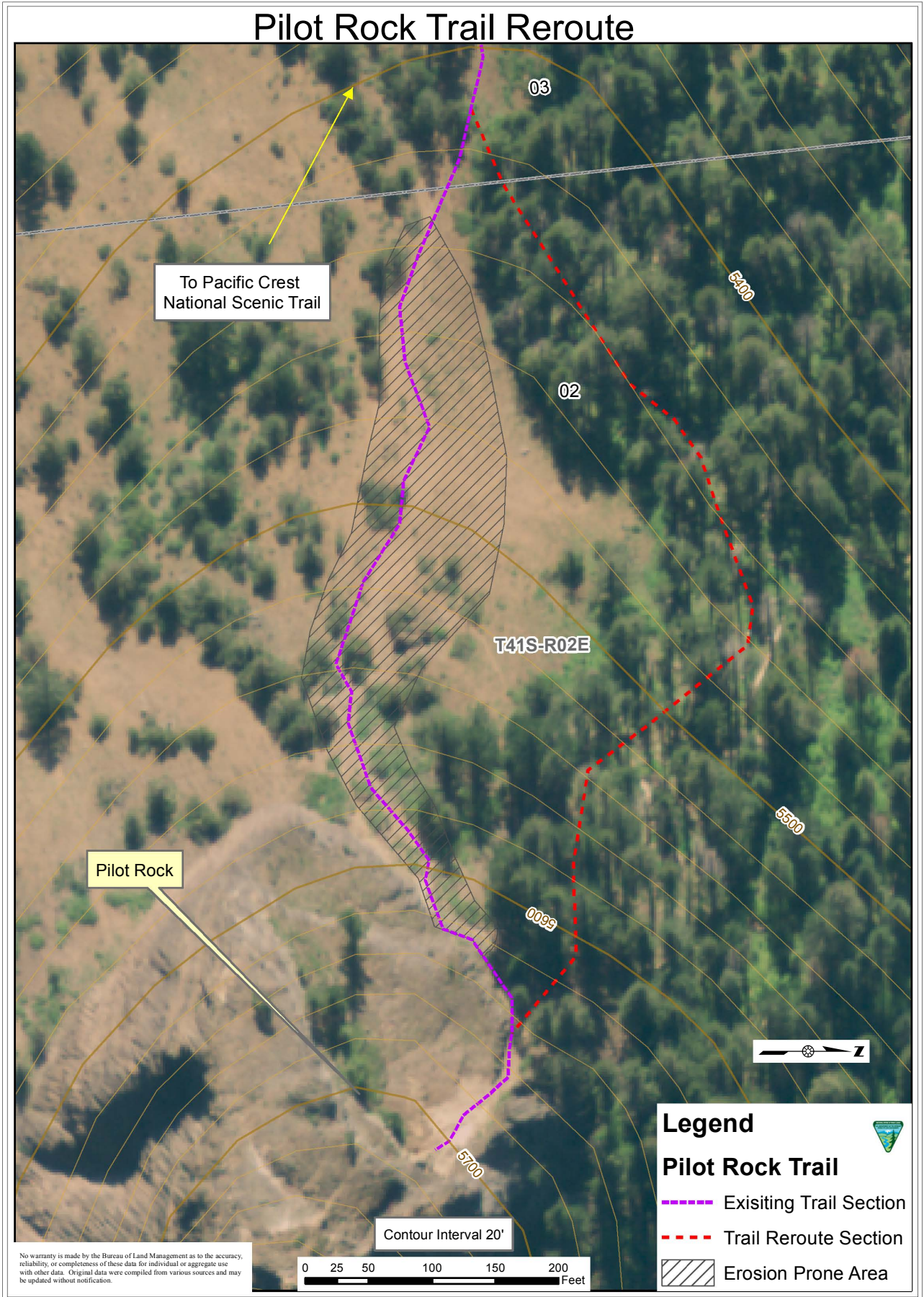
The current access to Pilot Rock begins at the rock quarry (trailhead/parking area) along Pilot Rock Road (40-2E-33). From there, access is on the former Pilot Rock Road (40-3E-3) which was closed to vehicular access with the designation of the SMW. Road 41-2E-3, from trailhead/parking area to the PCNST will be fully recontoured (see Legacy Transportation System section, Priority Area 2), maintaining a tread-width (24 to 36 inches) for a designated access trail for foot/equestrian travel to the existing PCNST/Pilot Rock Trail.

Pilot Rock Trail Reroute

Pilot Rock is a popular destination for hikers who can make their way to the top of the rock without technical assistance. On weekends and during the summer months it is not uncommon for the parking facility at the rock quarry along Pilot Rock Road (40-2E-33) to have 12 or more parked vehicles and for visitors to encounter several groups or individuals along the trail to Pilot Rock. Currently, hikers access Pilot Rock using a section of the former Pilot Rock Road now within the SMW beyond the quarry (see *Roads to Trails* section above). Hikers follow the former Pilot Rock Road south until it intersects the PCNST. Hikers then follow the PCNST northwest until it meets up with an unstable trail traversing the ridge west of Pilot Rock before continuing up a chute on the north side of the rock (Map 3).

Footing on the unstable trail to Pilot Rock beyond the PCNST is poor, and in some places there are large areas barren of vegetation caused by people seeking more stable footing along the sides of the trail. Surface erosion caused by runoff across exposed soils has contributed to the problem. The portion of the existing trail that is unstable and has severe erosion problems cannot be stabilized without the addition of stabilizing structure such as steps anchored into the slope. The construction and presence of such a structure would impact the wilderness

Map 3. Proposed Reroute of the Pilot Rock Trail



character of the area. In order to reduce resource damage, improve visitor safety, and protect wilderness values in the Pilot Rock area, the following actions would be taken:

- The BLM will reroute a portion of the Pilot Rock Trail to avoid the section of the trail with unstable and erosive soil (Map 3). The new route (approximately 800 feet) will be slightly to the north of the existing route. The new route will avoid the area of loose, unstable soil that is easily erodible by hikers. The new route is located in a heavily vegetated area with stable soil that is conducive to use as a hiking trail.
- The section of the existing trail (approximately 650 feet) that will no longer be used will be closed and rehabilitated to restore the natural grade of the slope using onsite material (material that has been displaced by erosion). Native seed will be spread to prevent future erosion and if needed, native vegetation will be planted.
- The reroute will be signed or otherwise marked to prevent hikers from using the old route or creating additional new routes.
- The reroute location was verified on the ground during the summer field season in 2011. The final reroute location will be within approximately 200 feet on either side of the route identified on Map 3.
- Trail construction of the reroute will be completed by hand using non-motorized, non-mechanized methods.
- Drainage control features (e.g., waterbars, rolling dips, or outsloping) will be installed at appropriate locations on the trail reroute to prevent erosion.
- Any trail work will be done in accordance with BLM Manual 8560 (*Management of Designated Wilderness*).

Foot-Worn Hiking Paths

In addition to designated trails, foot-worn hiking paths may be present within the wilderness. These foot-worn hiking paths exist because numerous hikers and recreational stock users are visiting the same location off designated trails. This is especially true near trailheads and prominent features such as overlooks, water sources, and old structures of interest (i.e., former Box O Ranch structures). Foot-worn hiking paths may be available for use upon discovery by wilderness visitors (hikers and stock users), but creation of new foot-worn paths would be discouraged if possible. Where present, foot-worn hiking paths will normally be brushy, rough, and of erratic grades making those more challenging to traverse than a designated trail.

A few foot-worn hiking paths that are not impacting wilderness character to a great degree will be allowed to persist within the wilderness. Foot-worn hiking paths within the SMW will be monitored and managed using the following guidelines:

- Foot-worn hiking paths will not be signed, displayed on agency maps or brochures, or normally receive maintenance.
- An inventory of foot-worn hiking paths will be maintained and paths will be monitored for resource damage. Field monitoring will identify paths that have substantial footprints, lead to camping areas, have cut vegetation or other evidence of impacts to wilderness resources.
- As new foot-worn hiking paths are discovered, they will be evaluated for impacts to wilderness character, management objectives of this plan, and management objectives of the CSNM ROD/RMP (USDI 2008).
- Unwanted foot-worn hiking paths will be actively rehabilitated or allowed to rehabilitate naturally. Unwanted foot-worn hiking paths that would be actively rehabilitated include those that cause adverse impact on wilderness character or resources. Examples include foot-worn hiking paths in steep terrain prone to soil erosion; unwanted paths where trail braiding or widening exists or is beginning; and locations where paths are impacting threatened, endangered, or sensitive species.
- Foot-worn hiking paths will not be normally maintained unless repeated attempts to rehabilitate a foot-worn hiking path have been unsuccessful due regular use that has rendered rehabilitation not possible and the path is unstable or causing adverse impact. Under such circumstances, the trail may be re-routed, improved, or maintained in the problem section only (and following trail maintenance guidelines) to ensure the foot-worn path is compatible with protecting wilderness resources; but not to make the trail easier to travel or to attract use. The appropriate level of environmental analysis would be conducted before implementing any work on foot-worn hiking paths.

Trailheads

Trailheads will be maintained at the following two locations outside the SMW boundary (Map 2):

- Pilot Rock Trail/PCNST parking facility at the rock quarry along Pilot Rock Road (40-2E-33) in T. 41 S., R. 2 E., Section 3.
- PCNST parking under the power lines along Road 39-3E-32.3 (Soda Mountain Road) in T. 40 S., R. 3 E., Section 16.

In addition to providing parking, these trailhead locations may include interpretive and regulatory information about the wilderness. Trailheads will be developed to the minimum extent necessary to reduce resource damage with the purpose of protecting monument and wilderness values. Features such as hardening of surfaces or toilets would only be added if monitoring indicates a need exists. The trailheads will be developed and maintained using the following guidelines:

- Vehicle barriers would be constructed to define trailhead parking areas where natural barriers are inadequate to keep vehicles within the desired trailhead parking area. The following types of barriers, from least intrusive to most intrusive, may be used: 1) wilderness signs, small rocks, and/or native vegetation plantings or restoration; 2) large boulders placed with heavy equipment; or 3) wooden fences.
- Parking surfaces may be improved if determined to be significant contributors to resource damage or the area becomes unsuitable for parking. Examples include gulying or erosion resulting from use that displaces water or sediment and excessive pot holes/large puddles that cause parking to become difficult. Surface improvement may include improving drainage and hardening the surface with rock or paving. Surface improvements and barriers would be used only after less intensive methods to reduce resource damage, while still providing trailhead and parking access, have been implemented and have been determined to be unsuccessful. Less intrusive methods will include such things as signage and visitor education through outreach.
- Toilet facilities may be provided, as necessary, at designated trailheads and parking sites. Toilet facilities would be built in response to resource damage and public health and safety issues.
- All trailhead facilities will comply with current accessibility legislation and corresponding standards/guidelines (Architectural Barriers Act (ABA) of 1968, Section 504 of the Rehabilitation Act (amended 1978), and the Americans with Disabilities Act (ADA) of 1990. In addition, any new construction or alteration of existing trailhead facilities will comply with state and local codes, as well as impending guidelines regarding the accessibility of the outdoor recreation environment in outdoor developed areas. All existing and new visitor facilities will be maintained, designed, and constructed according to Bureau standards.

Wilderness Access Points

In addition to the two trailhead locations designated above, other access points to popular destinations are regularly used by wilderness visitors as parking areas. Access points are not identified on maps and are located where existing roads intersect the wilderness boundary. The two most common access points (aside from the two trailhead locations) are:

- PCNST parking at Porcupine Gap along Road 40-2E-33 in T. 40 S., R. 2 E., Section 35.
- Bocard Point/PCNST access along Road 40-3E-5 just prior to where the road intersects the wilderness boundary at its junction with Road 40-3E-30 in T. 40 S., R. 3 E., Section 30.

Access points may receive periodic maintenance as needed to minimize impacts to monument and wilderness resources. Maintenance and resource protection activities that may occur at access points include the following:

- Parking surfaces may be improved if determined to be significant contributors to resource damage or the area becomes unsuitable for parking. Examples include gulying or erosion resulting from use that displaces water or sediment and excessive pot holes/large puddles that cause parking to become difficult. Surface improvement may include improving drainage and hardening the surface with rock.
- Signs may be installed at wilderness access points in order to provide for resource protection, trail information, and visitor safety.

Trail Maintenance

Trails within the SMW, including the PCNST, Pilot Rock Trail, the PCNST-Soda Mountain Road Connector Trail and other former vehicle routes approved for conversion to designated trails, will be maintained to ensure that the values of wilderness can be experienced by visitors while adverse impacts to the biophysical components of the wilderness resource are minimized. Trails may also be rerouted where they are causing or are anticipated to cause damage to wilderness character. Typically, the PCNST is surveyed annually for trail maintenance and rerouting needs or immediately following an intense wind event. Trail maintenance and rerouting will be accomplished using with the following guidelines.

- Trails within the SMW will be maintained in accordance with policies and standards found in BLM Manual 9114, BLM National Wilderness Policy, and BLM Manual 8560 (Management of Designated Wilderness Areas).
- Any proposed trail maintenance or rerouting will be reviewed and approved by a BLM archaeologist and botanist.
- Examples of when trail maintenance or rerouting will occur include:
 1. Slopes greater than 15 percent beyond which potential for excessive soil erosion and trail deterioration is high. Very short steep sections may be retained where reinforcement with native rock will prevent soil erosion. Rolling dips or rock enforced water bars would be utilized to reduce water-caused soil erosion.
 2. Where trail braiding occurs, the most appropriate trail path will be maintained and the alternate trail(s) will be obstructed and rehabilitated with native vegetation.
 3. Maintenance will strive to limit trail width to 24 inches, except where a wider trail may be necessary to protect wilderness resources. Trail width will not exceed 36 inches.
 4. Trails may be rerouted to avoid damage to natural or cultural resources.
 5. Where trails cross water, wooden bridges may be constructed when no other route or crossing is reasonably available; where the crossing during the primary season of use cannot be safely negotiated by foot or horses; and where less formal devices (e.g., rock stepping stones or downed logs) are frequently destroyed or damaged by flood waters.

Signs

The Wilderness Act of 1964 designates lands for a purpose that is unique and different from other public lands. Wilderness is designated as an area that is “for the use and enjoyment of the American people” and it provides “opportunities for... a primitive and unconfined type of recreation.” But it is also an area that is undeveloped and “...in contrast to those areas where man and his works dominate the landscape.” Occupying and modifying these lands are not the priority; preservation and protection of natural conditions is.

To meet these mandates, a certain level of signage will be used in the SMW to manage trails, access points, or possibly to implement management regulations. Providing just what is needed and no more will contribute to wilderness being maintained in an undeveloped condition.

- The wilderness boundary will be identified by a combination of metal, wood and fiberglass signs. Wilderness boundary signs will be located at the boundary of BLM lands designated as wilderness facing away from the wilderness towards those lands which are owned by a private entity or by local, state, BLM or other federal agency (Figure 2). Wilderness boundary signs at trail entry points, along frequently used routes, and at access points may be larger, aesthetically pleasing signs with information about the wilderness area.
- Within the wilderness, signs may be used to identify trails. Trail signs will generally be small, made of natural materials such as rock/stone or wood, use earth tone colors, and will not visually detract from wilderness character. The PCNST within the wilderness will be marked with small PCNST wooden trail markers. Other trails within the wilderness may be marked with similar small trail markers and may include directional arrows at intersections. Trail destination labels may be included on trail markers. Trail markers are only used to keep visitors from losing their direction on designated routes; no mile markers will be provided.
- In rare instances, a small sign may be erected at a site to foster protection of the resource or for public health and safety. The sign will explain regulations or reasons for a site closure. Any sign will be small,

minor to the setting and not greater than eight inches square.

- Trailhead signs and trailhead kiosks/signboards will be placed outside of the wilderness boundary. Trailhead signs may be larger signs displaying the trailhead name as well as the name of the wilderness. Trailhead kiosks/signboards with accurate maps and wilderness education may be installed in order to provide for resource protection, trail information, and visitor safety.
- Wilderness access points not designated as trailheads may have modest signs and/or kiosks where resource protection, visitor safety, and the visitor experience would be enhanced. Wilderness access point signs/kiosks will be smaller in size than those located at trailheads. Access point signs/kiosks may provide information on resource protection, trail information, and visitor safety, but the extent of information will likely to be less than that provided at trailhead locations.

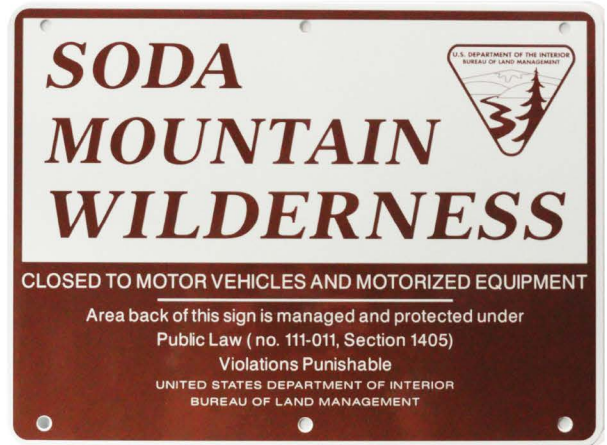


Figure 2. Example wilderness boundary sign.

Interpretation and Education

The foundation of wilderness education can be found in the 1964 Wilderness Act. The Act states:

...there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as ‘wilderness areas,’ and these shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness and so to provide for the protection of these areas, the preservation of their wilderness character; and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.

Wilderness education is perhaps the most important tool for ensuring the protection of wilderness resources and character. Visitors are often unaware of the significance of congressional wilderness designation and the values associated with that designation. They are often unaware of wilderness regulations that are designed to protect wilderness resources and visitors’ experiences.

The general goals of interpretation and education within the SMW are:

- Foster knowledge and understanding of wilderness values.
- Influence behavioral changes that promote the preservation of wilderness quality and demonstrate attitudes and behaviors appropriate to wilderness protection.
- Instill and strengthen a wilderness ethic that results in informed decision-making and recreation behavior.
- Carry wilderness values to those who do not experience wilderness through visitation.
- Increase awareness of wilderness history, philosophy, values of wilderness, and role of wilderness in ecosystem management.
- Recognize the unique characteristics of wilderness that distinguish it from more traditional and environmental education efforts (historical perspective and cultural legacy, spiritual and emotional renewal, challenge and risk, and preservation of natural systems).
- Encourage the public to experience wilderness on its own terms, practice minimum impact recreation, and exercise self-restraint in pursuing access to it.
- Collaborate with stakeholders, other agencies, and publics in fostering wilderness awareness through the development of partnerships.

Interpretive and education information will be provided by the BLM in accordance with the following guidelines:

- Interpretive and education information will address wilderness character, wilderness ethics, wilderness-appropriate recreation, and visitor expectations of a wilderness experience. Delivery of the information will primarily be provided via off-site media.

- Interpretation will provide accurate, accessible, and meaningful wilderness information via web pages, site bulletins, brochures, agency offices, the monument contact station and through the training of internal personnel with wilderness responsibilities.
- Modest kiosk-based media (outside the wilderness boundary) may be used where high visitation is already occurring (e.g., Pilot Rock) and resource protection, visitor safety, and the visitor experience would be enhanced.
- Interpretive trails will not be established nor will trails be promoted as such.
- In keeping with wilderness character, site-based interpretation via signs will not be utilized inside the wilderness boundary. However, in rare instances, a small sign may be erected at a site to foster protection of the resource by explaining regulations or reasons for a site closure. Any sign will be small, minor to the setting and not greater than eight inches square (see *Signs* section).

Cultural Resources

The Soda Mountain Wilderness was used extensively during the historic era and into contemporary times. Consequently, numerous modifications and changes to the land have occurred throughout that period. Some of those modifications include, but are not limited to, the development of single-track dirt roads, the construction of ranch buildings and the development of irrigation systems. Many of the structures and installations within the wilderness have been documented while the locations of others still remain unknown. It is likely that with the passage of time those structures and installations that remain unknown will eventually be identified.

Section 2(c) defines wilderness as: “A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man... An area of wilderness is further defined to mean...land retaining its primeval character and influence, without permanent improvements..., which is protected and managed so as to preserve its natural conditions and which...generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable....” However, Section 2(c)(4) of the Wilderness Act identifies that wilderness “...may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”

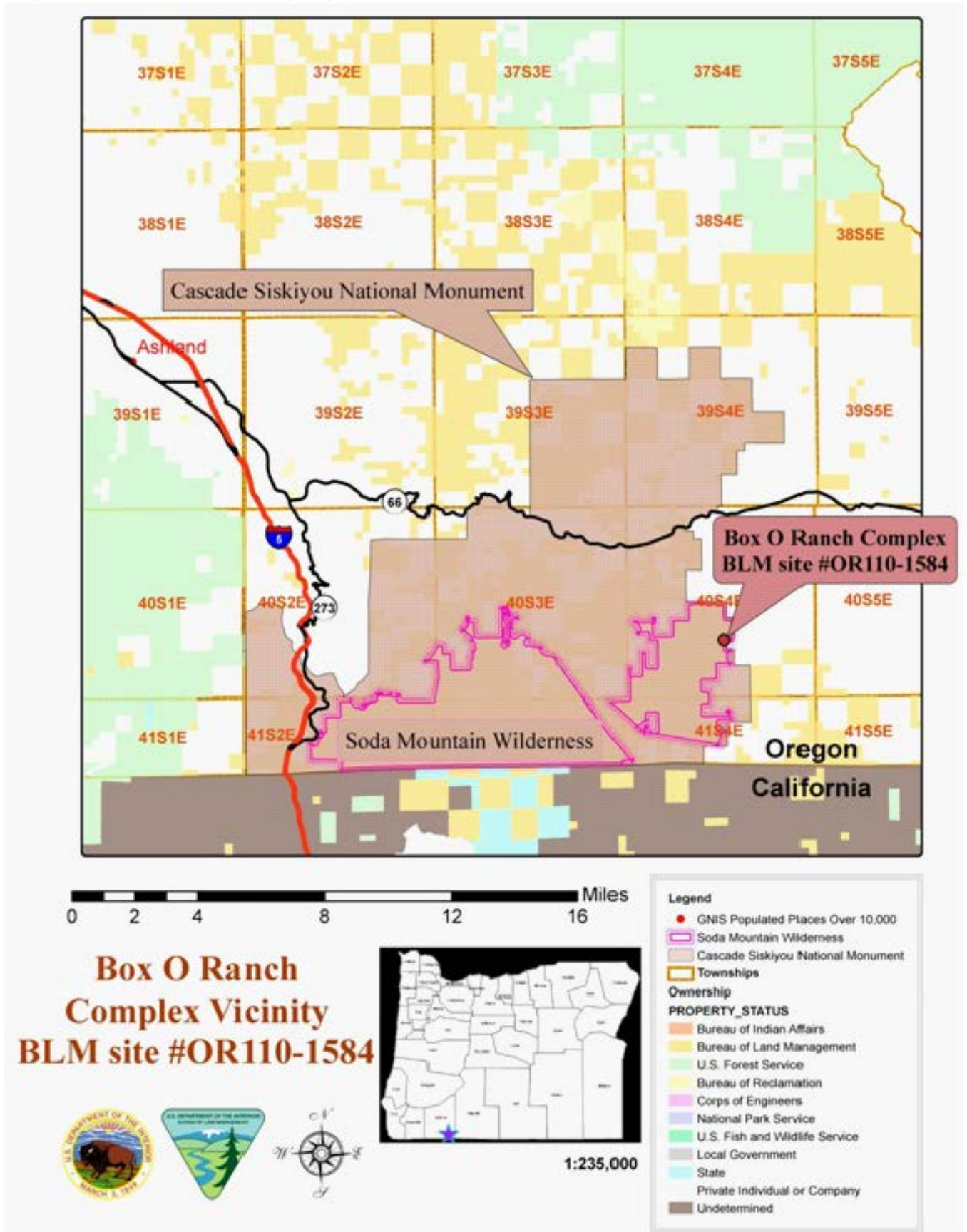
Where present, cultural resources are part of this “unique” quality of wilderness character. Of the hundreds of wilderness areas that Congress has designated, many, but not all, are rich in cultural resources. The presence of cultural resources can contribute to the outstanding opportunities for primitive recreation. For some visitors, few experiences are more exciting than being in a wild place and coming across the remains of a former life - from a lithic scatter to a homesteader’s cabin.

The goal for the SMW is to preserve/enhance the “natural conditions” where “man’s work is substantially unnoticeable,” yet retain the historical sites and values that are a unique and non-renewable part of the wilderness resource (BLM Manual 8560.32A 1983).

Former Box O Ranch Complex

The highest density of historic structures and installations within the wilderness occurs at the former Box O Ranch. The former Box O Ranch Complex covers over 400 acres in southeastern Jackson County, on the northeastern boundary of the Soda Mountain Wilderness (Map 4). The former Box O Ranch Complex is representative of local cattle ranching during the last decade of the 19th century until the last decade of the 20th century. That complex includes both numerous historic structures, features and elements, in various conditions of integrity, as well as many contemporary structures, features and elements. The complex is comprised of three ranches: the Northern Greive Ranch, the Miller Ranch, and the Frank Lake Lease. The Northern Greive and Miller Ranches were consolidated in the 1960s, and are known collectively as the former “Box O Ranch.” The Department of the Interior acquired the complex in 1995, and it has been managed by the BLM since. The Frank Lake location was leased from the United States Grazing Office/BLM from the mid-1930s (Miller 1993), and abandoned around 1949 (Joe Kidwell, personal communication 2010). It remained under BLM management, and is currently part of the SMW.

Map 4. Former Box O Ranch Vicinity Map



The former Box O Ranch Complex was extensively surveyed in 2010 (USDI 2010) in order to evaluate the cultural resources at this site. The purpose of the survey was two-fold: 1) to more thoroughly document the numerous historic sites previously recorded within the study area and consolidate those sites into a single historic site complex (BLM Site #OR110-1584) as recommended by Dr. Dennis Griffin of the Oregon State Historic Preservation Office (SHPO), and 2) to provide information about how the historic cultural resources within that ranching complex might be managed now that the complex is located within a wilderness.

Title 36, of the Code of Federal Regulations, Part 60 provides criteria for evaluating cultural resource sites for their significance, and by extension, their eligibility for listing on the National Register of Historic Places. A site is eligible if it meets one or more of the following criteria:

- A. A property may be eligible for listing on the National Register based on its association with significant events.
- B. A property may be eligible for listing on the National Register based on its association with the lives of persons significant in our past.
- C. A property may be eligible for listing on the National Register if that property embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- D. A property may be eligible for listing on the National Register if that property has yielded, or may be likely to yield, information important in prehistory or history.

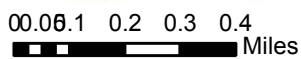
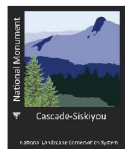
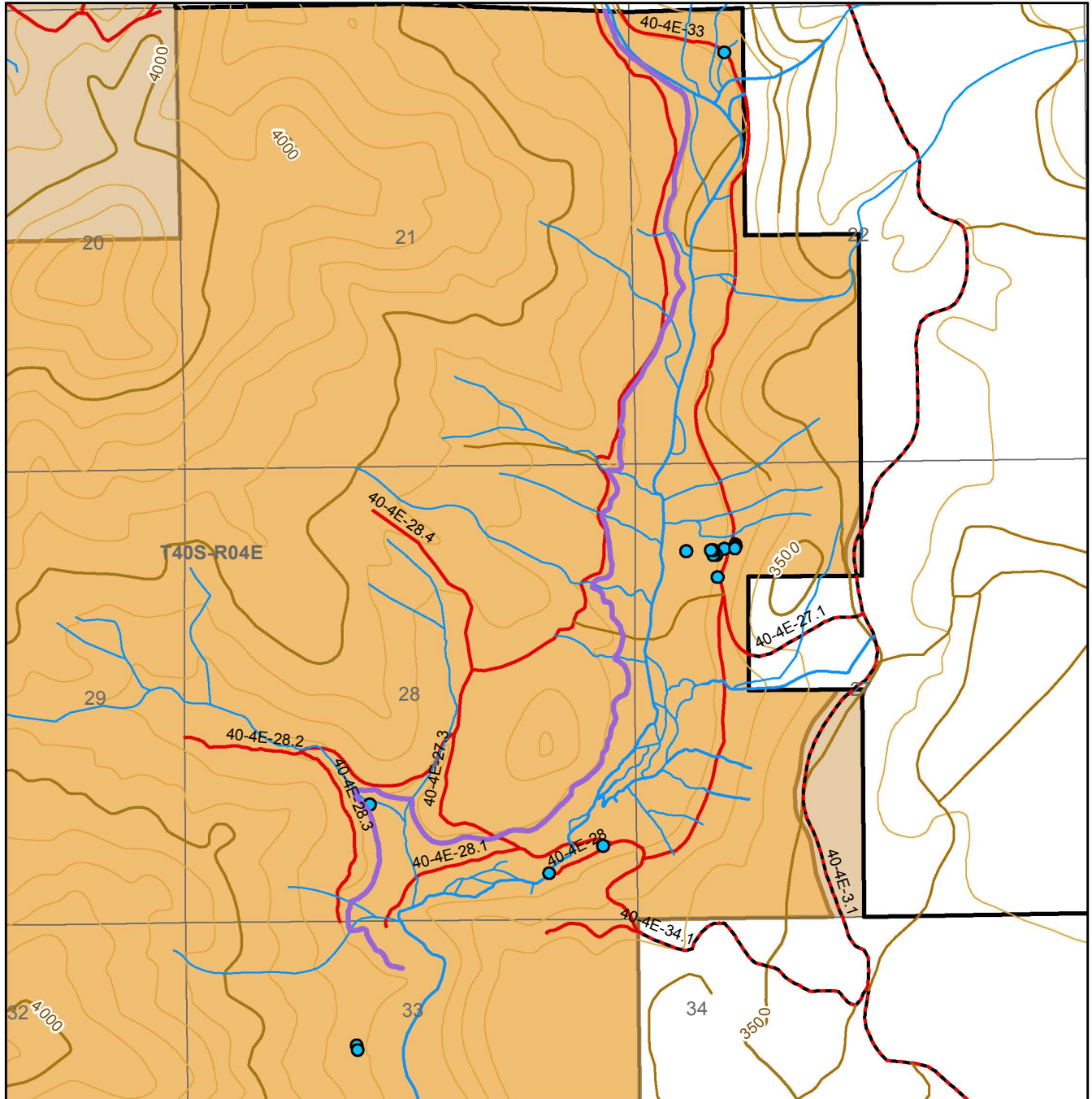
The BLM survey results indicated that none of the structures, features, or elements of the former Box O Complex met any of the four criteria for eligibility for listing on the National Register of Historic Places. At one time, when the ranch was in private ownership, the Frank Lake Cabin and the old Miller House may have been eligible under criterion C as characteristic of a type or method of construction. But with the passage of time those buildings have collapsed, or are in a state of near collapse, and lack integrity of design, materials, workmanship, and feeling. In its current state, the old Miller House represents a serious threat to public health and safety. The Greive-Miller-Desoza irrigation ditch on the west side of Jenny Creek, although an interesting feature, has with the passage of time, filled with debris and side-slope sediments largely compromising the integrity of its original design and workmanship. Similarly, many of the materials incorporated into the ditch, such as metal pipes and wooden culverts, have been removed and strewn about the vicinity compromising the feature's integrity of materials.

In view of the considerations noted in the *Cultural Resource Survey of the Box O Ranch* (USDI 2010), the BLM recommended the former Box O Ranch Complex (BLM site #OR110-1584) as not eligible for listing on the National Register of Historic Places. The report was sent to Oregon SHPO for review. They concurred with BLM's recommendation. Despite that finding, BLM will manage the various components of the site in accordance with the direction provided in BLM Manual 8100.

Various structures and features found within the Box O Ranch Complex, although considered not eligible for listing on the National Register, can still portray a semblance of the ranching experience in the uplands of south-west Oregon. How the artificial application of water was moved across the ranch complex through the remnants of an irrigation system, the kinds of shelters, corrals and chutes utilized to manage livestock, the various types of relic machinery employed to maintain and harvest resources and the remnants of a log cabin built and lived in by one of the ranchers could still inform visitors to the area about a rural ranching lifestyle and how that lifestyle made changes to the land and native resources. Given those considerations, the following structures and features would be managed in place until such time as they become a safety hazard or no longer provide the cultural interest that they do now (Map 5).

- the Greive-Miller-Desoza irrigation ditch
- the Greive homestead site
- the cattle chute, dehorning gate, corral, scale house and wooden fencing
- irrigation ditch cleaner

Map 5. Former Box O Ranch Structures and Features to Be Retained



- Streams**
- Perennial
 - Intermittent
- Roads**
- BLM AND AUTHORIZED USE
 - CLOSED
 - WILDERNESS INHOLDER
 - OPEN
 - PRIVATE
 - Noninventoried

Legend

- Greater CSNM Boundary
- Soda Mountain Wilderness
- Cascade-Siskiyou National Monument
- Other Bureau of Land Management
- U.S. Forest Service
- Other Federal
- State
- Private/Unknown

- relic hay loader, swather, spring tooth harrow, disc plow, hay rake and manure spreader
- the Miller bridge and barn foundations
- Oregon Gulch corral
- the remnants of the Frank Lake cabin and barn

No maintenance or restoration of these structures and features will occur and once they deteriorate to the point of becoming safety hazards or are no longer of historic interest, they will be removed or dismantled and burned.

All other existing structures, features or elements of the former Box O Complex will be dismantled and burned or removed. Motorized vehicles may be used on former vehicle routes to remove the dismantled materials. Some locations within the complex may require removal of materials by helicopter.

Former Bean Cabin

The former Bean Cabin site is located near a spring in a small saddle in the NE ¼ of Section 31, T.40 S., R. 3 E., W.M. A historic dwelling (Bean Cabin) occupied the site until August 1998 when it was removed as part of a recreational and cultural project aimed at recording the site history and then rebuilding the cabin using a combination of reclaimed materials from the original Bean Cabin and new materials made to the same rustic/aged appearance as the original materials. The project to rebuild the cabin never took place and the portions of the old cabin are archived at Southern Oregon University. The cabin was approximately 20 x 12 feet, constructed of notched peeled logs approximately 8-10 inches in diameter with a roof made of cedar shakes (Figure 3). Currently, the site is known as the former Bean Cabin Recreational Water Source (see Trails section above) and contains a cistern which collects water from a natural spring and gravity feeds water to a hand operated spigot and an animal stock water trough.



Figure 3. Former Bean Cabin.

The Medford District RMP (1995) lists Bean Cabin (10 acres) as an existing recreation site. The PCNST trail runs through the area immediately west of the site. The former Bean Cabin site is a popular stopping/camping spot for PCNST users because of the available water and abundance of open flat ground on which to camp. The site was likely designated as a recreation site in the Medford District RMP because of its historical feature (Bean Cabin when standing) and its close proximity to the PCNST and an easily accessible road (BLM Road 40-3E-30). The Bean Cabin site is within the CSNM and now, also within the SMW.

The CSNM was established as a new planning area independent of other BLM-administered lands. The CSNM ROD/RMP (2008) supersedes all other planning documents that previously covered the CSNM. The CSNM ROD/RMP did incorporate by reference some portions of the Medford District RMP, however, it did not mention adopting the Bean Cabin Recreation Site. Therefore, the former Bean Cabin site will not be managed as a recreation site. The former Bean Cabin site would be managed only as a water source as described in the Trails section of this wilderness stewardship plan.

Restoration

Legacy Transportation System

The BLM identifies approximately 80 miles of former vehicle routes (including system and non-inventoried roads) on the 24,152 acres of public lands within the Soda Mountain Wilderness (Map 6). Former vehicle routes in the wilderness vary from primitive, four-wheel drive (jeep) roads to engineer-designed roads with culverts, drainage features, and crushed rock surfacing.

Most of the former vehicle routes (75 miles) within the SMW were previously closed by either the presidential proclamation establishing the CSNM (Appendix B) or by decisions made in the CSNM ROD/RMP (USDI 2008) and 47 miles of road within the wilderness were approved for decommissioning in the CSNM ROD/RMP.

Both system and non-inventoried roads within the SMW were surveyed to assess the risks that these roads pose to hydrologic function and aquatic resources. Most of the roads surveyed are native surface roads. A total of 92 culverts were discovered during surveys, of which 63 culverts are located at stream crossings (draw pipes) and the remaining 29 culverts are cross drains (ditch relief culverts).

Stream crossings are a major source of chronic sediment input as road sections near crossings are often constructed with ditches that drain directly into the stream channels and storm runoff from the roadbed itself often flows directly into the stream. Without maintenance, these draw pipes will eventually rust out or become obstructed by debris leading to road failures or stream diversion, often resulting in the road prism washing out and contributing significant amounts of sediment to streams, resulting in long-term adverse impacts to wilderness resources.

Of the 63 draw pipes within the wilderness, 47 have more than three feet of fill; 15 have a crushed inlet or outlet; 28 have stream diversion potential; and eight have evidence of ponding or fill overtopping. Fortunately, approximately 75 percent of the culverts are within 1.5 miles of the wilderness boundary, providing a logistically feasible opportunity to remove the culverts and restore aquatic connectivity, peak flow routing, and hydrologic function.

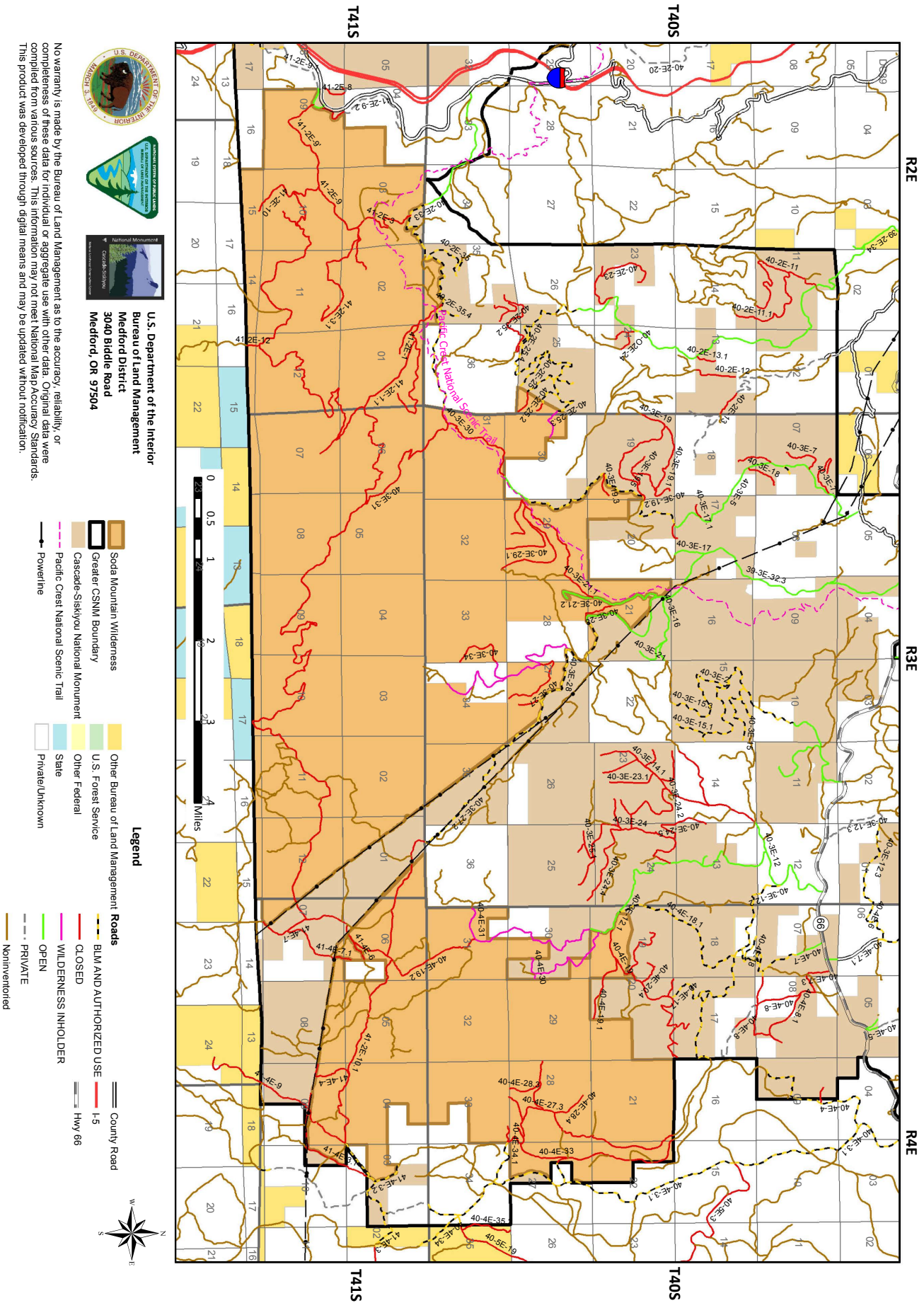
Survey results indicate a need to address the risks associated with the legacy transportation system within the wilderness. Criteria used to prioritize where active restoration of former vehicle routes is needed included the following:

- Are culverts/drainage features on the road segment already plugged or non-functional?
- Does the road segment cross streams with high aquatic value (perennial and intermittent streams) and pose a barrier to aquatic connectivity?
- Does the road segment pose a risk in terms of erosion, mass wasting, and sedimentation?
- Does the road segment detract from the natural character of the wilderness to the recreating public?

The BLM proposes to actively stabilize and restore approximately 23 miles of road (approximately 29 percent of the roads within the SMW on BLM-managed lands) and remove 81 culverts. Proposed active road restoration falls into three main types of treatments, although the combination of treatments for each road segment may vary based on specific needs.

Full Recontour: Recontouring includes using an appropriately-sized excavator to remove culverts, lay back stream banks to a 2:1 slope, restore channel gradient, recontour the road prism using material on site (pull back road fill slope and spread material from culvert removals), break up compaction as needed on the road prism with the teeth of the excavator, scatter available vegetation over recontoured slope, and spread native seed as needed to prevent erosion. Wilderness-incompatible infrastructure (i.e., cattle guards, fencing, stock tanks, trash, etc.) would be removed at the time the recontouring is taking place. See Figure 4 for a before and after example of full recontouring.

Map 6. Former Vehicle Routes Within the Soda Mountain Wilderness



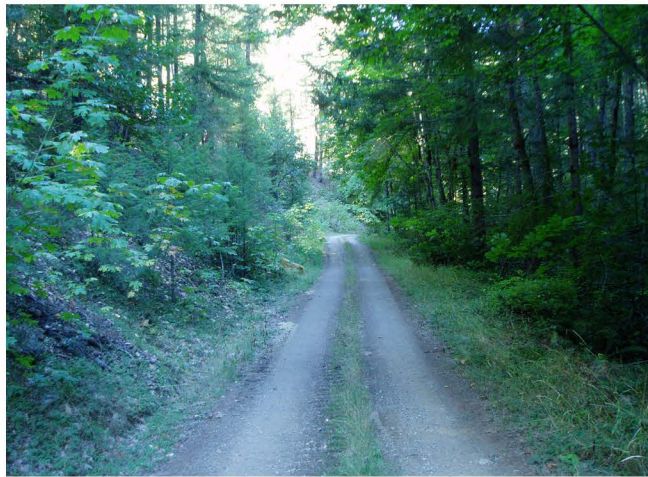
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- Legend**
- Soda Mountain Wilderness
 - Other Bureau of Land Management
 - U.S. Forest Service
 - Greater CSMN Boundary
 - Other Federal
 - State
 - Private/Unknown
 - Cascade-Siskiyou National Monument
 - Pacific Crest National Scenic Trail
 - Powerline

- Roads**
- BLM AND AUTHORIZED USE
 - CLOSED
 - WILDERNESS INHOLDER
 - OPEN
 - PRIVATE
 - Noninventoried
 - County Road
 - Hwy 66



BEFORE



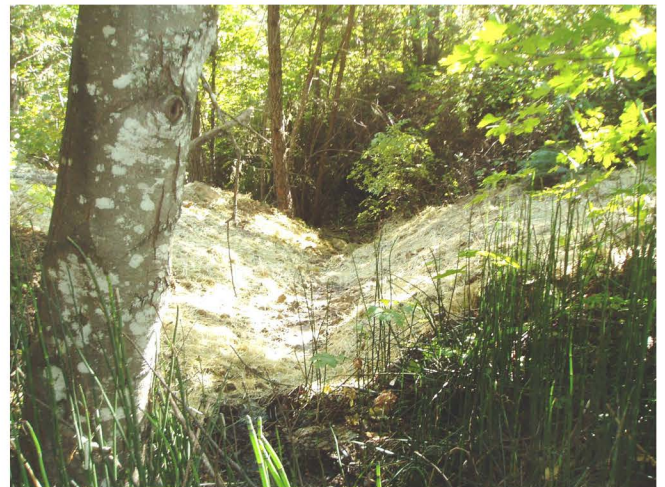
AFTER

Figure 4. Full recontouring of a road section adjacent to a riparian area.

Stabilization/Spot Recontour: Stabilization/spot recontouring includes using an appropriately-sized excavator to remove culverts, lay back stream banks to a 2:1 slope, restore channel gradient, install water-bars and rolling dips, spot recontour areas with elevated grade or to remove unstable road shoulders using material on site (waste material from culvert removals or elevated grade), scatter available vegetation over road, and spread native seed as needed to prevent erosion. Wilderness-incompatible infrastructure (cattle guards, fencing, stock tanks, trash, etc.) would be removed at the time the stabilization/recontouring is taking place. Figure 5 shows an example of road stabilization.



BEFORE



AFTER

Figure 5. Removal of culvert and restoration of channel gradient.

Hand Trench: Hand trenching includes digging trenches overtop low-risk culverts using hand tools to allow water to flow across the road during high water or in the event the existing culvert becomes obstructed rather than diverting down the road and causing erosion.

Approximately seven miles of road would be fully recontoured with material available on site; stabilization/spot recontouring treatments would occur on approximately 16 miles of road; and trenches would be hand dug overtop two culverts. The remainder of the legacy transportation system would not receive active restoration.

The BLM grouped the restoration of former vehicle routes into eight priority areas based on urgency of needed treatment, culvert density, and logical treatment areas. One or more of the priority areas can be grouped together for implementation depending on available funding.

The specific restoration treatments proposed for the eight priority areas are described below and shown on Map 7.

Priority Area 1

This area is located in T. 40 S., R. 3 E., Sections 29, 31, and 32 and includes roads 40-3E-21.1, 40-3E-29, 40-3E-29.1, 40-3E-5, and 40-3E-30 (Map 8).

- An excavator will be used to remove culverts on these roads.
- Stabilization/spot recontouring will occur on roads 40-3E-29 and 40-3E-29.1. The fill slope will be pulled into the road prism and spot recontouring will occur at specific locations.
- Road 40-3E-29 will be fully recontoured at the beginning of the road and for 200 feet prior to the stream crossing on Dutch Oven Creek. The water development created from a diversion off Dutch Oven Creek will be stabilized and hydrologic function restored by removing the diversion and restoring the headwall of this development to natural grade.
- Road 40-3E-29.1 has four culverts. The excavator will turn around at the last culvert, spot recontouring the road as it works its way out. The beginning of the road will be fully recontoured.
- Road 40-3E-5 will be fully recontoured. The natural slopes will be recontoured and restored using existing available material, while maintaining a tread-width for a foot-worn hiking path to access Boccard Point.
- Road 40-3E-21.1 will be fully recontoured from its junction with Road 40-3E-5 northeast to its intersection with the PCNST. The road surface will be ripped using the teeth of the excavator and recontoured, restoring natural slopes using existing available material.
- Road 40-3E-30 (Segment B) will be fully recontoured. The road surface will be ripped using the teeth of the excavator and recontoured, restoring natural slopes using existing available material. Available vegetation will be scattered over the road prism and native seed will be spread as needed to prevent erosion.

Priority Area 2

This area includes roads within the western-most portion of the wilderness in T. 41 S., R. 2 E., Sections 3, 9, 10, and 11 (Map 9). The excavator will have two separate entry points into this area.

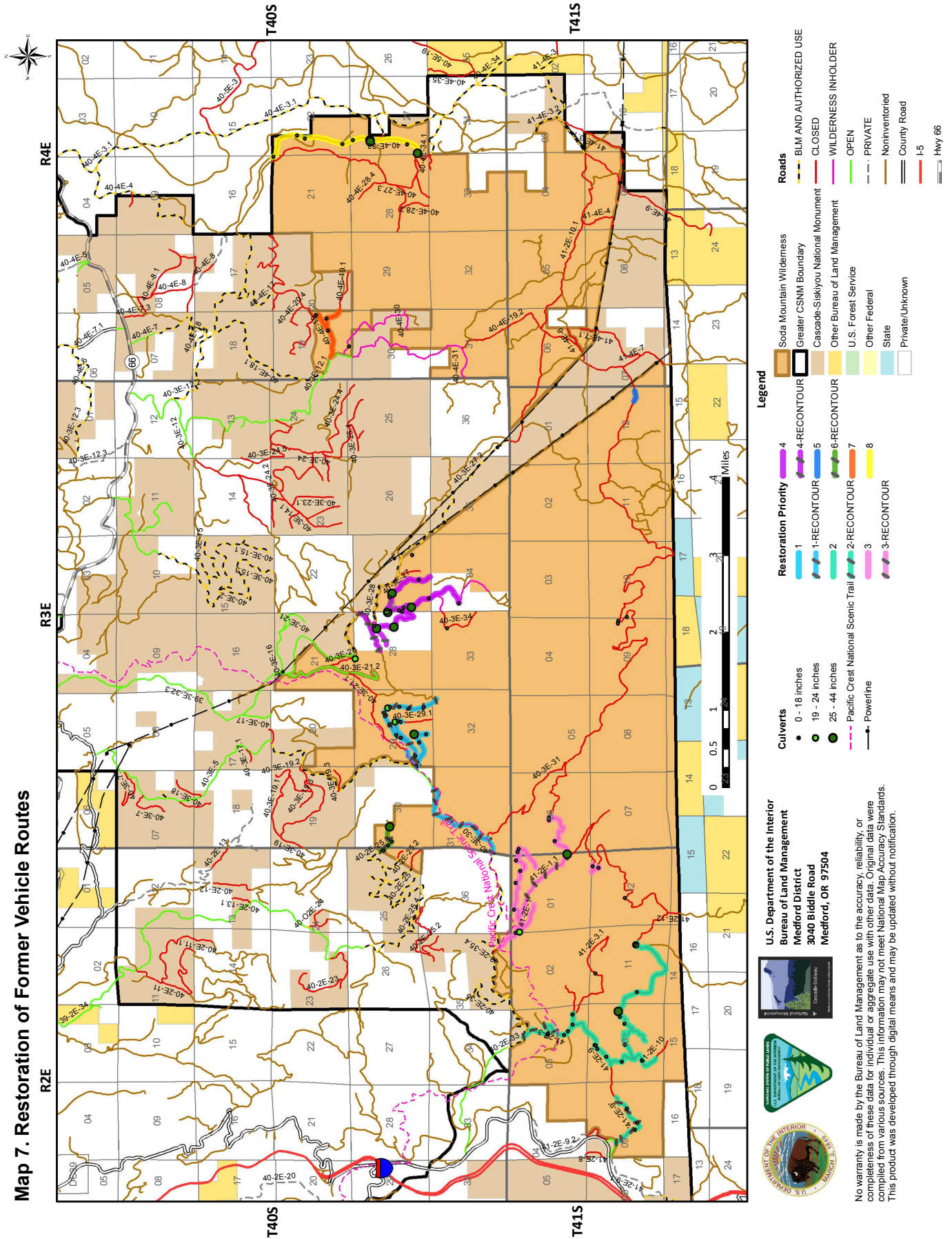
From Road 41-2E-9

- The excavator will walk in to above the last culvert on Road 41-2E-9 (Segment A2), remove the four existing culverts, fill in gullies with available material, construct waterbars to get water off the road, and outslope the road as needed and where possible.
- Native seed will be used on the lower portion of the road to reduce erosion and help restore a natural appearance to the area.

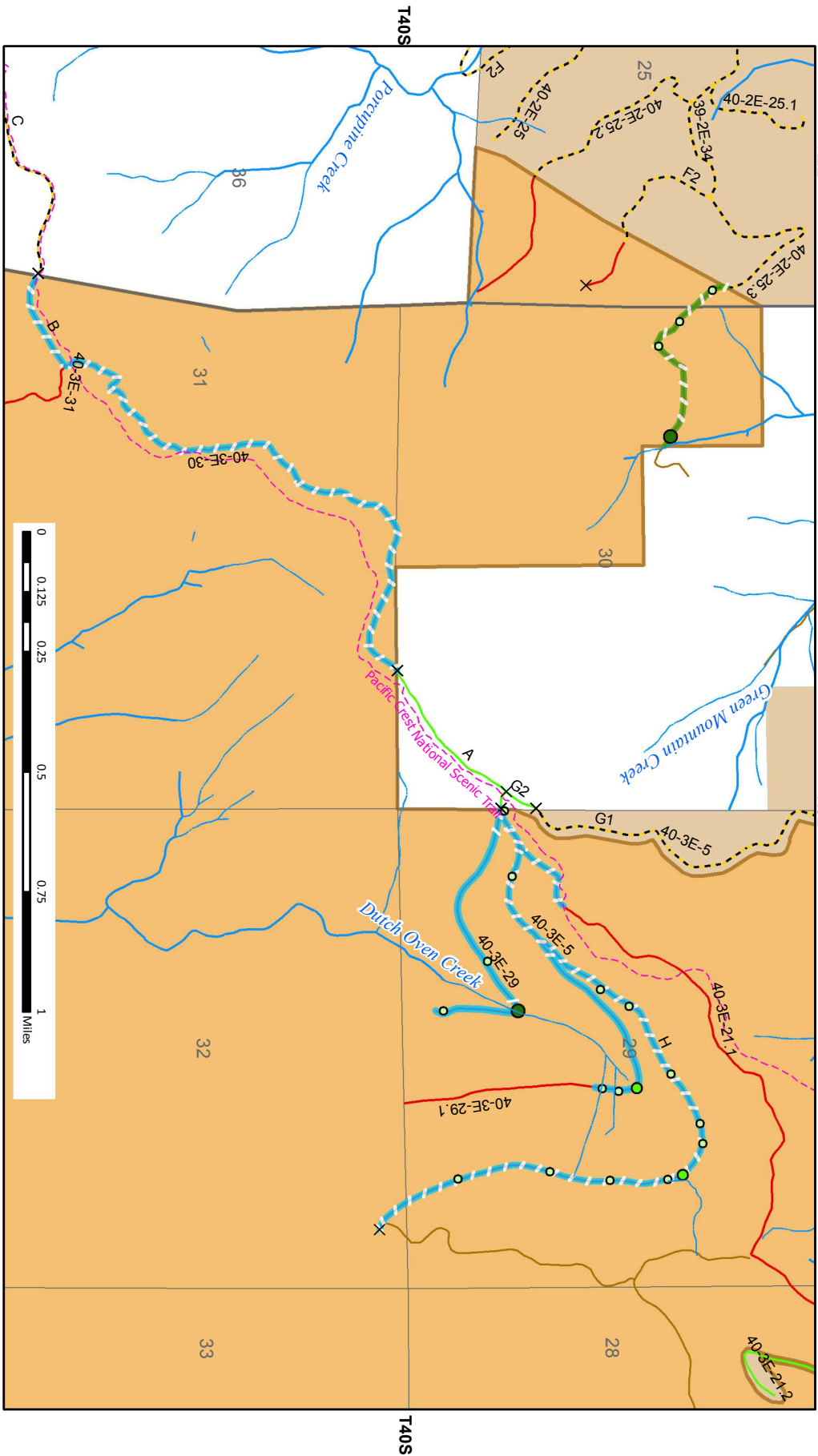
From the Pilot Rock Trailhead

- Road 41-2E-3, from trailhead/parking area to the PCNST (Segment A) will be fully recontoured, while maintaining a tread-width for an access trail for foot travel to the PCNST/Pilot Rock Trail. Boulders at the trailhead will be countersunk to prevent moving and additional boulders will be added at this location to block access from downslope.
- The remainder of Road 41-2E-3 (Segment B) will be stabilized and spot recontoured. The road grade is elevated near the last draw pipe (Draw Pipe 3) and bisects a riparian meadow that drains to a wetland at the base of Pilot Rock. An excavator will remove Draw Pipe 3 and approximately 50 linear feet of road fill will be removed at this location and used for spot recontouring adjoining road surfaces. The riparian swale will be restored to natural hydrologic function. The Powder River gate, steel cattleguard, mangled gate near the PCNST, and the rusting culvert remnants near the junction of Road 41-2E-3 and 41-2E-9 will be removed.

Map 7. Restoration of Former Vehicle Routes



Map 8. Restoration of Former Vehicle Routes - Priority Area 1 and Priority Area 6



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- Culverts**
- 0 - 18 inches
 - 19 - 24 inches
 - 25 - 44 inches
- Streams**
- 1-RECONTROUR
 - 6-RECONTROUR
 - Perennial
 - Intermittent/Seasonal
- Roads**
- BLM AND AUTHORIZED USE
 - CLOSED
 - WILDERNESS INHOLDER
 - OPEN
 - PRIVATE
 - Noninventoried
 - Road Segment End Points
- Legend**
- Soda Mountain Wilderness
 - Greater CSNM Boundary
 - Cascade-Siskiyou National Monument
 - Other Bureau of Land Management
 - U.S. Forest Service
 - Other Federal
 - State
 - Private/Unknown

- Road 41-2E-3.1 has two draw pipes; Draw Pipe 1 is completely filled with sediment from a failure above. The inlet of Draw Pipe 1 will be crushed and buried. No work will be done on this road beyond Draw Pipe 1. Draw Pipe 2 (18-inch diameter) will be left in place.
- Road 41-2E-9 (Segment B) has three draw pipes and an elevated road grade that bisects the riparian meadow. The culverts and approximately 75 feet of the elevated road grade (two feet deep) will be removed. The road material will be used for spot recontouring of the upland road surfaces. Waterbars will be installed on remaining road surfaces.
- On Road 41-2E-9 (Segment C), an excavator will remove the draw pipe in the intermittent stream that drains the meadow complex, wasting the material on the upland road surfaces and work its way back out the road, outsloping the road material at the intersection with Road 41-2E-9 B to the maximum extent possible.
- Road 41-2E-10 will be stabilized/spot recontoured by removing the one draw pipe and the one failed cross drain. Material from these culvert removals would be used for spot recontouring the road surface. Waterbars will be constructed above the failed cross drain.
- Road 41-2E-10.1 (Segments A and B) will be stabilized/spot recontoured by removing all the culverts, laying stream channels to grade and laying back approaches to a 2:1 slope. Draw Pipe 2 on Section B is a 24-inch culvert with an 8-foot perched outlet, causing significant erosion and a gully approximately 15 feet deep. Spot recontouring and waterbars will be installed along the road as appropriate.
- Road 41-2E-10.2 will be stabilized/spot recontoured.

Priority Area 3

This area is located in T. 40 S., R. 2 E., Section 35; T. 41 S., R. 2 E., Sections 1, 2, and 12; and T. 41 S., R. 3 E., Section 6 and includes Roads 40-2E-33, 41-2E-1, 41-2E-1.1, and 41-2E-10.1 (Map 10). Access for restoration work will be from Porcupine Gap.

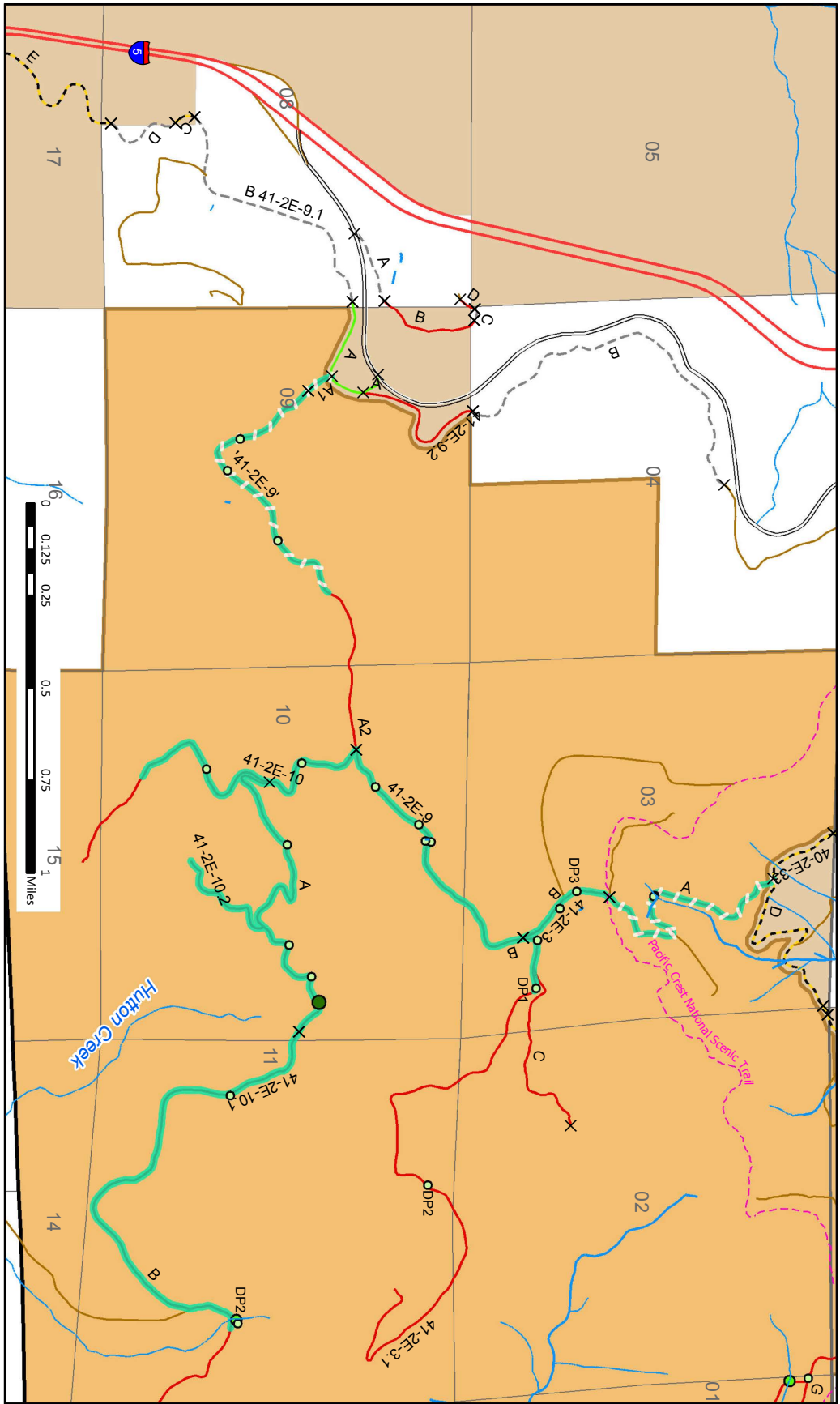
- The excavator will walk in on Road 40-2E-33 and 41-2E-1.1 to Road 41-3E-10.1 (Segment C) to the farthest east draw pipe in Section 6 (on a tributary to Scotch Creek). Culverts will be removed and stabilization/spot recontouring will occur as the excavator works its way out.
- Road 41-2E-1.1 is immediately adjacent to Scotch Creek occupying a large portion of the riparian area. This road will be recontoured, outsloping the road to the maximum extent possible using the material on site. Compaction will be broken up as needed on the road prism with the excavator teeth. Rolling dips and waterbars will be installed where appropriate. Available vegetation will be scattered over the recontoured slope, native vegetation will be planted to help stabilize the hillside, and native seed and/or straw mulch will be spread as needed to prevent erosion.
- Roads 40-2E-33 and 41-2E-1 will be stabilized/spot recontoured by removing culverts, laying back stream banks to a 2:1 slope, restoring channel gradients, installing waterbars and rolling dips, spot recontouring areas using material on site, scattering available vegetation over road, and spreading native seed as needed to prevent erosion.
- There are two culverts (Draw Pipe 5 and 6) on short duration intermittent streams in Section 12 on Road 41-2E-10.1. A work crew will walk into this location and dig trenches overtop the culverts using hand tools to allow water to flow across the road during high water or in the event the existing culvert became obstructed.

Priority Area 4

This area is located in T. 40 S., R. 3 E., Sections 27, 28, and 34 and includes Roads 40-3E-27, 39-3E-32.3, and two non-system roads in Section 28 on private lands (Map 11). This area is a high priority for restoration due to the high culvert density, stream diversions, and slumps. The private parcels in Sections 28 and 34 are planned for acquisition in 2012. Restoration work on these private parcels will occur after acquisition or in cooperation with the private landowner.

- The two non-system roads on private land are highly erosive. They will be fully recontoured and native seed will be spread as needed to prevent erosion.
- Roads 40-3E-27 and 39-3E-32.3 will be stabilized/spot recontoured by removing the culverts, laying back stream banks to a 2:1 slope, restoring channel gradient, recontouring the road prism using material on site

Map 9. Restoration of Former Vehicle Routes - Priority Area 2 - T41S, R2E

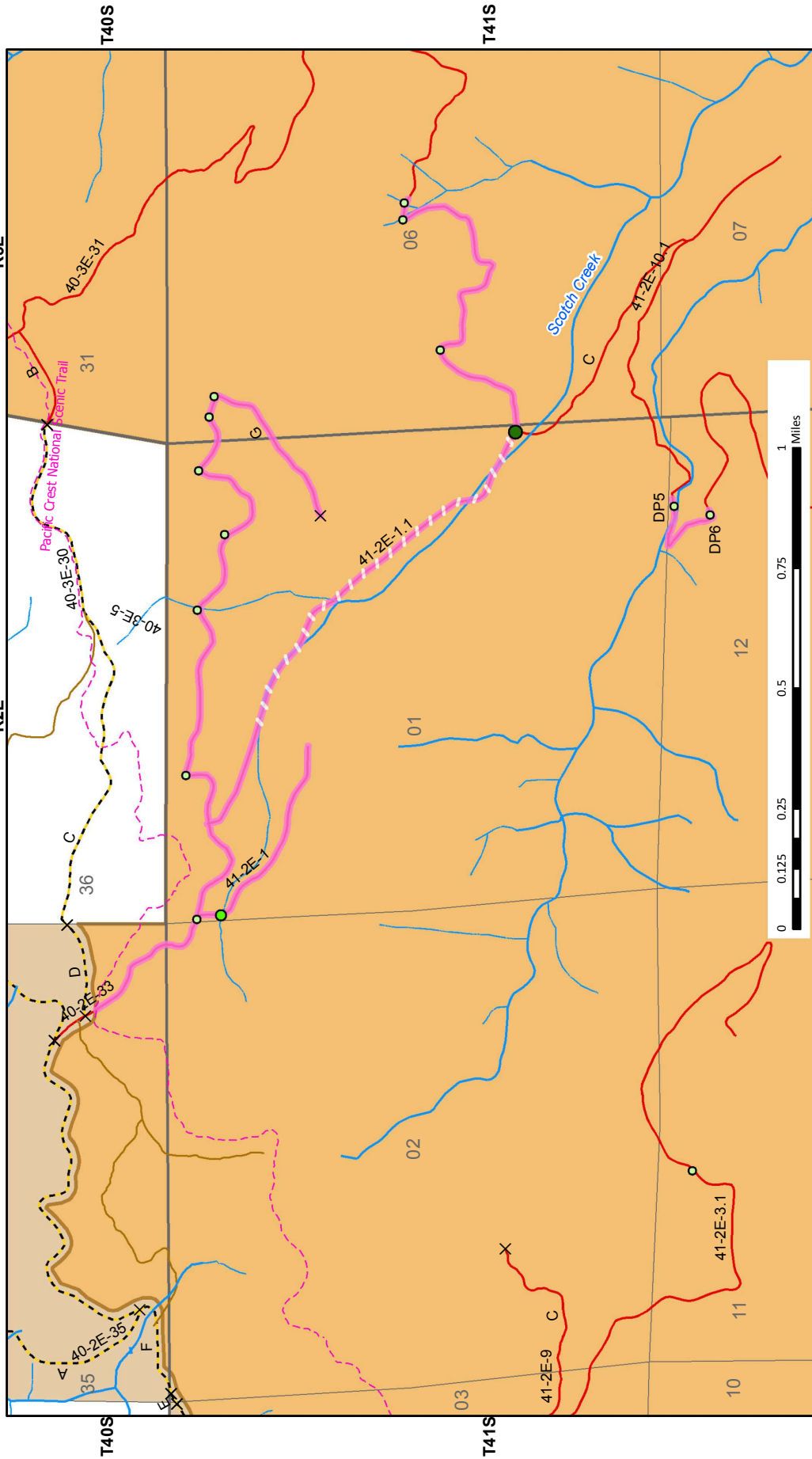


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- | | | | | | | | |
|--|----------------------------------|--|--|--|------------------------------------|--|---|
| | Culverts
0 - 18 inches | | Restoration Priority
2-RECONTOUR | | Soda Mountain Wilderness | | BLM AND AUTHORIZED USE
CLOSED |
| | 19 - 24 inches | | 2-STABILIZESPOT | | Greater CSNM Boundary | | WILDERNESS INHOLDERS |
| | 25 - 44 inches | | Road Segment End Points | | Cascade-Siskiyou National Monument | | OPEN |
| | Streams | | Pacific Crest National Scenic Trail | | Other Bureau of Land Management | | PRIVATE |
| | Perennial | | Intermittent/Seasonal | | U.S. Forest Service | | Noninventoried |
| | Intermittent/Seasonal | | Intermittent/Seasonal | | Other Federal | | County Road |
| | Intermittent/Seasonal | | Intermittent/Seasonal | | State | | 1-5 |
| | Intermittent/Seasonal | | Intermittent/Seasonal | | Private/Unknown | | |

Map 10. Restoration of Former Vehicle Routes - Priority Area 3



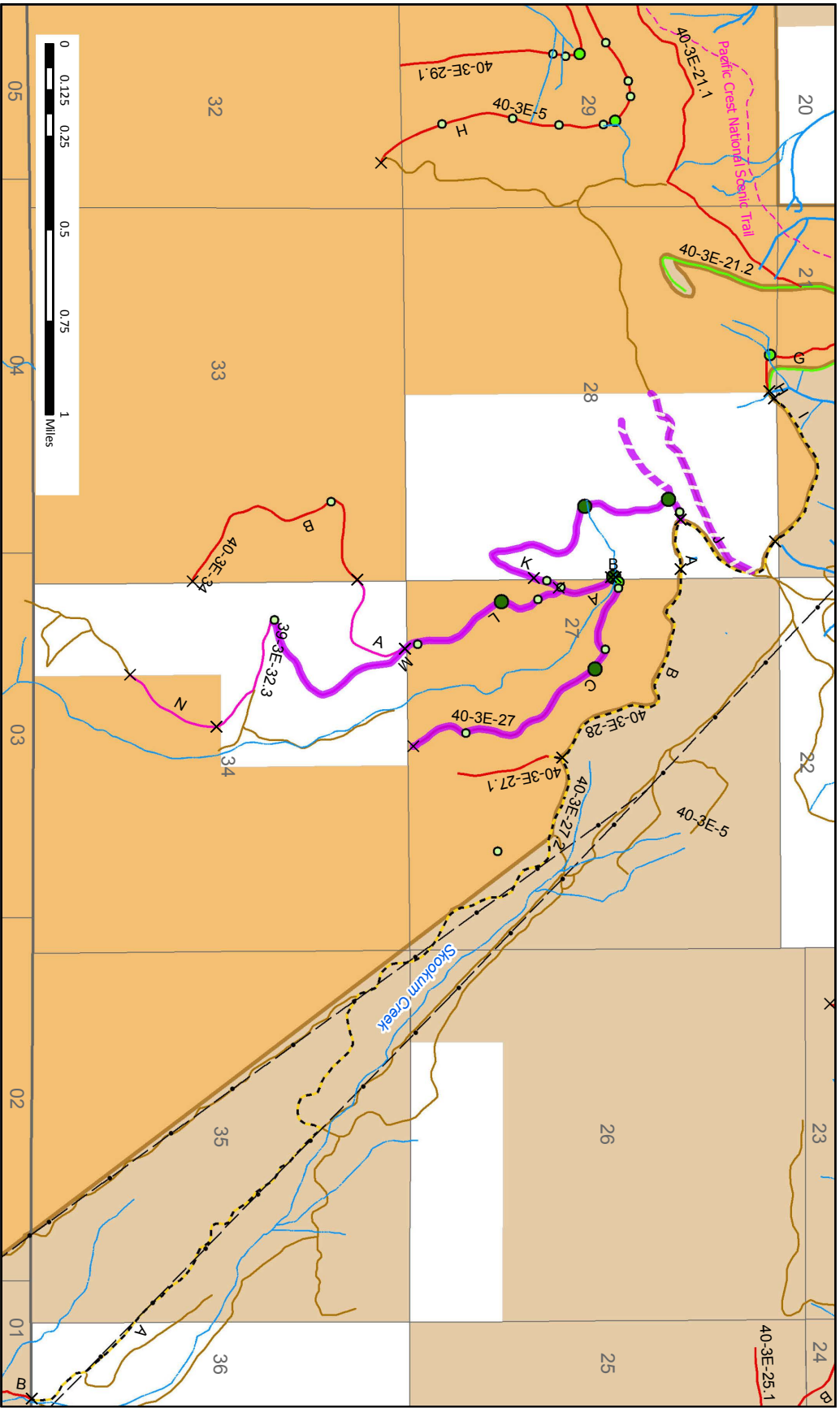
Legend

- Soda Mountain Wilderness**
 - Greater CSNIM Boundary
 - Cascade-Siskiyou National Monument
 - Other Bureau of Land Management
 - U.S. Forest Service
 - Other Federal
 - State
 - Private/Unknown
- Streams**
 - Perennial
 - Intermittent/Seasonal
- Restoration Priority**
 - 3-RECONTOUR
 - 3-STABILIZE/SPOT/HAND
- Culverts**
 - 0 - 18 inches
 - 19 - 24 inches
 - 25 - 44 inches
 - Pacific Crest National Scenic Trail
- Roads**
 - BLM AND AUTHORIZED USE
 - CLOSED
 - WILDERNESS INHOLDER
 - OPEN
 - PRIVATE
 - Noninventoried
 - Road Segment End Points

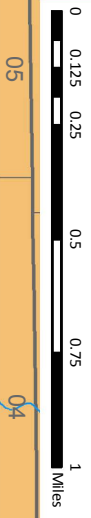
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Map 11. Restoration of Former Vehicle Routes - Priority Area 4 - T40S, R3E



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- Legend**
- Culverts**
 - 0 - 18 inches
 - 19 - 24 inches
 - 25 - 44 inches
 - Streams**
 - Perennial
 - Intermittent/Seasonal
 - Roads**
 - BLM AND AUTHORIZED USE
 - CLOSED
 - WILDERNESS INHOLDERS
 - OPEN
 - PRIVATE
 - Nominventoried
 - Road Segment End Points
 - Restoration Priority**
 - 4-RECONTOUR
 - 4-STABILIZESPOT
 - Other**
 - Soda Mountain Wilderness
 - Greater CSNM Boundary
 - Cascade-Siskiyou National Monument
 - Other Bureau of Land Management
 - U.S. Forest Service
 - Other Federal
 - State
 - Private/Unknown

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(pulling back road fill slope and spread material from culvert removals), outsloping the roads to the extent possible, breaking up compaction as needed on the road prism with excavator teeth, scattering available vegetation over recontoured slope, and spreading native seed as needed to prevent erosion.

Priority Area 5

This area is a chronic erosion feature located on the former Schoheim Road (41-2E-10.1) in T. 41 S., R. 3 E., Section 12 (Map 7). This feature is a large gully approximately 250 feet in length and up to five feet deep in some locations (Figure 6) with direct connection to a short duration intermittent stream that eventually routes into Iron Gate Reservoir. It can be accessed for restoration from the power line access road.

- Waterbars will be installed on both sides of the gully using a small excavator to prevent runoff from entering the gully and reducing the chronic sediment input into the stream system.

Priority Area 6

This road segment is a portion of Road 40-2E-25.3 and is located in T. 40 S., R. 2 E., Section 25 and T. 40 S., R. 3 E., Section 30 (Map 8). This road segment was constructed a few years ago under a reciprocal right-of-way to access the private land in Section 30 for timber harvest.

- This road segment will be fully recontoured by removing the culverts, pulling material back onto the road prism, recontouring the slope, spreading debris and vegetation over the recontoured slope, planting native vegetation, and spreading native seed to stabilize the restoration work. Agreement with the private property owner is required to implement this proposed restoration; however, since the road is fairly new and hasn't been used excessively, the material is still fairly loose making recontouring easier at this time.



Figure 6. Chronic erosion feature in Section 12.

Priority Area 7

Roads 40-4E-19 and 40-4E-19.1 cut through the northwest corner of the Oregon Gulch Research Natural Area in T. 40 S., R. 4 E., Section 19 (Map 12). Road 40-4E-19 stays wet for a long period of time during the year.

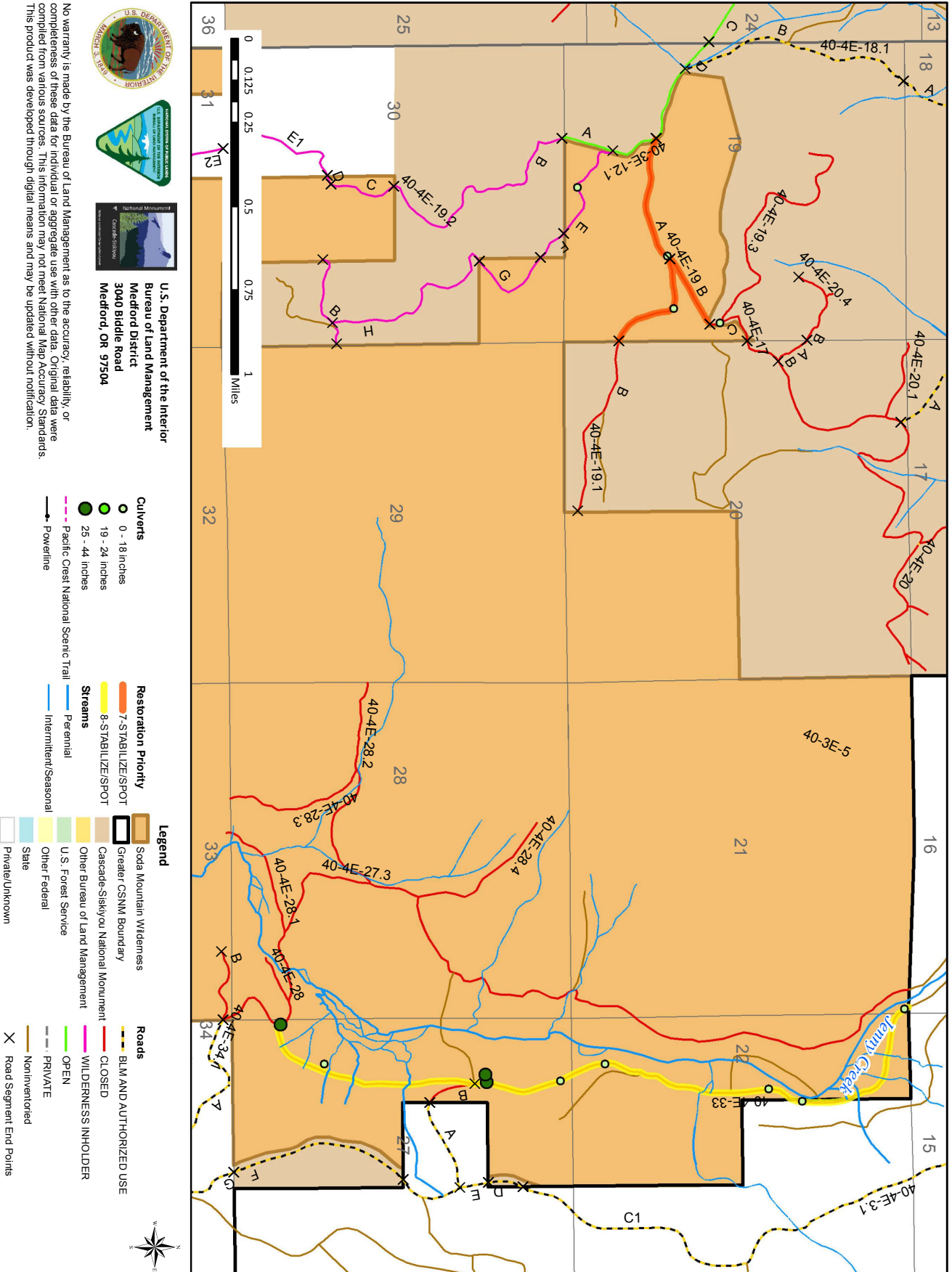
- Portions of both roads that are within the wilderness/RNA will be stabilized/spot recontoured by removing the culverts, laying back stream banks to a 2:1 slope, restoring channel gradient, outsloping the roads where possible using material onsite, and installing waterbars where needed. Work should be done later in the year to prevent further damage associated with the wet road surfaces.
- The Rosebud stock tank will be removed and the spring area restored prior to initiating the road restoration on Road 40-4E-19.1.

Priority Area 8

This area is located in T. 40 S., R. 4 E., Sections 21, 22 and 27 and includes Road 40-4E-33 associated with the former Box O Ranch (Map 12). A canal runs along the majority of this roadway, holding water in places and acting as an inboard ditch impeding natural flows. There are two large (40-inch diameter) cement culverts associated with this canal and one 18-inch diameter cross drain with an inlet surrounded by cement. There are also old ranching materials along the roadway.

- All culverts associated with the canal will be removed.
- Several additional relief drains will be installed in the canal to allow for more natural flow off the hillside.
- Old ranching materials (not retained for interpretive purposes), broken concrete, and trash along Road 40-4E-33 will be removed.

Map 12. Restoration of Former Vehicle Routes - Priority Area 7 and Priority Area 8 - T40S, R4E



Water Developments

Over the years numerous water diversions, impoundments and other developments have been constructed throughout the SMW to facilitate past management activities including fire suppression and livestock grazing. In 2009, the BLM conducted an extensive inventory of all the water developments within the CSNM, including those within the SMW. Results of the inventory showed that there are approximately 46 human-made water developments within the SMW and approximately six water developments located on BLM lands in the area between the western and eastern portions of the wilderness.

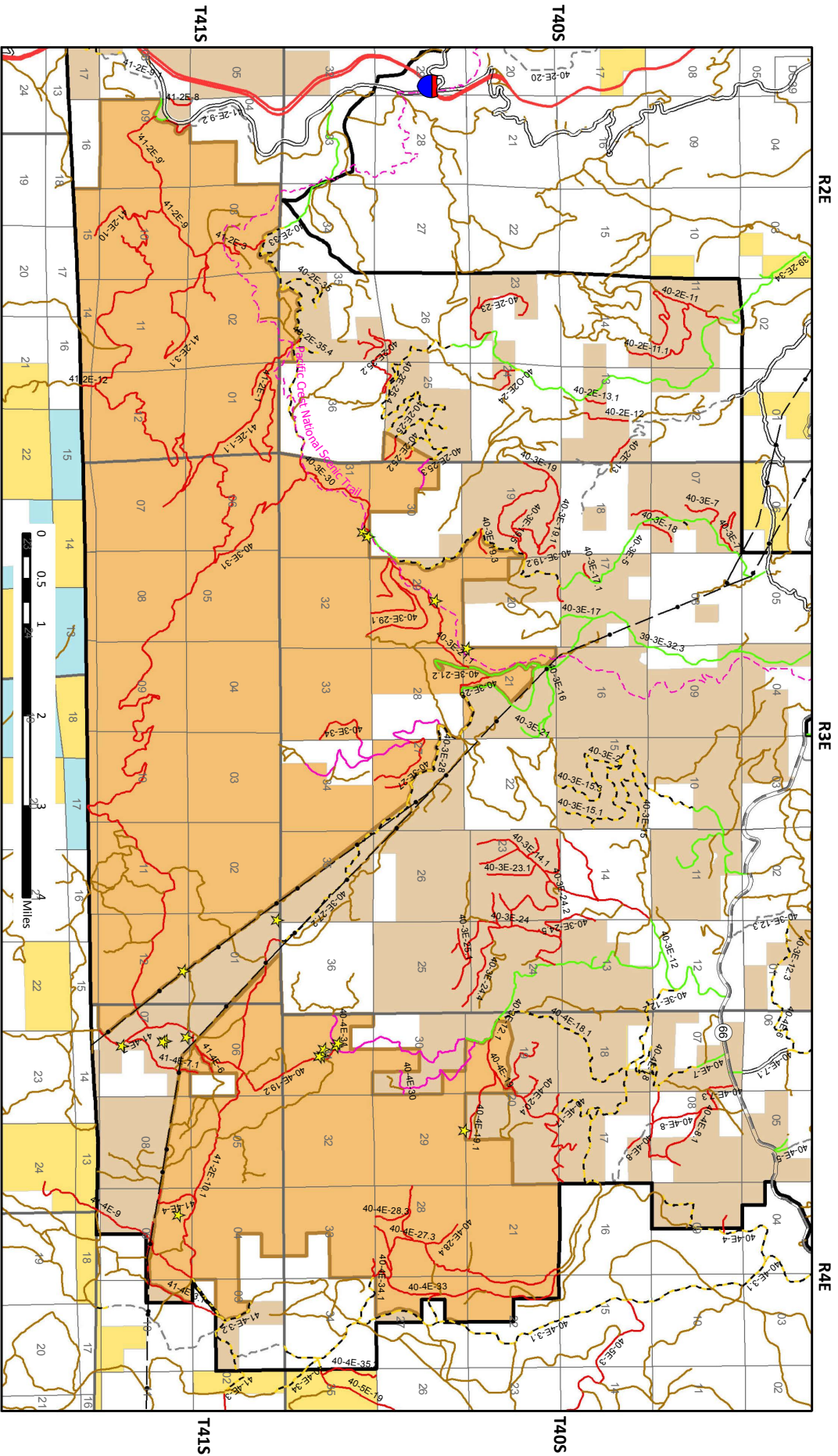
The water developments range in size and degree in which they impact wilderness character. Others developments are small and take on the appearance of a natural pond (Figure 7). Water developments can impact aquatic connectivity and habitat quality by reducing flows in natural channels as water is diverted into stock tanks or off-channel impoundments (diversion dams). Impoundments and diversion dams function as sediment traps, effectively disrupting the natural downstream movement of stream substrate, wood, and nutrients. Impoundments and diversions, by attenuating winter flushing flows and peak flow events, can cause the stream to become channelized within its historic bankfull channel, losing access to the historic floodplain, and losing its ability to sort and transport sediment through the system. The mainstem streams are gradually changing in response to the modification of the flow, but it is likely to be many decades before these streams recover to their full biological and physical capability possible under the new flow regime.

Water developments degrade the natural and undeveloped qualities of wilderness character; however, removal and hydrologic restoration of these sites would degrade the untrammeled and solitude qualities of wilderness character. Each of the 46 water developments was evaluated to determine whether removal and active restoration and the associated impacts to wilderness character were needed for long-term restoration of hydrologic function. Eight of these water developments (two are actually outside the SMW) are needed for fire suppression and would not be removed and restored (see *Fire Facilities* section below). Of the remaining water developments (including those outside the SMW, located between the western and eastern portions of the wilderness), 17 would be removed and the sites restored. The specific restoration treatments proposed for the water developments are described below in Table 1 and shown on Map 13.



Figure 7. Water developments that will be removed or restored.

Map 13. Water Developments to be Restored



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Legend

- Soda Mountain Wilderness
- Greater CSNM Boundary
- Cascade-Siskiyou National Monument
- Pacific Crest National Scenic Trail
- Powerline
- Other Bureau of Land Management
- U.S. Forest Service
- Other Federal
- State
- Private/Unknown
- Roads**
- BLM AND AUTHORIZED USE
- CLOSED
- WILDERNESS INHOLDER
- OPEN
- PRIVATE
- Noninventoried
- County Road
- Hwy 66
- Water Development

Table 1. Water Developments to be Removed or Restored.					
BLM Ref. No.	Legal Location (T-R-S)	Inside SMW	Site Name	Description	Proposed Treatment
750017	40S-3E-31	Yes	Sheep Camp #2	50'x80' basin, 8' headwall, 20' deep on downhill side, stock tank 100' uphill from site.	Remove stocktank, breach headwall, restore flow pattern.
750031	41S-3E-12	No	Big Powerline Spring	50'x50' basin, 8' outflow above basin bottom, spring fed, adjacent to wilderness boundary.	Breach headwall, restore flow pattern.
750098	40S-4E-31	Yes	Randcore Pass #1, Skookum Reservoirs	50'x250' basin, headwall 20' wide, spring fed.	Breach headwall, restore flow pattern.
750098	40S-4E-31	Yes	Randcore Pass #2, Skookum Reservoirs	30'x30' basin, 5' headwall.	Breach headwall, restore flow pattern.
750134	41S-4E-7	No	Willow Pond Stock Tank	Stock tank and associated junk 30' downstream from Willow Pond.	Remove stock tank and refuse, restore flow pattern.
750218	40S-4E-31	Yes	Mud Spring	Oblong stock tank, spring fed, adjacent smaller stock tank overturned.	Remove stock tanks, restore flow pattern.
750275	41S-3E-1	No	Bovine Corral Detention Dam	Basin is overgrown, water overtops headwall, scour present, steep incline, potential for sediment delivery to stream.	Breach headwall, restore flow pattern.
750336	40S-4E-29	Yes	Rosebud Stock Tank	Stock tank 150' uphill from Rosebud Pond.	Remove stock tank.
750471	41S-4E-9	Yes	Jenny Creek Spring Stock Tank	Stock tank, covered spring, stand pipe, surrounded by barb-wire enclosure.	Remove stock tank, cover, stand pipe, and enclosure; restore flow.
750401	40S-3E-29	Yes	Little Pilot Butte Reservoir	20'x20' basin, 4' headwall, outflow is earthen channel	Breach headwall.
6	41S-4E-7	No	Stateline Waterhole Trough	Stock tank.	Remove stock tank.
7	41S-4E-7	No	Parkinson Reservoir	30'x50' pond, covered culvert/stand pipe, no outflow.	Remove culvert/standpipe, restore flow.
7	41S-4E-7	No	Parkinson Reservoir Stock Tank	Stock tank 300' from pond.	Remove stock tank.
19	40S-3E-21	Yes	Soda Mountain Jeep Road Dip-site Stock Tank	Stock tank 50' southeast of pond, fence posts to east of pond.	Remove stock tank and fence posts.

Table 1. Water Developments to be Removed or Restored.					
BLM Ref. No.	Legal Location (T-R-S)	Inside SMW	Site Name	Description	Proposed Treatment
36	40S-4E-31	Yes	Dead Horse Spring	80'x100' basin, head-wall 4' above water level, barbed wire fence around pond, black pipe at edge of pond headed in direction of Site #750218.	Remove fence and black pipe, determine if pond is de-watering stream channel, if so, restore flow pattern.
	40S-4E-31	Yes	Merge Pond 40S-4E-31	30'x40' basin, stand pipe, wooden feeding trough downstream of pond about 60', located upstream of Site #36	Remove stand pipe and trough
	40S-3E-31	Yes	Bean Cabin Stock Tank	Stock Tank just inside BLM property line-fence, short distance beyond Bean Cabin Spring.	Remove stock tank, restore site (see Bean Cabin Recreational Water Source section).

Other Former Range Improvements

The Omnibus Public Lands Management Act of 2009, Public Law No. 111-011, which designated the SMW also authorized a voluntary grazing lease donation program under Section 1402. Subsequently, leases were donated to the Department of the Interior and terminated on approximately 96 percent of the lands within the CSNM that were actively grazed. As a result, there are numerous range improvements located across the SMW which are no longer needed to manage livestock grazing. Former range improvements include fencing, water developments, cattle guards, corrals, and loading chutes. Water developments are described above in the *Water Developments* section above.

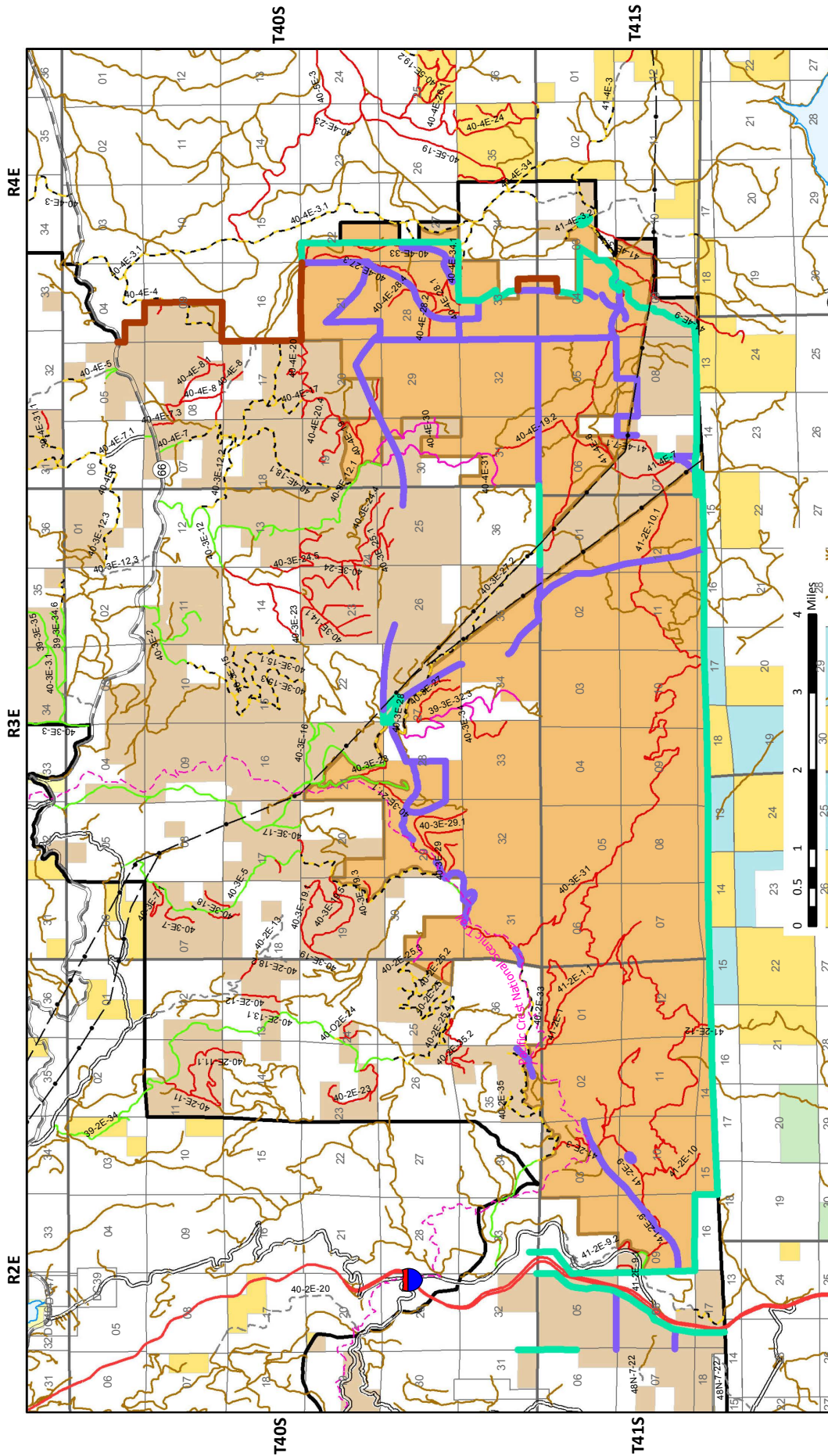
In general, other former range improvements will be removed in order to enhance wilderness character unless the improvements are the minimum necessary for the administration of the area as wilderness or if removal would impact wilderness character to a greater degree than leaving the former range improvements in place to decay naturally.

There are approximately 66 miles of fence within and adjacent to the SMW associated with former BLM grazing allotments, the one remaining active BLM grazing allotment (Dixie Allotment), and private lands. Approximately 32.6 miles of this fencing is no longer needed and will be removed. Approximately 28.3 miles will be retained to prevent livestock trespass from private lands and to keep livestock within the boundaries of the Dixie Allotment. In order to prevent livestock trespass into the SMW from private lands, approximately 5.2 miles of fence will be constructed (Map 14). Cattle guards would be evaluated on a case-by-case basis and in general will be removed if located on roads that will be restored (see *Legacy Transportation System* section).

Removal of Human Effects

As additional effects from modern civilization (i.e., refuse dumps, irrigation pipe, remnants of hunting camps, structures, installations, etc.) are discovered by BLM personnel, those items that are potentially older than 50 years will be evaluated by a BLM archeologist for significance using the guidance provided under Section 106 of the National Historic Preservation Act (1966, as amended), the *Protocol for Managing Cultural Resources on Lands Administered by the Bureau of Land Management in Oregon*, and BLM Manual 8100. Items that are obviously less than 50 years old will be considered personal property or refuse. Unattended personal property not associated with an active camp, including geocaches (see *Global Positioning System (GPS) Recreational Activities (Geocaching)* section above), will be removed by the BLM unless removal would cause more damage to wilderness character than leaving the refuse, structure, installation or other item to decay under natural conditions.

Map 14. Livestock Fence Within and Adjacent to the Soda Mountain Wilderness



Legend

Soda Mountain Wilderness	BLM and Authorized Use	County Road
Greater CSNM Boundary	Closed	Hwy 66
Cascade-Siskiyou National Monument	Wilderness Inholder	Livestock Fence
Pacific Crest National Scenic Trail	Open	Build
Powerline	Private	Remove
	Noninventoried	Retain

Legend

Other Bureau of Land Management	U.S. Forest Service
U.S. Forest Service	Other Federal
Other Federal	State
State	Private/Unknown
Private/Unknown	Noninventoried

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Rehabilitation of Motorized/Mechanized Vehicle Trespass

Vehicle trespass in wilderness is potentially one of the most serious intrusions and it can have significant impacts on both the visitor's experience and the biological and physical resources. Types of trespass include willful or inadvertent travel by snowmobiles, off-highway vehicles (OHVs), bicycles or other types of vehicles. Areas within the SMW disturbed by vehicle trespass will be managed or rehabilitated using one or more of the following methods:

- Active rehabilitation will occur at sections visible from key observation points or where resource damage has occurred (e.g., wet areas, streams, and meadows).
- Areas where resource damage is light may be left to rehabilitate naturally.
- Active rehabilitation will include visually obscuring the surface disturbance by breaking up compaction, "planting" dead vegetation collected nearby the site or brought from offsite salvage areas (only native vegetation), and by scattering rock to mimic the form and texture of the surrounding landscape. Hand tools will be used for the rehabilitation work.
- Obscuring the site will help prevent continuing human-caused disturbance and will help trap native seed to foster natural recruitment of native vegetation.
- Native seed may be spread or native vegetation planted in disturbed sites where there is potential for excessive erosion; the likelihood of native vegetation recruitment is poor; or the likelihood of non-native invasive species infestation is high.

Fire Management

Fire Management Policy in Wilderness Areas

The SMW is managed under regulations 43 CFR 6300 Wilderness Management and BLM Manual 8560 "Management of Designated Wilderness Areas." The following are provisions of the BLM Manual 8560 that direct fire management in the SMW:

- **Fire, Insects, and Diseases** – The BLM allows fire, insects and diseases to play a natural role in the wilderness ecosystem, except where these activities threaten human life, property, or high value resources on adjacent non-wilderness lands, or where these would result in unacceptable change to the wilderness resource (BLM Manual 8560.11A2).
- **Minimum Tool** - Tools, equipment, or structures may be used for management when they are the minimum necessary for protection of the wilderness resource or when necessary in emergency situations for the health and safety of the visitor. Management must use the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently (BLM Manual 8560.13).
- **Acceptable Tools** - Acceptable tools, equipment, and structures may include but are not limited to: fire towers, patrol cabins, pit toilets, temporary roads, spraying equipment, hand tools, fire-fighting equipment caches, fencing, and controlled burning. In special or emergency cases involving the health and safety of wilderness visitors, or the protection of wilderness values, aircraft, motorboats, and motorized vehicles may be used (BLM Manual 8560.13A).
- **Overriding Fire Guidance for Wilderness Areas** – All fires must be controlled to prevent loss of human life or property within wilderness areas or to prevent the spread of fire to areas outside of the wilderness where life, resources, or property may be threatened. Human-caused wildfires must be prevented and/or controlled unless the fire meets wilderness fire management objectives (BLM Manual 8560.35A1).
- **Natural Fire** – Natural fire (lightning-caused) is normally a part of the ecology of the wilderness, and human efforts to ban this agent have resulted in significant ecological changes in flora and fauna of some areas. In order to return some wilderness ecosystems to a more natural state, it may be appropriate to allow natural fire to burn, but only in conformity with an approved Resource and Fire Management Plan and the overriding fire guidance (above paragraph) (BLM Manual 8560.35A2).

Federal Wildland Fire Management Policy

The *Review and Update of the 1995 Federal Wildland Fire Management Policy* (January 2001) is the primary interagency wildland fire policy document. The *Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy* (June 20, 2003) was developed and approved under the authority of the Wildland Fire Leadership Council (WFLC) to set forth direction for consistent implementation of the federal fire policy. In 2009, the 2003 *Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy* was replaced by the *Guidance for Implementation of Federal Wildland Fire Management Policy* (GIFWFMP) (February 2009).

The CSNM ROD/RMP (USDI 2008) included and integrated the 1995/2001 and 2003 policies into the ROD/RMP. However, this predates the policy changes adopted in February 2009.

Elements of the Federal Wildland Fire Management Policy that Influence Fire Management in SMW

The following policy statements relate to fire management in the SMW (GIFWFMP February 2009, pages 10-15):

- **Safety** - Firefighter and public safety is the first priority.
- **Fire Management and Ecosystem Sustainability** - The full range of fire management activities would be used to help achieve ecosystem sustainability, including interrelated ecological, economic, and social components.
- **Response to Wildland Fire** - Fire, as a critical natural process, would be integrated into land and resource management plans and activities on a landscape scale across agency boundaries. Response to wildland fires is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, the likely consequences to firefighter and public safety and welfare, the natural and cultural resources and the values to be protected dictate the appropriate response to fire.
- **Use of Wildland Fire** - Wildland fire would be used to protect, maintain and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire would be based on approved Resource Management Plans, Fire Management Plans and would follow specific prescriptions contained in operational plans.
- **Protection Priorities** - The protection of human life is the single overriding suppression priority. Setting priorities among protecting public communities and community infrastructure, other property and improvements and natural and cultural resources would be done based on the values to be protected, public health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
- **Suppression** - Fires are suppressed at minimum cost, considering firefighter and public safety, benefits and all values to be protected consistent with resource objectives.

Fire Management in the SMW and 2009 Changes in Policy

Changes in guidance in policy that have implications for fire management actions in SMW include the following (GIFWFMP, pages 19-20):

- **Fire Terminology** - The 2009 changes now define wildland fire as: A general term describing any non-structure fire that occurs in the wildland. Wildland fires are now categorized into two distinct types: Wildfires – Unplanned ignitions or prescribed fires that are declared wildfires. Prescribed Fires - Planned ignitions.

Prior to 2009, wildland fire included three types of fire: wildfire, wildland fire use, and prescribed fire. Wildland fire use (the use of a naturally occurring fire for resource benefit) is no longer a separate type of fire. The new terminology and policy recognizes that wildfire and prescribed fire can be used to protect, maintain, and enhance resources.

- **Human Caused Wildland Fires** – The 2009 change is that, “Initial action on human-caused wildfire will be to suppress the fire at the lowest cost with the fewest negative consequences with respect to firefighter and public safety.” Prior to 2009, the policy was “Human-caused wildland fires will be suppressed in every instance and will not be managed for resource benefits.”

- **Wildland Fire Management Objectives** – The 2009 changes now state: “A wildland fire may be concurrently managed for one or more objectives and objectives can change as the fire spreads across the landscape. Objectives are affected by changes in fuels, weather, topography; varying social understanding and tolerance; and involvement of other governmental jurisdictions having different missions and objectives.”

Prior to this change only one management objective was allowed to be applied to a wildland fire. Wildland fires were either managed for resource benefits or suppressed. A wildland fire could not be managed for both objectives concurrently, and once a wildland fire had been managed for suppression objectives, it could never be managed for resource benefit objectives.

Wildland Fire Suppression Objectives

The CSNM ROD/RMP analysis acknowledged the “important role fire has played in influencing historical ecological processes and continues to be recognized as a needed component in the development and maintenance of vegetative diversity in fire-adapted ecosystems found throughout the CSNM (USDI 2008, page 17).” However, the decision made in the CSNM ROD/RMP was that the only option would be a full suppression response. This was based on the ownership patterns and logistic constraints. Allowing the use of natural fire for resource benefit and the achievement of ecological objectives by not immediately suppressing fires was not included in any alternative.

This analysis and decision predated the changes to fire policy in 2009. In August 2008, when the CSNM ROD/RMP was completed, the policy was still three types of wildland fire: wildfires, wildland fire use, and prescribed fire, and fires could only have one objective.

Current Suppression Policy - Response to wildland fires is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, the likely consequences to firefighter and public safety and welfare, the natural and cultural resources and the values to be protected dictate the appropriate response to fire.

Potential to Utilize Wildfire for Wilderness Resource Benefit - The ability to utilize wildfire for resource benefit is very limited. The potential acres that perhaps would be allowed to burn for resource benefit would be measured in the tens of acres, less often in hundreds of acres, but extraordinarily rare in the thousands of acres. This is due to the small size of the SMW, the presence of private lands within wilderness boundaries, the adjacent high value resources, air quality considerations, and the number of days that southwest Oregon experiences high to extreme fire behavior potential during fire season. Decisions on the response to a wildfire will consider the topography, limited access, fuel types, and extent of moderate and high hazard conditions, and minimum tools available. Firefighter safety conditions will dictate how direct or indirect the fire would be controlled. Fires that start outside of peak fire season, burning with lower than average intensity conditions typically can be safely direct-attacked by firefighters. During peak fire season, when fires burn with greater than average intensity, indirect attack is often necessary for firefighter safety. Firefighter safety considerations have the potential to result in more indirect suppression actions and therefore, result in additional acreage burned, beneficial or not.

The following is a hypothetical example of how this change could influence wildland fire suppression in the SMW: A wildfire burning in the SMW has one side (west side) of the fire threatening to leave the wilderness boundary and burn onto private property, threatening public safety. The opposite side (east side) has no threat to private property, public safety, and is not a threat to leave the wilderness. The objective on the west side of the fire would be an immediate need to aggressively suppress the spread of the fire. On the east side, it is determined that fire intensity level and behavior are a benefit and producing no unacceptable change to the wilderness resource. There is no threat to human life, property, or high value resources on adjacent non-wilderness lands. There is no urgent, without delay, need for stopping the fire spread on this side of the fire. The fire would be suppressed; however, the decision on the location and tactics to use can integrate the benefit to wilderness resource objectives into the decision process. The process would include situational assessment, analyze hazards and risk (mainly for firefighters), define implementation actions, and document decisions and rationale for those decisions.

The result would be additional burned acres (beneficial), along with potentially enhanced safety for firefighters and reduced suppression costs.

Fire Suppression Organization

The Bureau of Land Management has a contract with the Oregon Department of Forestry (ODF) to provide fire prevention, detection and suppression services. This contract directs ODF to take immediate action to control and suppress all fires. Their primary objective is to minimize total acres burned while providing for firefighter safety. ODF is required to be consistent with BLM resource management objectives in selecting suppression action alternatives, and when conducting suppression actions on BLM lands.

Fire Facilities

Water Sources - There are six existing water source installations within the wilderness boundary that have been identified by ODF and BLM as necessary for fire suppression and the health and safety of wilderness visitors (Map 15). These water sources are considered crucial for fire suppression and the use of water is considered the least degrading to wilderness values. All six of these are water impoundments were originally developed for the fire suppression purposes. Routine maintenance and repair of these structures will occur as needed. There will be no change to the location, size or type, nor increase to the original capacity of these water sources. It is anticipated that needs and methods will include the use of hand tools, and replacement parts and materials. The potential need for the use of small power equipment may arise, and the potential for aerial delivery of personal and equipment exists. All maintenance and repair actions would have a Minimum Requirement Analysis to determine the minimum tools and equipment necessary to successfully, safely, and economically accomplish the objective.

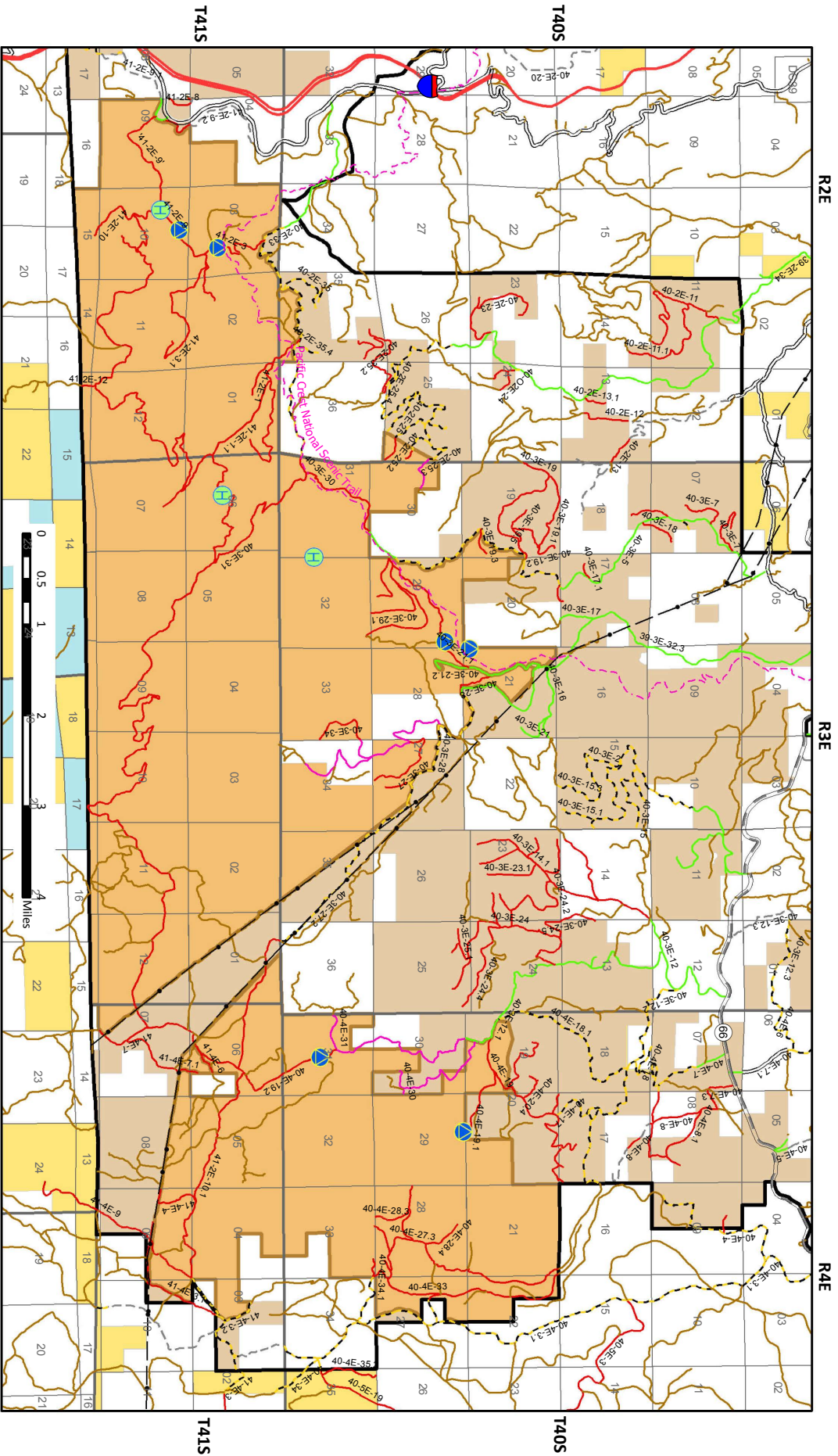
Helispots – There are three helispot locations within the wilderness identified by ODF and BLM as the minimum necessary for fire suppression and emergency situations for the health and safety of visitors (Map 15). These helispots require minimal clearing of natural vegetation. Routine maintenance needs and methods will include the use of hand tools and the potential for the use of chainsaws exists. The helispots will be cleared of stumps, brush, posts, large rocks or anything over 18 inches high. The safety circle would be 75, 90, or 110 feet in diameter, with touchdown pads 15 ft. x 15 ft., 20 ft. x 20 ft., or 30 ft. x 30 ft. in size based on needs for Type III, Type II, or Type I helicopters, respectively. All maintenance and repair actions will have a Minimum Requirements Analysis to determine the minimum tools and equipment necessary to successfully, safely, and economically accomplish the objective.

Fire Suppression Actions

The following general framework will be used when suppressing fires in the SMW:

- Provide for the natural role of fire in wilderness. Use of wildland fire is allowable to meet wilderness management objectives consistent with the 1964 Wilderness Act, legislation establishing the wilderness area, and BLM wilderness management regulations.
- The long-range objective is to allow fire in the SMW to play, as nearly as possible, its natural, ecological role—while, at the same time, not compromising public and firefighter safety or resource values outside of the wilderness.
- All wildfires will have a management response, including consideration of the use of wildland fire. Because of the relatively small size of this wilderness, proximity of Interstate 5, adjacency to the Ashland/Medford Air Quality Management Area (AQMA), and adjacent high value resources, opportunities to use wildland fire to maximize resource benefits may be limited, but should be considered and taken advantage of when appropriate.
- Minimum Impact Suppression Tactics (MIST) guidelines would be followed in an effort to minimize impacts to wilderness character (Appendix C). Any actions deemed necessary by the Incident Commander for public and firefighter safety would be authorized.
- The existing six water sources and three helispots will be retained in the SMW. They are necessary for conducting fire suppression and for the safety of firefighters. They conform to the minimum tool policy as permitted by the Wilderness Act. The ability to use water to control wildfire is considered the least

Map 15. Water Sources and Helispots for Fire Suppression Within the Soda Mountain Wilderness



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Legend

- Soda Mountain Wilderness
- Other Bureau of Land Management
- U.S. Forest Service
- Other Federal
- State
- Private/Unknown
- Pacific Crest National Scenic Trail
- Powerline
- BLM AND AUTHORIZED USE
- CLOSED
- WILDERNESS INHOLDER
- OPEN
- PRIVATE
- Noninventoried
- County Road
- Hwy 66
- Water Source
- Helispot

degrading to wilderness values because it reduces the need for fireline construction. The pre-approved designated helispots were chosen for their strategic locations, minimal need to initially clear vegetation, and minimal need for maintenance in the long-term. Retention of these helispots will provide potentially less need for future, emergency helispot construction, no time delay in deploying firefighters, and known evacuation locations. It is anticipated that water source installations and helispots may require a level of maintenance in the long-term. They would be maintained for continued use until such time, if and when, they are determined to no longer qualify for retention under the minimum tool criteria.

- Fire response strategies and tactics should provide for a high degree of public safety and the least amount of operational impairment. Closure of the Pacific Crest National Scenic Trail to use by the public should be avoided in all but extreme cases.
- The Southwest Oregon Interagency Fire Management Plan (FMP) will incorporate SMW resource and management objectives identified in this Final Soda Mountain Wilderness Stewardship Plan and the fire suppression guidelines in Appendix C.

Implementation of Rehabilitation of Damages from Suppression Operations

The goal of wildfire rehabilitation in wilderness is to mitigate or eliminate impacts caused by the fire suppression effort and rehabilitation of the area to as natural a condition as possible. This goal coincides with the intentions of the Wilderness Act, which states: "...wilderness is an area affected primarily by nature, with human activity substantially unnoticeable..." In the case of wildfire suppression, it is the human involvement that has the potential to be the damaging effect on the wilderness resource, even more so than the effects of the fire.

The following general guidance would be used in rehabilitating damages to wilderness character from fire suppression activities:

- BLM policy emphasizes the need to rehabilitate areas disturbed during the fire suppression effort to as natural an appearance as possible.
- Rehabilitation of damages caused from suppression operations will not be the typical BLM standards used on non-wilderness fires.
- Prior to the start of fire season, BLM and ODF personnel will meet to review the wilderness standards and practices used in wilderness rehabilitation. Examples of these are shown in Appendix D.
- Knowledge and understanding of the standards and practices used in wilderness rehabilitation prior to initial attack can be beneficial in selecting and implementing suppression actions which will reduce the amount of rehabilitation needed.
- BLM and ODF will jointly develop a rehabilitation plan as early as possible during the incident to minimize costs.
- ODF and BLM Resource Advisor(s) will need to communicate and collaborate early to ensure efficiency in the rehabilitation work.
- If any motorized vehicle access is used, routes and evidence of human activity would be removed or rehabilitated to the maximum extent possible upon completion of the reclamation work.
- Should seeding be required, the use of certified, weed-free seed and/or the use of species known to compete with invasive species that are known or likely to be present post-fire will be used.

Specific guidelines for rehabilitation practices following wilderness fire suppression activities in the SMW are in located in Appendix D.

Prescribed Burning

Prescribed burning may be implemented when the objective is to retain the wilderness character of the environment and allow ecological processes to function properly. Where the use of natural fire does not meet management objectives, prescribed burning may be approved according to BLM wilderness policy on a case-by-case basis for the following purpose:

- To restore or maintain the natural condition of a fire-dependent ecosystem.
- To restore fire where past fire exclusion measures have interfered with natural and ecological processes.

- Where a primary value of a given area would be perpetuated as a result of the burning.
- Where it will perpetuate a threatened or endangered species.

A detailed, project-level NEPA analysis would be prepared prior to implementing prescribed burning projects within the SMW.

Air Quality Management

The Clean Air Act Amendments of 1977 designated wilderness areas existing at that time to be Class I Areas. Areas designated wilderness after 1977 are classified as Class II, unless they are additions to existing Class I areas. The Soda Mountain Wilderness area is a Class II, which allows moderate degradation associated with moderate, well-controlled industrial and population growth.

According to the Clean Air Act, air quality reclassification is the prerogative of the states. BLM manages designated wilderness areas as Class II unless they are reclassified by the state as a result of the procedures prescribed in the Clean Air Act, as amended (1977).

Visual Resource Management

Visual Resource Management (VRM) inventory classes were established by BLM Manual H-8410-1 (Visual Resource Inventory). Visual resource classes are categories assigned to public lands which serve two purposes: 1) an inventory tool that portrays the relative value of the visual resources, and 2) a management tool that portrays the visual management objectives. The objective for a Class 1 “is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.” VRM Class 1 is assigned to



Boccard Point.

those areas where a management decision has been previously made to maintain a natural landscape. The CSNM ROD/RMP identified the Soda Mountain Wilderness Study Area (WSA) to be managed as VRM Class 1. The SMW, which incorporates the WSA would also be managed as VRM Class 1.

Valid Existing Rights

Public Law 111-011 (March 2009) designated the SMW “subject to valid existing rights” and stated that the “wilderness shall be administered in accordance with the Wilderness Act (Section 1405), but that “Nothing in this subtitle [Subtitle E]—...(5) affects the allocation, ownership, interest, or control, in existence on the date of enactment of this Act, of any water, water right, or any other valid existing right held by the United States, an Indian tribe, a State, or a private individual, partnership, or corporation.” Section 4(c) of the Wilderness Act identifies “existing private rights” as a special exception to the prohibition of certain uses described in that section. BLM Manual 8560.15A further states, “Private rights existing as of the date an area was designated as wilderness are recognized.”

Valid existing rights (VERs) may include a variety of BLM authorizations such as rights-of-way grants, leases, reciprocal agreements, and withdrawals. Table 2 lists VERs within the SMW. VERs would be managed in accordance with the terms and conditions associated with each individual agreement, lease, or right-of-way. The Federal Land Policy and Management Act (FLPMA) (1976) directs that all uses of the public lands be conducted so as to prevent unnecessary or undue degradation of the lands. In the SMW, this means that the BLM must manage the nonconforming uses associated with the VERs so as to prevent unnecessary or undue degradation of the area’s wilderness character.

Table 2. Valid Existing Rights within the Soda Mountain Wilderness.				
Legal Location	OR/ORE # or Certificate	Holder	Type of Use	Remarks
T40S, R3E and T41S, R3E	20544	Pacific Power and Light (PacifiCorp)	Transmission Line	Line 19 (115 kV)-east boundary of western portion of SMW.
T40S, R4E and T41S, R4E	24416	Pacific Power and Light (PacifiCorp)	Transmission Line	Line 59 (230 kV)-west boundary of eastern portion of SMW.
T40S, R2E, S25	64628	Maka Oyate Sundance Society	Event Permit	
T40S, R4E, S31	43005	S. Young	Water Line	Spring development requiring underground tank and pump.
T40S, R4E, S21	46135	J. Walt	Water Line	Water line provides for domestic use on private property.
T40S, R4E, S33 S34 and T41S, R4E, S3, S4	27964 27965	R. Taylor (originally Hamilton Fox)	Water Right	Point of diversion outside SMW. Point of use inside SMW.
T40S, R4E, S33 S34 and T41S, R4E, S3, S4	33815	R. Taylor (originally E. Wesley and V. A. Johnson)	Water Right	Point of diversion outside SMW. Point of use inside SMW.
T41S, R4E, S4	66041	R. Taylor (originally C. Taylor)	Water Right	Point of diversion outside SMW. Point of use inside SMW.

Access to Maintain Power Line Corridor

There are two existing electric power line corridors within the CSNM that serve as boundaries of the SMW (Map 16). These corridors were identified by the Western Regional Corridor Study (Clayton 1992) and recognized in the CSNM ROD/RMP as Agency Designated Corridors. Both corridors are occupied by existing authorized electrical transmission lines. The western corridor contains a local electrical transmission line (115 kV) known as Line 19, Copco 2-Prospect, and the eastern corridor contains a main grid electrical transmission line (230 kV) known as Line 59, Lone Pine-Klamath Falls. Line 19 was built in 1927 and Line 59 was constructed in 1958. The act establishing the SMW recognized the existence of these power line corridors and specifically excluded them from the wilderness area.

Maintenance, vegetation management, inspections, and emergency activities require the transport of equipment and vehicles to and from the site and within the rights-of-way corridors. The need for maintenance and access to these Agency Designated Corridors was affirmed in the CSNM ROD/RMP, “but may be subject to reasonable regulation to protect monument objects (USDI 2008, p. 115).”

Line 59, as a main grid facility greater than 200kV, is regulated by the Federal Energy Regulatory Commission (FERC). FERC requires aerial and ground annual inspections of the facility to insure appropriate vegetation clearances at all times. Cyclic maintenance is required to maintain vegetation clearances. Maintenance cycles are determined by the proximity of the vegetation to the facilities, the growth rates of the vegetation, the type of facility construction and the last maintenance cycle.

Activities necessary to maintain these power line rights-of-way can be grouped into four general categories:

- **Inspection:** Aerial patrols of the power line corridor are conducted in the spring and fall of each year to identify hazardous trees and vegetation growing near the transmission lines that could cause a major power outage or wildfire. Ground inspections using a four-wheel drive vehicle or off-highway vehicle (OHV) are conducted during the summer months due to winter access issues. Emergency aerial patrols during storms or when there is a loss of power to the transmission line may also occur.
- **Routine Maintenance:** Routine vegetation maintenance of the power line right-of-way (e.g., pruning trees or removing hazardous trees) typically occurs two times per year following aerial and ground inspections. The duration of the maintenance work depends on the amount of vegetation or facility issues found dur-

ing inspections. Typically, routine maintenance is accomplished by maintenance workers or a crew with a four-wheel drive vehicle, OHV, and chainsaws.

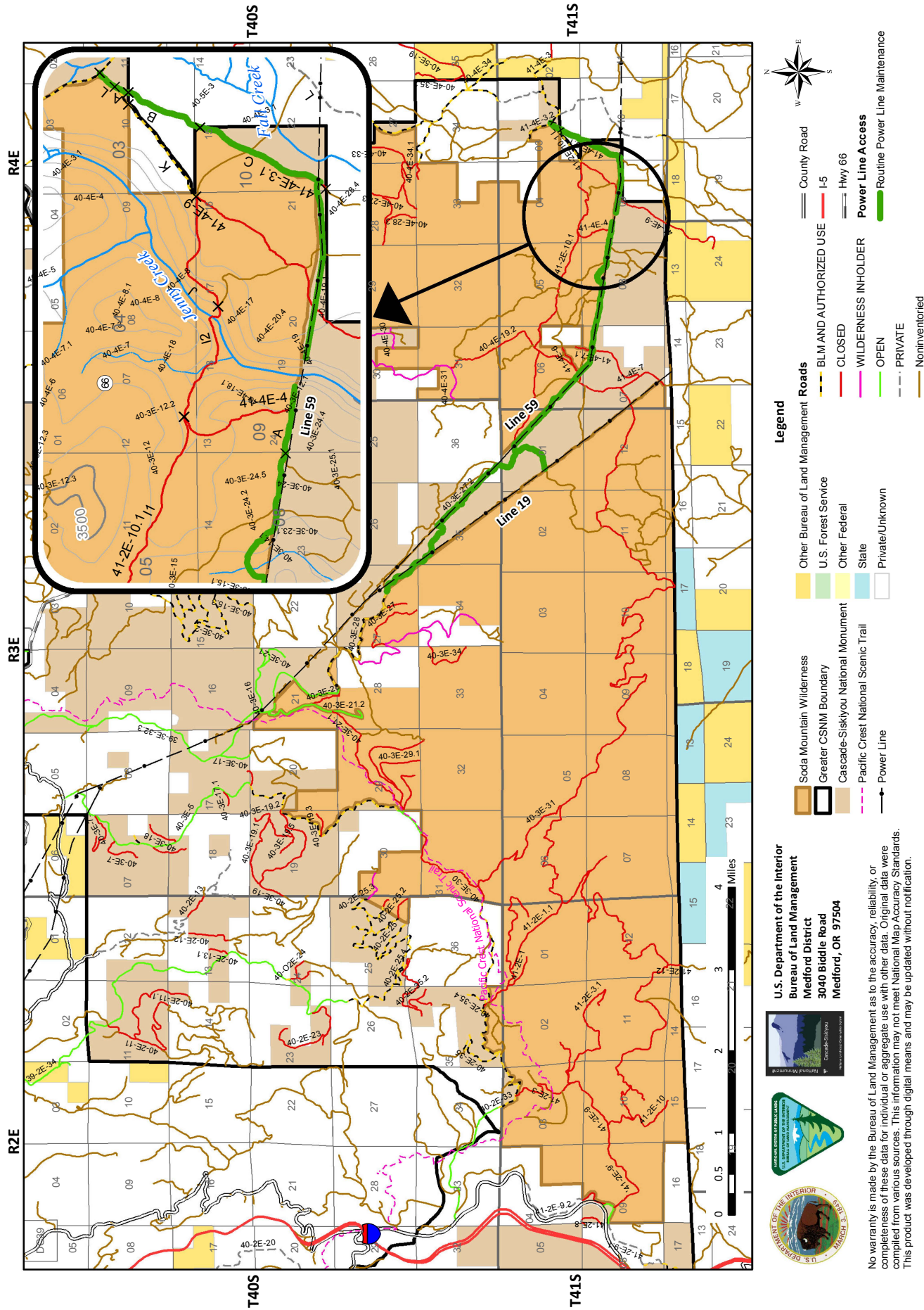
- **Heavy Maintenance:** Heavy maintenance includes large-scale vegetation management projects; maintenance of access routes in and outside right-of-way easements; and facility repair and maintenance. Large-scale vegetation management projects occur approximately every 20 years due to the re-growth of vegetation in the rights-of-way. Access route maintenance (i.e., vegetation removal and route maintenance) is performed every 10-15 years. Facility repair and maintenance requires ground and aerial patrols, pole test inspections, pole replacements, and facility damage repair. Facility repair and maintenance is completed as necessary based on inspections. Heavy maintenance projects may require the use of a vegetation mower or Slashbuster™ (a machine that removes and mulches vegetation), line trucks, pole trucks, crane, or other large utility vehicles.
- **Emergencies:** Periodically, access to the power lines is required to respond to emergencies including storms; slides; power outages; downed lines; trees falling on transmission lines; wildfires and fires caused by transmission lines; facility failure; and employee and contractor health and human safety.

Access to Lines 19 and 59 is limited by the area's terrain. In the past, numerous access routes and access points were used to reach all parts of the power line corridor. Some of these routes are located within what is now the SMW. Generally, the power line corridors can be accessed for maintenance, inspection and repair using the existing power line route located underneath the power line within the rights-of-way. There is one area along Line 59, however, that cannot be accessed by the larger maintenance equipment on the power line route (e.g., vegetation mowers, line trucks, pole trucks, etc.). The larger equipment is unable to negotiate ingress and egress along the rugged access route under the power lines. That area is currently accessed using existing roads within the wilderness.

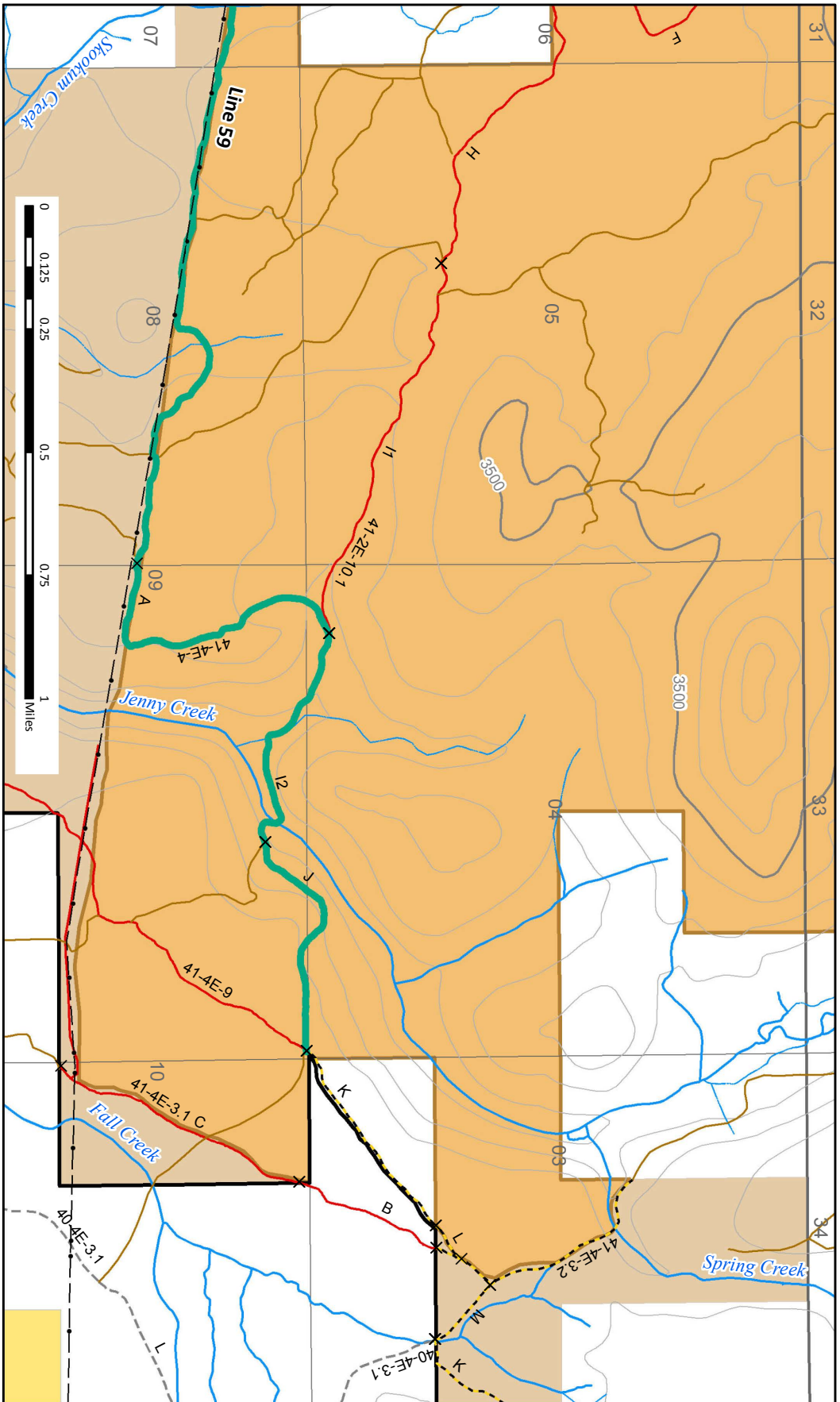
Alternative access routes that would avoid traversing edges and corners of the SMW would be neither reasonable nor practical with respect to the degree of new construction necessary, including major bridge work over Jenny Creek Canyon in T. 41 S., R. 4 E., Section 9 and Hartwell Draw, a tributary to Skookum Creek in T. 41 S., R. 4 E., Section 8. To avoid the SMW, the right-of-way holder would need a new access route in the CSNM that would require constructing a bridge across the Jenny Creek Canyon (approximately 200 feet vertical drop from the cliff edge to the bottom of Jenny Creek). The new bridge would require a span of approximately 600 feet and a smaller bridge would be required across Hartwell Draw. Approximately three miles of existing road would need to be reconstructed to a much higher standard to allow bridge construction equipment to access the sites from Copco Road. Aside from the significant economic cost associated with this bridge construction and major road reconstruction, there would be associated impacts to the objects of biological interest and other resource values for which the CSNM was proclaimed. In order to protect the biological objects and resources in the CSNM and provide adequate access that causes the briefest and most limited impacts on wilderness character, the following routes will be used to maintain the authorized transmission lines:

- The BLM will allow access of equipment and vehicles for routine maintenance, vegetation management, and inspections on the power line maintenance route located underneath the power line within the rights-of-way outside the wilderness, on the maintenance route that runs under the power line where it curves north into the wilderness to cross a tributary stream to Skookum Creek (Hartwell Draw), and outside the wilderness on Roads 41-4E-3.1 and 41-2E-10.1 L (Map 16).
- The BLM will allow access of larger equipment and vehicles needed for heavy maintenance and vegetation management or access during emergencies through the wilderness on Roads 41-2E-10.1 K, 41-2E-10.1 J, 41-2E-10.1 I2, 41-4E-4, and on the maintenance route that runs under the power line where it curves north into the wilderness to cross a tributary stream to Skookum Creek (Hartwell Draw) (Map 17).

Map 16. Access for Routine Maintenance, Vegetation Management, and Inspection of Power Lines



Map 17. Access for Heavy Maintenance, Vegetation Management, and Emergencies of Power Lines, T. 41 S., R. 4 E.



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Legend

Roads

- BLM AND AUTHORIZED USE
- CLOSED
- WILDERNESS INHOLDER
- OPEN
- PRIVATE
- Noninventoried

Power Line Access

- Heavy Power Line Maintenance



- Pacific Power is evaluating the viability of access outside the wilderness to Line 59 from California off the Camp Creek Road through private properties (Map 18) to determine if it would meet their maintenance and operational needs. If this access is adequate for their needs, Pacific Power may pursue easement acquisition through these private parcels. If adequate easements are obtained, access for vehicles and equipment through the wilderness on Roads 41-2E-10.1 K, 41-2E-10.1 J, 41-2E-10.1 I2, and 41-4E-4 may become unnecessary. Access on the maintenance route that runs under the power line where it curves north into the wilderness to cross a tributary stream to Skookum Creek (Hartwell Draw) would still be required.

Access for Inholders

BLM regulation 43 CFR 6301.5 defines “Inholding” as “State-owned or privately-owned land that is completely surrounded by Congressionally designated wilderness.” Section 5 of the Wilderness Act (1964) provides for adequate access to State and private land that “is completely surrounded by” public land “within areas designated by this Act as wilderness.”

BLM regulation 6305.10 addresses how access will be allowed to non-Federal inholdings. The BLM may grant access to inholdings by permit under 43 CFR 2920, using its administrative discretion to determine what access is adequate and causes the briefest and most limited impacts on wilderness character. The BLM will only approve the kind and degree of access that existed “on the date Congress designated the area surrounding the inholding as wilderness” and “will serve reasonable purposes for which the non-Federal lands are held or used...” The BLM does not allow construction of new access routes to wilderness inholdings (43 CFR 6305.10(d)). The BLM will not allow improvements or upgrades to access routes beyond the condition that existed on the date Congress designated the area as wilderness, unless the improvement would protect wilderness resources from degradation (43 CFR 6305.10(e)).

In order to reduce or eliminate the need to access State and private lands through wilderness, the BLM may “accept donation of the inholding;” may acquire the inholding by “exchange for federally owned land in the same State;” or “if the owner concurs, by purchase (43 CFR 6305.11).”

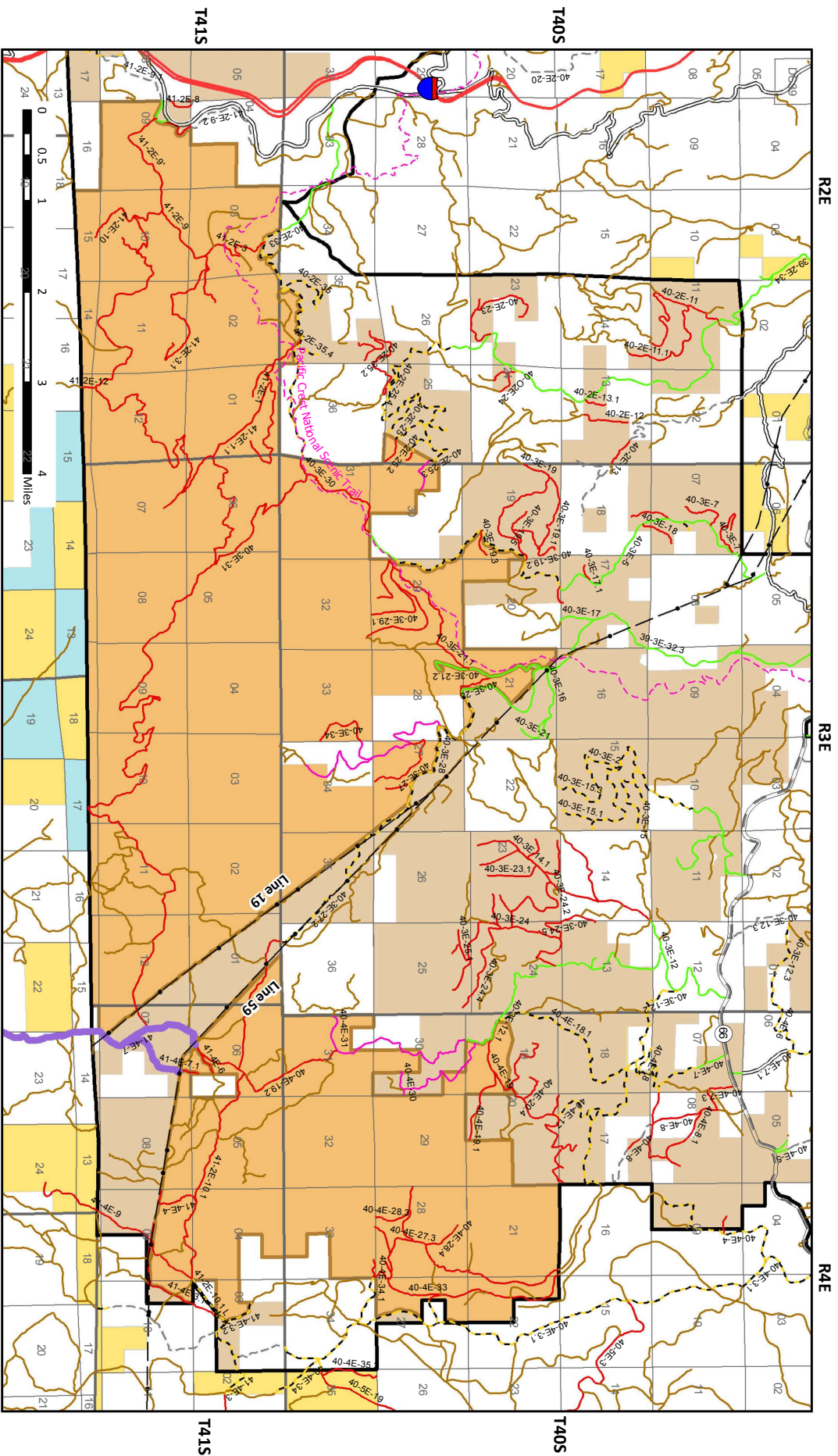
Within the SMW, there is only one parcel of private land (T. 40 S., R. 3 E., Section 34, NW¼ and W½SW¼) that is completely surrounded by wilderness. The BLM is currently in the process of acquiring this parcel. There are, however, several private parcels that are wilderness “edgeholdings,” surrounded on two or three sides by wilderness. The sides of these properties that are not adjacent to the SMW are adjacent to the CSNM or to other private property.

Most of these edgeholders have adequate access to their private property via existing roads that do not travel through the wilderness. There are two edgeholdings (the private parcel in the NW¼ of Section 31, T. 40 S., R. 4. E. and the one that is the E½ of Section 36, T. 40 S., R. 3 E.) where the only existing reasonable access is via BLM Roads 40-4E-19.2 and 40-4E-31 (Map 19).

The private parcel in the NW¼ of Section 31 is surrounded on three sides by the SMW. The north side of this parcel is adjacent to a private parcel in Section 30. The owner of this private parcel Section 30 has an existing legal right-of-way to their property that travels through the CSNM and a corner of the wilderness for approximately 0.24 miles on Road 40-4E-19.2. The BLM is currently in the process of acquiring this parcel in Section 30. To access the edgeholding in Section 31, the owner would use the same access route as their neighbor to the north (through the CSNM and a corner of the wilderness for approximately 0.24 miles on Road 40-4E-19.2). The only existing access to the edgeholding in Section 31 is through the wilderness and the monument, both with similar protective mandates, creating the functional equivalent of being surrounded on all sides by wilderness (once BLM acquires the private parcel above in Section 30), as applicable to 43 CFR 6503.10. This route is the access route that existed on the date Congress designated the SMW.

A slightly different scenario exists for the property owner in Section 36. He is surrounded on two sides by the SMW, one side by the CSNM, and the west side by numerous private property owners. This edgeholder has

Map 18. Potential Access through California to Power Lines



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Medford District
304Q Biddle Road
Medford, OR 97504

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tried unsuccessfully to obtain easements to cross the private properties to the west to access his parcel. The only reasonable access for the edgeholder in Section 36 would be to cross that same 0.24 miles on Road 40-4E-19.2 (as discussed above) plus an additional 0.23 miles further south on Road 40-4E-19.2 and 0.46 miles on Road 40-4E-31 within the wilderness, for a total travel length of 0.93 miles within the SMW. This route is the access route that existed on the date Congress designated the SMW.

The owners of the edgeholding in Section 31 typically access their property 8-10 times per year and the owner of the E½ of Section 36 typically accesses his property 15-20 times per year. Access is seasonal, generally May/June through October due to snow or wet road conditions during winter.

If these two private property owners were unable to use Roads 40-4E-19.2 and 40-4E-31 to access their property, they would likely pursue motorized access to their parcels through the CSNM. Under the CSNM ROD/RMP (USDI 2008), applications for rights-of-way to private property are considered on a case-by-case basis (TRANS-2, page 84 and VER-1, page 114). Approximately 1.5 to 2 miles of new road through the CSNM would potentially need to be constructed to access these two parcels if the existing access routes through the wilderness were not approved and BLM granted a road right-of-way through the CSNM. The CSNM was reserved to protect objects of biological interest and in the CSNM ROD/RMP, road density was identified as a primary management concern in terms of protecting monument resources. Roads have the potential to impact wildlife and aquatic species and habitats; impair hydrologic function; introduce and spread non-native invasive species; reduce site productivity; and increase sediment production.

In the specific case of these two edgeholdings, there is no other reasonable access outside the wilderness and it is not desirable to build new road within the CSNM and potentially impact objects of biological interest. Since they are effectively surrounded by two protective NLCS units (CSNM and SMW), these two private parcels will be treated as the functional equivalent of wilderness inholdings under the wilderness regulations and the BLM will issue authorization under 43 CFR 2920 with terms and conditions allowing for continued infrequent use of the access routes to these parcels that existed at the time the SMW was designated (March 30, 2009).

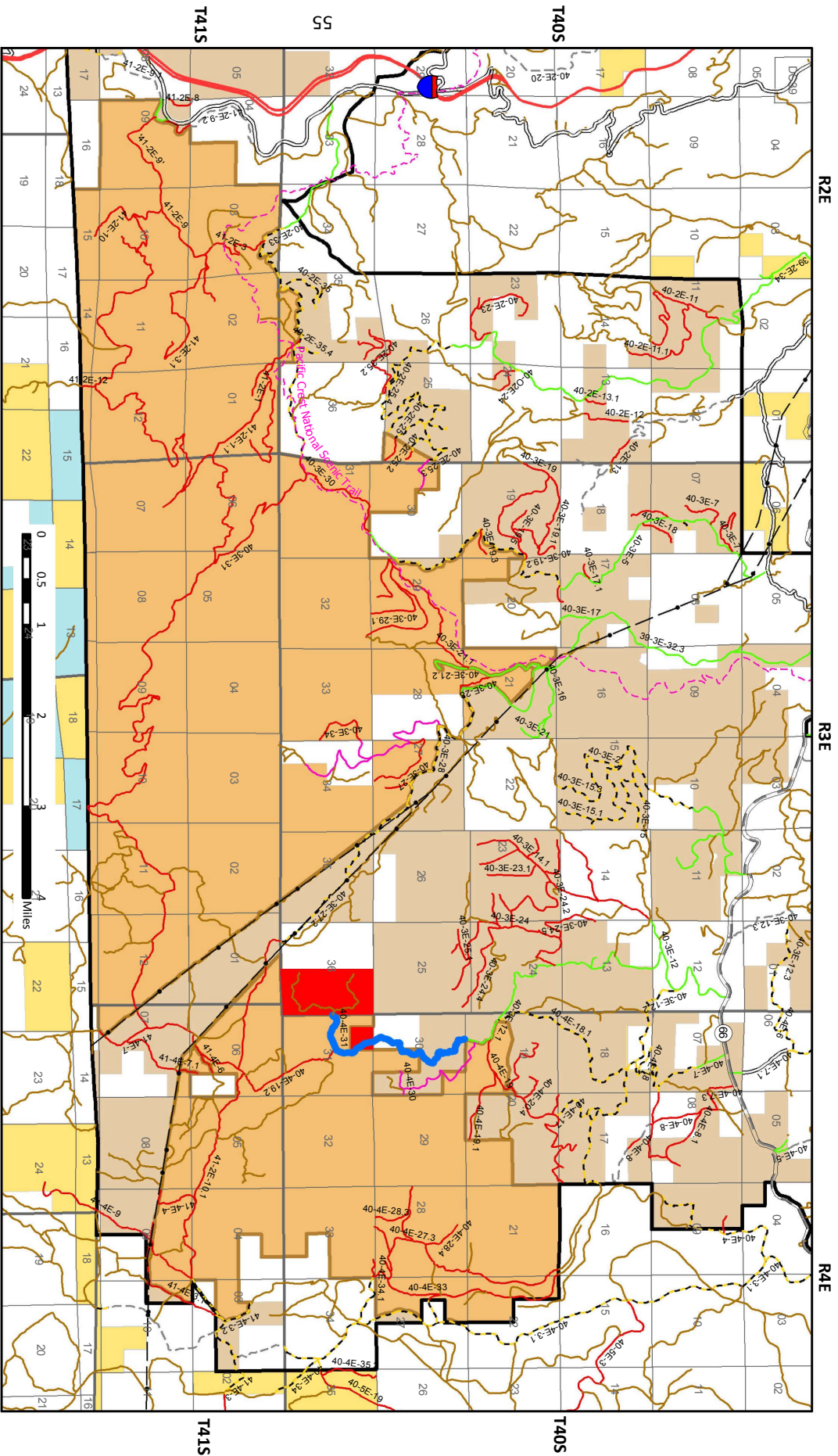
- To access the private property in the NW¼ of Section 31, T. 40 S., R. 4 E., W.M., the owner will be granted authorization under 43 CFR 2920 to travel through a corner of the SMW for approximately 0.24 miles on Road 40-4E-19.2 (Map 19).
- To access the private property in the E½ of Section 36, T. 40 S., R. 3 E., W.M., the owner will be granted authorization under 43 CFR 2920 to travel through a corner of the SMW for approximately 0.24 miles on Road 40-4E-19.2 and through another corner of the SMW further south on Road 40-4E-19.2 for approximately 0.23 miles and approximately 0.46 miles on Road 40-4E-31, for a total travel length of 0.93 miles within the SMW (Map 19).
- The BLM would not allow improvement of these access routes to a condition more highly developed than that which existed at the time the SMW was designated, except such improvements determined by the BLM to be necessary to protect wilderness resources from degradation (43 CFR 6305.10(e)).
- To potentially eliminate the need to use the wilderness to access these two parcels, the BLM would follow wilderness regulation 43 CFR 6305.11(b) and pursue acquisition of these edgeholdings.

Administrative and Emergency Functions

Administrative and emergency functions are exceptions to the prohibitions in Section 4(c) of the Wilderness Act:

Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

Map 19. Access for Private Parcels (Edgeholdings) Surrounded by the SMW and the CSNM



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- Soda Mountain Wilderness
- Other Bureau of Land Management
- U.S. Forest Service
- Other Federal
- State
- Private/Unknown

- County Road
- I-5
- Hwy 66
- BLM AND AUTHORIZED USE
- CLOSED
- WILDERNESS INHOLDERS
- OPEN
- PRIVATE
- Noninventoried



The BLM carries out administrative and emergency functions in accordance with BLM regulation 43 CFR 6303.1 and Policy Manual 8560.

As necessary to meet minimum requirements for the administration of the wilderness area, BLM may:

- (a) Use, build, or install temporary roads, motor vehicles, motorized equipment, mechanical transport, structures or installations, and land aircraft, in designated wilderness;
- (b) Prescribe conditions under which other Federal, State, or local agencies or their agents may use, build, or install such items to meet the minimum requirements for protection and administration of the wilderness area, its resources and users;
- (c) Authorize officers, employees, agencies, or agents of the Federal, State, and local governments to occupy and use wilderness areas to carry out the purposes of the Wilderness Act or other Federal statutes; and
- (d) Prescribe measures that may be used in emergencies involving the health and safety of persons in the area, including, but not limited to, the conditions for use of motorized equipment, mechanical transport, aircraft, installations, structures, rock drills, and fixed anchors. BLM will require any restoration activities that we find necessary to be undertaken concurrently with the emergency activities or as soon as practicable when the emergency ends.

BLM regulation 43 CFR 6304.22 describes the special provisions that apply to control of fire, insects, and diseases as follows:

BLM may prescribe measures to control fire, noxious weeds, non-native invasive plants, insects, and diseases. BLM may require restoration concurrent with or as soon as practicable upon completion of such measures.

These regulations provide guidance for managing administrative and emergency functions within the wilderness to meet minimum requirements for the administration of the area for the purpose of the Wilderness Act, yet provide enough flexibility to not hamper emergency personnel nor place life and property at undue risk.

Non-Native Invasive Species

One of the primary concerns throughout the CSNM, including the SMW, is the proliferation of weeds across the landscape especially in the Diversity Emphasis Area (DEA) (USDI 2008). Spatial analysis from data gathered during various vegetation surveys indicates that weeds are associated with roads, sites of acute disturbance (past timber harvest, pastures and other tilled areas), and areas of high livestock utilization. Some of the major ecological problems associated with grass/shrub/woodlands involve annual grasses, yellow starthistle and Canada thistle displacing the native bunchgrasses, herbs, and forbs found in the SMW.

Pre-disturbance (livestock grazing allotment renewal) surveys have documented 367 noxious weeds infestations covering 697 acres in the SMW (GeoBOB database, USDI BLM 2011). However, many of the occurrences in the BLM database are small patches close in proximity to each other and could be construed as larger, lower density infestations. The Oregon Department of Agriculture (ODA) defines “noxious weed” as any plant classified by the Oregon State Weed Board that is injurious to public health, agriculture, recreation, wildlife, or any public or private property. However, there are many species that qualify as non-native invasive species (NNIS) that are not listed by the ODA as “noxious weeds.” This includes, but is not limited to: Cheatgrass (*Bromus tectorum*), Bulbous bluegrass (*Poa bulbosa*), Hedgehog dogtail (*Cynosurus echinatus*) and Hairy mullein (*Verbascum thapsus*). All NNIS degrade plant communities by outcompeting native vegetation and degrading wildlife habitat. The Medford BLM currently conducts noxious weed control by implementing activities authorized under the Medford District Integrated Weed Management Plan and Environmental Assessment (EA #OR-110-98-14) (USDI 1998). One primary limitation of this document is the restriction against spraying herbicides on any plants not listed by the ODA as noxious weeds. However, an environmental assessment is currently in progress that may allow herbicide use on all NNIS, and allow new, more selective and less environmentally harmful herbicides to be used.

Yellow starthistle (*Centaurea solstitialis*) occurs primarily in the southern region (DEA) and along roads at exposed, sunny areas. Canada thistle (*Cirsium canadensis*) occurs primarily in the northern region (OGEA) along roads, in riparian areas and uplands. Approximately 500 acres (480 by herbicide spot spraying and 20 by hand-pulling) have been treated by contractors annually within the SMW for the past few years. This includes 175 acres of Canada thistle (herbicide spot spray only) and 325 acres (305 acres of spot spraying, 20 acres of hand-

pulling) of yellow starthistle treatment. Dyer's woad (*Isatis tinctoria*) has been substantially reduced on 10-30 acres annually by handpulling (depending on location and density) in the former Box O pasture and surrounding hillsides or in Agate Flat by BLM personnel.

A strategy for controlling the spread of NNIS (weeds) was developed and approved for the monument (CSNM ROD/RMP 2008, Appendix F). Weeds within the SMW are treated using the framework provided in this strategy.

The general management strategy in Appendix F of the CSNM ROD/RMP incorporates aspects of vegetation management and weed control:

- Maintain healthy herbaceous plant communities as a barrier to weed invasions.
- Improve condition of stands that have a mixture of weeds and remnant native herbaceous species.
- Eradicate and restore small isolated weed patches to native herbaceous plant domination.
- Survey and treat primary travel corridors (trails, former vehicle routes) that serve as vectors for weed spread.
- Isolate and treat large extensive weed areas.
- Implement a long-term restoration/management plan for extensively weedy areas.

To achieve this, active weed management will occur to prevent, control, or eradicate small patches of weeds from the native plant communities within the wilderness.

- Activities that facilitate the introduction or spread of non-native species will be scrutinized to determine if the activity should be disallowed, or if special stipulations will be satisfactory to mitigate the activity.
- As is required on all public lands within Oregon, animal stock must be fed certified weed-free feed (Instruction Memorandum OR-2011-019).
- Other cultural practices may be employed including avoidance of weed infested areas or seasonal closures.
- Where non-native plants are found, emphasis will be placed on controlling small infestations that may spread and displace native plants, or other NNIS that may disrupt ecosystem function.
- As part of an integrated strategy, weed treatment will focus on reducing infestation size and density, with the ultimate goal of localized eradication.
- Treatment activities will utilize the current knowledge of effective treatment methods and treatment strategies appropriate for the target plant and compatible with the wilderness setting.
- The level of treatment intensity and the minimum tool necessary will be determined prior to site-specific weed treatment activities.
- Available treatment methods include:
 - Hand pulling/grubbing with or without hand tools if plants will not resprout and where infestations are of a size manageable by small hand crews (this may occur concurrent with monitoring).
 - Spot treatment using herbicide spraying applied primarily by backpack equipment, or possibly with the use of horse pack spraying equipment, in accordance with a site-specific pesticide use proposal, when pulling/grubbing is not effective. This treatment intensity level may include the use of hand tools to cut plants down prior to treatment.
 - Biological control agents approved by the Animal and Plant Health Inspection Service (APHIS) where infestations are of such size that eradication is not feasible.
- Cultural practices such as seeding weed control areas lacking native vegetation and/or disturbed areas such as road restoration/culvert removal sites; requiring animal stock to be fed certified weed-free feed as per Instruction Memorandum OR-2011-019; spreading weed-free straw or native hay on disturbed sites for erosion control; washing vehicle undercarriages (vehicles associated with restoration work) may be incorporated as needed.

Terrestrial and Aquatic Wildlife Transplants

Native species transplants (removal, reintroduction, augmentation) may be permitted on a case-by-case basis to assist in recovery of threatened or endangered species or to restore a population of native species that had been eliminated or reduced by human influence. Federally listed threatened or endangered species will have priority in reintroduction efforts.

- Reintroductions would be conducted in a manner compatible with the wilderness objectives and in coordination with responsible agencies.
- Activities causing habitat degradation, or are otherwise adversely affecting the stressed population, would be reduced or suspended prior to reintroduction.
- Transplant actions may be supported by motorized or mechanized equipment where it is the minimum necessary for the administration of the area as wilderness as determined by the BLM. Staging would occur outside the wilderness boundary. Timing would consider visitor use of the area and whenever possible, would be scheduled during periods when visitor use is low (e.g., weekdays).
- Removal of non-native species would be considered to protect native species or habitat inside the wilderness and to promote ecological balance.

Science, Research and Monitoring

Conducting basic and specific inventory, monitoring, and research is important to wilderness management and preservation. By allowing research activities in the wilderness, the BLM would be able to protect wilderness resources using the best possible information. The wilderness is available for this activity. The final rule in 43 CFR 6302.16 (*Federal Register*, Volume 65, Number 241 (December 14, 2000)) provides that for scientific information gathering in a wilderness area in the following manner:

- Similar research opportunities must not be reasonably available elsewhere;
- The activity must be compatible with wilderness preservation and the pertinent BLM management plan;
- Ground disturbance and use of motorized equipment and mechanical transport, including the landing of aircraft must be minimized;
- The activity must be authorized by BLM before initiation;
- Disturbed areas must be reclaimed; and
- BLM may require a bond be posted.

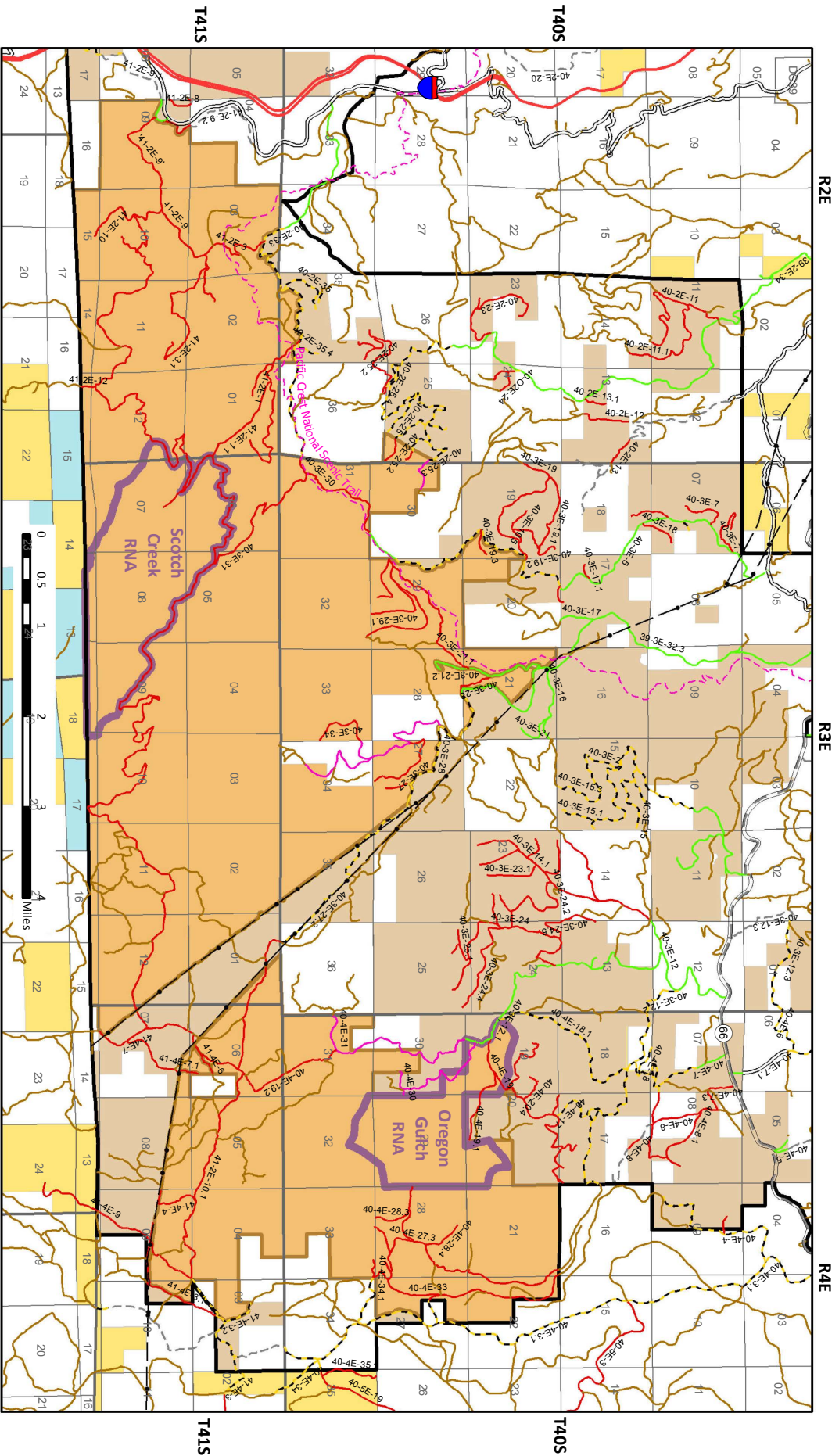
Possible research activities span the spectrum from benign to causing great concern in terms of impacts to wilderness character. Science and research proposals submitted by other agencies, non-governmental organizations, or individual researchers would be carefully reviewed by the BLM. From a wilderness perspective, there are two general classes of concerns from possible research activities. The first class would be activities that are prohibited in wilderness by Section 4(c) of the Wilderness Act, except if these activities can be shown as “necessary to meet minimum requirements for administration of the area for the purpose of this Act,” which is to preserve wilderness character. These prohibited activities include the use of motor vehicles, motorized equipment, mechanical transport, installations, structures, landing of aircraft, and temporary roads.

The second class of concerns would be those research activities that degrade wilderness character even though they are not prohibited by Section 4(c) of the Wilderness Act. For example, releasing a biological control agent, even if no motors, installations, or mechanical transport are involved, clearly manipulates the “community of life” inside wilderness and therefore, degrades the untrammelled quality of wilderness. Similarly, if the biological agent was a non-indigenous species then the natural quality would also be degraded.

Research Natural Areas

There are two Research Natural Areas (RNAs) within the SMW: Scotch Creek and Oregon Gulch (Map 20). The Scotch Creek RNA is approximately 1,800 acres and is located in the western portion of the SMW along Scotch Creek, a tributary of the Klamath River that flows into Iron Gate Reservoir through the Horseshoe Ranch Wildlife Area (California Department of Fish and Game and Redding Field Office, BLM). The Scotch Creek RNA was established for scientific research and as a baseline study area for rosaceous chaparral vegetation represented in the area.

Map 20. Research Natural Areas Within the Soda Mountain Wilderness



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Medford, OR 97504

Legend

- Soda Mountain Wilderness
- Other Bureau of Land Management
- U.S. Forest Service
- Other Federal
- State
- Private/Unknown
- Cascade-Siskiyou National Monument
- Pacific Crest National Scenic Trail
- Powerline
- County Road
- BLM AND AUTHORIZED USE
- CLOSED
- WILDERNESS IN-HOLDER
- PRIVATE
- Noninventoried
- Hwy 66
- RNAs

The Oregon Gulch RNA is approximately 1,056 acres and is located in the eastern portion of the SMW along the slopes and bottom of Oregon Gulch in the Jenny Creek Watershed. The Oregon Gulch RNA was established in recognition of its mixed conifer forest dominated by Douglas-fir and ponderosa pine with large scattered sugar pine and incense cedar also prominent in the overstory. The area also includes several rare species: Greene's mariposa lily (*Calochortus greenei*), Howell's false-caraway (*Perideridia howellii*), and Bellinger's meadow-foam (*Limnanthes bellingeriana*).

Management plans for both RNAs were approved in the CSNM ROD/RMP (USDI 2008, Appendices K and L). The approved management plans for these two RNAs are still applicable even though both RNAs are now entirely within the SMW. Wilderness users are allowed to visit the RNAs subject to the following restrictions:

- Animal stock use will not be allowed in the RNAs, except by individuals who demonstrate a physical need for stock use. Physical need could be demonstrated by an individual's prior and present possession of a valid "disabled person parking permit" issued by a state Department of Motor Vehicles agency. With prior BLM authorization, saddle stock day use by disabled individuals will be allowed in the two RNAs. Prior authorization can be attained by the disabled person submitting a copy of his/her disabled parking permit to the BLM; upon approval, the BLM will keep this permit on file.
- Camping is not allowed in the RNAs.
- Geocaching (physical and virtual) is not allowed in RNAs.
- Animal trapping is not allowed in the RNAs.

Collections

For information gathering and resource collection or disturbance not related to scientific research, section 6302.15 requires the activity to be:

- Non-commercial as required by section 4(c) of the Wilderness Act;
- Characterized by methods that preserve the wilderness environment; and
- Either in conformance with the pertinent BLM management plan (see Collections/Special Forest Products section of the CSNM ROD/RMP, page 111) or specially authorized by BLM.

MONITORING

In the previous sections of this plan, management objectives for the wilderness are established and management actions designed to achieve those objectives are described. The monitoring plan tracks the outcome of those activities on five qualities of wilderness character.

Wilderness character encompasses a combination of biophysical, experiential, and symbolic elements as described by five principal qualities defined in the Wilderness Act. The combination of these qualities distinguish wilderness from all other lands. These five qualities are of equal importance to one another and are defined as:

- Untrammeled – wilderness is unhindered and free from modern human control or manipulation.
- Outstanding opportunities for solitude or a primitive and unconfined type of recreation – wilderness provides opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.
- Undeveloped – wilderness is substantially without permanent developments or modern human occupation.
- Natural – wilderness ecological systems, being affected primarily by the forces of nature, retain their primeval character and influence substantially free from the effects of modern human civilization.
- Unique/Supplemental – wilderness may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

A single activity is likely to have an effect on several qualities, even though the purpose of the activity is to affect only one quality of wilderness character. A single activity may improve one quality of wilderness character while diminishing another. For example, an activity such as weed control, which is intended to restore natural conditions over the long-term, may diminish the untrammeled condition of the wilderness in the short-term. These

two separate outcomes, the effectiveness on improving “natural” and the side effect of diminishing “untrammelled,” would be monitored separately.

Since activities may affect several qualities, separate activities undertaken for different purposes, may cumulatively diminish one of the same qualities of wilderness character. For example, a trail might be designated to control visitor impacts on vegetation. In the same vicinity, a fence may be constructed around a spring to protect it from damage by horses. Though the two activities are unrelated, both activities have an effect on the “undeveloped” quality of wilderness character. Monitoring the effects of single activities to multiple qualities of wilderness character will improve understanding of cumulative effects.

Effects of intentional, unintentional, and unauthorized activities will all be captured under the monitoring system. The monitoring program will provide a greater understanding of the overall and specific condition of the wilderness by allowing for quantitative and qualitative assessment of the five qualities of wilderness character (untrammelled, natural, undeveloped, solitude or primitive and unconfined recreation, and unique/supplemental characteristics). Documented trend changes in any of the wilderness qualities, whether caused by natural events or authorized or unauthorized anthropogenic activities will alert wilderness managers of the need to initiate corrective actions, or adapt management practices to new situations. Monitoring will also provide wilderness managers with more complete information which will improve the evaluation of future proposed activities. The monitoring would not be used to compare this wilderness with other wilderness areas in the National Wilderness Preservation System, but to track the conditions and changes within the wilderness itself.

Monitoring will occur as funding, staffing, and volunteer capabilities allow. The monitoring plan for the SMW follows the frameworks outlined in *Measuring Attributes of Wilderness Character*, BLM Implementation Guide Version 1.4 (USDI 2011), and *Keeping it Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System* (USDA 2008). Details of the plan, including which metrics will be measured for assessment of each of the five wilderness characteristics, how databases will be managed, and how information will be disseminated is presented in Appendix E of this document. All field reports, photographs, and monitoring data will be maintained in the wilderness files at the BLM’s Medford District, Ashland Resource Area.

PLAN EVALUATION

The plan will be revised when the management actions prescribed no longer meet the wilderness management objectives, or when a change in the existing situation warrants revised management. The need for revision will be reviewed every 10 years as funding and staffing capabilities are available. If the decision is made to revise the plan it will be accomplished with public participation. Minor revisions such as typographical or cartographical errors will be made by inserting an errata sheet.

PLAN IMPLEMENTATION SEQUENCE

Management of the Soda Mountain Wilderness will be carried out in accordance with this plan under the direction of the Medford BLM wilderness staff. Other BLM staff, contractors, and volunteers may be called upon for support or subject expertise. Four types of management activities may occur: 1) ongoing activities carried out through the life of the plan; 2) activities that will be implemented as special projects at the beginning of the plan; 3) management activities triggered by changes in conditions as detected through monitoring; and, 4) activities that may be proposed in the future for which general guidance exists in the plan, or that may not be addressed in the plan. The following list shows the priority sequence for accomplishing management activities of the plan. The actual implementation could be altered based on funding and staff or volunteer availability outside the control of this plan.

Ongoing Activities

- Maintenance of boundary signs.
- Trail maintenance.
- Trailhead and vehicle access point maintenance.

- Wilderness monitoring:
- Visitor use monitoring.
- Natural resource monitoring.
- Trail condition monitoring.
- All other wilderness character monitoring.
- Visitor information and education dissemination.
- Non-native invasive species monitoring and control.
- Valid existing rights compliance monitoring.

Special Projects

In order of priority:

- Restoration:
 - Former vehicle routes.
 - Water developments, including the recreational water source at Bean Cabin.
 - Former range improvements.
 - Removal of human effects, including unnecessary structures and installations.
- Roads to trails conversions.
- Reroute of Pilot Rock Trail.
- Trailhead development.
- Signs:
 - Resource protection signs.
 - Trailhead and vehicle access point wilderness information signs.
 - Trail markers.
 - Off-site kiosks.
- Development of interpretation and education materials.

Changing Conditions

- Rehabilitation:
 - New visitor impacts.
 - Fire suppression rehabilitation.
 - Motorized/mechanized vehicle trespass.
- Trail maintenance and stabilization.
- Management of social conditions:
 - Visitor use requirements.
 - Group size.
- Fire suppression.
- Non-native invasive species control.

Potential Future Proposals

- Acquisition of “edgeholdings.” To eliminate the need to use the wilderness to access these two parcels (see Motorized/Mechanized Access for Inholders section), the BLM would follow wilderness regulation 43 CFR 6305.11(b) and pursue acquisition of these edgeholdings through exchange or purchase from willing sellers.
- Special Recreation Permits.
- Wildlife projects.
- Science, research, or monitoring.

Actions that require a use prohibited by Section 4(c) of the Wilderness Act and are not fully described and analyzed in the wilderness plan, or other actions that are not adequately described and analyzed require separate environmental analysis and appropriate public involvement opportunities.

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APPENDICES

Appendix A: Public Law No. 111-11, Section 1405 A-1
Appendix B: Presidential Proclamation 7318 B-1
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Appendix A
Excerpt from the Omnibus Public Lands Management Act of 2009
Public Law No. 111-11, Section 1405

16 USC 1132
note.

SEC. 1405. SODA MOUNTAIN WILDERNESS.

(a) **DESIGNATION.**—In accordance with the Wilderness Act (16 U.S.C. 1131 et seq.), approximately 24,100 acres of Monument land, as generally depicted on the wilderness map, is designated as wilderness and as a component of the National Wilderness Preservation System, to be known as the “Soda Mountain Wilderness”.

(b) **MAP AND LEGAL DESCRIPTION.**—

(1) **SUBMISSION OF MAP AND LEGAL DESCRIPTION.**—As soon as practicable after the date of enactment of this Act, the Secretary shall file a map and legal description of the Wilderness with—

(A) the Committee on Energy and Natural Resources of the Senate; and

(B) the Committee on Natural Resources of the House of Representatives.

(2) **FORCE AND EFFECT.**—

(A) **IN GENERAL.**—The map and legal description filed under paragraph (1) shall have the same force and effect as if included in this subtitle, except that the Secretary may correct any clerical or typographical error in the map or legal description.

(B) **NOTIFICATION.**—The Secretary shall submit to Congress notice of any changes made in the map or legal description under subparagraph (A), including notice of the reason for the change.

(3) **PUBLIC AVAILABILITY.**—The map and legal description filed under paragraph (1) shall be on file and available for public inspection in the appropriate offices of the Bureau of Land Management.

(c) **ADMINISTRATION OF WILDERNESS.**—

(1) **IN GENERAL.**—Subject to valid existing rights, the Wilderness shall be administered by the Secretary in accordance with the Wilderness Act (16 U.S.C. 1131 et seq.), except that—

(A) any reference in the Wilderness Act to the effective date of the Wilderness Act shall be considered to be a reference to the date of enactment of this Act; and

(B) any reference in that Act to the Secretary of Agriculture shall be considered to be a reference to the Secretary of the Interior.

(2) **FIRE, INSECT, AND DISEASE MANAGEMENT ACTIVITIES.**—Except as provided by Presidential Proclamation Number 7318, dated June 9, 2000 (65 Fed. Reg. 37247), within the wilderness areas designated by this subtitle, the Secretary may take such measures in accordance with section 4(d)(1) of the Wilderness Act (16 U.S.C. 1133(d)(1)) as are necessary to control fire, insects, and diseases, subject to such terms and conditions as the Secretary determines to be desirable and appropriate.

(3) **LIVESTOCK.**—Except as provided in section 1402 and by Presidential Proclamation Number 7318, dated June 9, 2000 (65 Fed. Reg. 37247), the grazing of livestock in the Wilderness, if established before the date of enactment of this Act, shall be permitted to continue subject to such reasonable regulations as are considered necessary by the Secretary in accordance with—

(A) section 4(d)(4) of the Wilderness Act (16 U.S.C. 1133(d)(4)); and

(B) the guidelines set forth in Appendix A of the report of the Committee on Interior and Insular Affairs of the House of Representatives accompanying H.R. 2570 of the 101st Congress (H. Rept. 101-405).

(4) FISH AND WILDLIFE MANAGEMENT.—In accordance with section 4(d)(7) of the Wilderness Act (16 U.S.C. 1133(d)(7)), nothing in this subtitle affects the jurisdiction of the State with respect to fish and wildlife on public land in the State.

(5) INCORPORATION OF ACQUIRED LAND AND INTERESTS.—Any land or interest in land within the boundary of the Wilderness that is acquired by the United States shall—

(A) become part of the Wilderness; and

(B) be managed in accordance with this subtitle, the Wilderness Act (16 U.S.C. 1131 et seq.), and any other applicable law.

Appendix B

Presidential Proclamation 7318

June 9, 2000

ESTABLISHMENT OF THE CASCADE-SISKIYOU NATIONAL MONUMENT
BY THE PRESIDENT OF THE UNITED STATES OF AMERICA
A PROCLAMATION

With towering fir forests, sunlit oak groves, wildflower-strewn meadows, and steep canyons, the Cascade-Siskiyou National Monument is an ecological wonder, with biological diversity unmatched in the Cascade Range. This rich enclave of natural resources is a biological crossroads -- the interface of the Cascade, Klamath, and Siskiyou ecoregions, in an area of unique geology, biology, climate, and topography.

The monument is home to a spectacular variety of rare and beautiful species of plants and animals, whose survival in this region depends upon its continued ecological integrity. Plant communities present a rich mosaic of grass and shrublands, Garry and California black oak woodlands, juniper scablands, mixed conifer and white fir forests, and wet meadows. Stream bottoms support broad-leaf deciduous riparian trees and shrubs. Special plant communities include rosaceous chaparral and oak-juniper woodlands. The monument also contains many rare and endemic plants, such as Greene's Mariposa lily, Gentner's fritillary, and Bellinger's meadowfoam.

The monument supports an exceptional range of fauna, including one of the highest diversities of butterfly species in the United States. The Jenny Creek portion of the monument is a significant center of fresh water snail diversity, and is home to three endemic fish species, including a long-isolated stock of redband trout. The monument contains important populations of small mammals, reptile and amphibian species, and ungulates, including important winter habitat for deer. It also contains old growth habitat crucial to the threatened Northern spotted owl and numerous other bird species such as the western bluebird, the western meadowlark, the pileated woodpecker, the flammulated owl, and the pygmy nuthatch.

The monument's geology contributes substantially to its spectacular biological diversity. The majority of the monument is within the Cascade Mountain Range. The western edge of the monument lies within the older Klamath Mountain geologic province. The dynamic plate tectonics of the area, and the mixing of igneous, metamorphic, and sedimentary geological formations, have resulted in diverse lithologies and soils. Along with periods of geological isolation and a range of environmental conditions, the complex geologic history of the area has been instrumental in producing the diverse vegetative and biological richness seen today.

One of the most striking features of the Western Cascades in this area is Pilot Rock, located near the southern boundary of the monument. The rock is a volcanic plug, a remnant of a feeder vent left after a volcano eroded away, leaving an out-standing example of the inside of a volcano. Pilot Rock has sheer, vertical basalt faces up to 400 feet above the talus slope at its base, with classic columnar jointing created by the cooling of its andesite composition.

The Siskiyou Pass in the southwest corner of the monument contains portions of the Oregon/California Trail, the region's main north/south travel route first established by Native Americans in prehistoric times, and used by Peter Skene Ogden in his 1827 exploration for the Hudson's Bay Company.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 43 1), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Cascade-Siskiyou National Monument:

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 43 1), do proclaim that there are hereby set apart and reserved as the Cascade-Siskiyou National Monument, for the purpose of protecting the objects identified above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the map entitled "Cascade-Siskiyou National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 52,000 acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.

There is hereby reserved, as of the date of this proclamation and subject to valid existing rights, a quantity of water sufficient to fulfill the purposes for which this monument is established. Nothing in this reservation shall be construed as a relinquishment or reduction of any water use or rights reserved or appropriated by the United States on or before the date of this proclamation.

The commercial harvest of timber or other vegetative material is prohibited, except when part of an authorized science-based ecological restoration project aimed at meeting protection

and old growth enhancement objectives. Any such project must be consistent with the purposes of this proclamation. No portion of the monument shall be considered to be suited for timber production, and no part of the monument shall be used in a calculation or provision of a sustained yield of timber. Removal of trees from within the monument area may take place only if clearly needed for ecological restoration and maintenance or public safety.

For the purpose of protecting the objects identified above, the Secretary of the Interior shall prohibit all motorized and mechanized vehicle use off road and shall close the Schoheim Road, except for emergency or authorized administrative purposes.

Lands and interests in lands within the monument not owned by the United States shall be reserved as a part of the monument upon acquisition of title thereto by the United States.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management, pursuant to applicable legal authorities (including, where applicable, the Act of August 28, 1937, as amended (43 U.S.C. 11 8 la-I 18 lj)), to implement the purposes of this proclamation.

The Secretary of the Interior shall prepare, within 3 years of this date, a management plan for this monument, and shall promulgate such regulations for its management as he deems appropriate. The management plan shall include appropriate transportation planning that addresses the actions, including road closures or travel restrictions, necessary to protect the objects identified in this proclamation.

The Secretary of the Interior shall study the impacts of livestock grazing on the objects of biological interest in the monument with specific attention to sustaining the natural ecosystem dynamics. Existing authorized permits or leases may continue with appropriate terms and conditions under existing laws and regulations. Should grazing be found incompatible with protecting the objects of biological interest, the Secretary shall retire the grazing allotments pursuant to the processes of applicable law. Should grazing permits or leases be relinquished by existing holders, the Secretary shall not reallocate the forage available under such permits or for livestock grazing purposes unless the Secretary specifically finds, pending the outcome of the study, that such reallocation will advance the purposes of the proclamation.

The establishment of this monument is subject to valid existing rights.

Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Oregon with respect to fish and wildlife management.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ninth day of June, in the year of our Lord two thousand, and of the Independence of the United States of America the two hundred and twenty-fourth.

WILLIAM J. CLINTON

Appendix C

Fire Suppression Guidelines

Minimum Impact Suppression Tactics

Implementation Guidelines

Fire Lining Phase

- Select procedures, tools, and equipment that least impact the environment.
- Whenever possible utilize existing barriers such as rock outcrops, talus slopes, sparsely or non-vegetated areas, and trails as control line locations.
- Give serious consideration to the use of water as a firelining tactic.
- If there is a risk that hose coming direct from a local unit's cache is contaminated with noxious weed seeds, order fresh hose from the regional cache.
- Resource Advisors, Operations Chief, and Logistics Chief should be cognizant of any equipment that is being moved from a non-wilderness fire to a wilderness fire and make attempts to clean equipment of noxious weed seeds prior to it being used in the wilderness.
- In light fuels consider:
 - Cold-trail line. Constantly recheck.
 - Allowing fire to burn to natural barriers.
 - Burn out and the use of a "gunny" sack or swatter.
 - If constructed fireline is necessary, use minimum width and depth to check fire spread.
- In medium and heavy fuels consider:
 - Use of natural barriers and cold-trailing.
 - Cooling with dirt and water and cold-trailing.
 - If constructed fireline is necessary, use minimum width and depth to check fire spread.
 - Minimize bucking to establish fireline. Preferably move or roll material out of the intended constructed fireline area. If moving or rolling is not possible, or the down log is already on fire, build line around the log and let it be consumed.
- In aerial fuels, brush, trees, and snags:
 - Minimize cutting of trees and snags.
 - Live trees should not be cut unless it is determined they will cause fire spread across the fireline or seriously endanger workers. If tree cutting occurs, cut the stumps flush with the ground and camouflage the cut surface with soil or brush.
 - Scrape around tree bases near fireline if hot and likely to cause fire spread.
 - Identify hazard trees with either an observer, flagging, and/or glow-sticks.
- When using indirect attack:
 - Do not fall snags outside the constructed fireline, unless they are an obvious safety hazard to crews working in the vicinity.
 - On the intended burn-out side of the line, fall only those snags that would reach the fireline should they burn and fall over. Consider alternative means to falling, i.e.: fireline explosives or bucket drops.
 - Review consideration listed above for aerial fuels, brush, trees, and snags.

Spike and Overnight Personal Camp Conduct

- Minimize disturbance to land in preparing bedding and campfire sites. Do not clear vegetation, trench, or excavate a flat spot to create bedding sites.
- Use established latrines where provided. If latrines are not available use the "cat-hole" method of disposing of human waste. Toilet sites should be located a minimum of 200 feet from water sources. Holes should be dug 6-8 inches deep.
- If a campfire is built for warmth in the evening, build either a pit or mound fire. A fire shelter placed beneath the coals provides extra protection for the soil
- Use dead and down firewood. Use small diameter wood that burns down more cleanly. Don't burn plastics or aluminum - pack it out with the rest of the camp garbage.
- If a designated personal washing area is not provided, carry water and bathe away from lakes and streams. Do not introduce soap, shampoo, or other personal grooming chemicals into waterways.
- Do not use nails in trees.
- Constantly evaluate the impacts that will occur, both short and long term.

Helispot Construction

- Whenever possible, locate helibases in weed free areas, to prevent the transport of noxious weeds into wilderness.
- When planning for helispots, determine the primary function of each helispot, i.e.: crew shuttle, logistical support, or both.
- If a helispot is only needed for logistical support to deliver and retrieve supplies or gear, consider using a long line remote hook in lieu of constructing a helispot.
- If a helispot is needed for crew shuttle, consider the minimum size helicopter that could do the job, if you have an option, and still meet suppression objectives.
- Use natural openings as much as possible. If some tree falling or cribbing is necessary, avoid high visitor use locations unless the modifications can be rehabilitated to be generally unnoticeable. Feather the opening so that it appears more natural looking.
- Perform an aerial reconnaissance of the fire area and select potential helispots. In determining helispot locations, involve, at a minimum, the Air Operations Manager, responsible land manager or Resource Advisor, and the Helitack Foreman. Consider drawing a sketch and discuss which trees need to be cut to ensure a safe operation for the size of the helicopter deemed necessary or available.
- If a high level of resource impact is anticipated from a proposed helispot, evaluate carefully whether it is absolutely necessary and if there isn't an alternative outside Wilderness.
- Whenever possible, the resource advisor should observe the construction of a helispot.

Mop-up Phase

- Use gravity socks in streams and/or a combination of water blivits and fold-a-tanks to minimize impacts to streams.
- Do not bring in any non-native materials to be used for sediment traps in streams. Use of non-native materials creates a risk that noxious weeds will be introduced to the area.
- Place absorbent cloth under pumps to avoid spilling fuel on the ground.
- Personnel should avoid using rehabilitated firelines as travel corridors whenever possible because of potential soil compaction and possible detrimental impacts to rehab work, i.e.: water bars.
- Consider using infrared detection devices along perimeter (aerial or hand-held).

- Align saw cuts to minimize visual impacts from more heavily traveled corridors. Slope cut away from line of sight when possible.
- In light fuels:
 - Cold-trail areas adjacent to unburned fuels.
 - Do minimal spading; restrict spading to hot areas near fireline only.
 - Use extensive cold-trailing to detect hot areas.
- Medium to heavy fuels:
 - Cold-trail charred logs near fireline; do minimal scraping or tool scarring.
 - Minimize bucking of logs to check for hot spots or extinguish fire; preferably roll the logs and extinguish the fire.
 - Return logs to original position after checking or when ground is cool.
 - Refrain from making bone piles; burned and partially burned fuels that were moved should be arranged in natural position as much as possible after they are cold.
 - Consider allowing larger logs near the fireline to burn out, instead of bucking them into manageable lengths. Use a lever or pry bar to move large logs.
- Aerial fuels, brush, small trees, and limbs:
 - Remove or limb only those fuels which, if ignited, have the potential to spread fire outside the fireline
- Burning trees and snags:
 - First consideration is to allow burning trees or snags to burn themselves out or down. Ensure adequate safety measures are communicated.
 - Identify hazard trees with either an observer, flagging, and/or glow-sticks.
 - If burning trees/snags pose serious threat of spreading fire brands, consider attempting to extinguish fire with water or dirt. Felling chainsaw should be last means, consider falling by blasting, if available.

Preseason Preparedness

Prior Authorization:

- BLM will consider the forecasted fire danger, potential seasonal outlook, the late spring fuel conditions, and projected fuel and weather conditions in the wilderness area to determine which tools, equipment, or activities will have preseason authorization.
- BLM will determine which tools, equipment, or activities ODF will be pre-authorized for use in initial attack prior to actual fire occurrence. Preseason knowledge of the available tools, equipment, and activities will allow ODF the basis to prepare and train for wilderness minimum impact suppression tactics (MIST).
- BLM will provide ODF with a written authorization (Figure C-1), signed by the delegated Agency Administrator, typically the Field Manager, which will include the specific tools, equipment, and activities along with any instructions associated with their use, and the names and contact information for BLM employees associated with the wilderness management.
- Annually ODF will determine the services and resources they will provide for the protection of the wilderness area, along with a cost estimate. These will be included in the annual Extreme-risk Mitigation Plan.
- BLM will annually update ODF on any new or changed conditions, issues or items that might impact fire suppression strategy, tactics, and safety.
- Prior to the start of fires season, BLM and ODF personnel will meet to review the wilderness standards and practices used in wilderness rehabilitation.

- Knowledge and understanding of the standards and practices used in wilderness rehabilitation prior to initial attack can be beneficial in selecting and implementing suppression actions which will reduce the amount of rehabilitation needed.

Fire Season

Fire Notification

- ODF will notify BLM of a fire occurring within or adjacent to the wilderness through the existing notification process.
- BLM will dispatch a Project Inspector/Resource Advisor (PI/RA) to all fires within or adjacent to the wilderness to ensure ODF receives guidance on resource issues and implementation of MIST.
- BLM will provide ODF the names and contact information for the PI/RA at the time of their dispatch.

Initial Action

- Preseason authorizations for use of tools, equipment, and activities are valid during the first 24 hours of the incident. A new authorization will be required after 24 hours and will be based on the specific strategy and tactics for that incident.
- In recognition of the need for urgency, ODF requests for authorization can be granted orally by the BLM Delegated Agency Administrator. Follow up documentation of the requests and authorizations will be made utilizing a mutually agreed upon written form (Figure C-2).
- BLM representative or PI/RA will remain available to ODF throughout the incident to provide prompt information regarding resources, issues, objectives, and maintain communications link to Delegated Official for approval of tools, equipment, or activities.
- All fire suppression activities in wilderness would use MIST unless a higher degree or level of fire suppression is required.
- Use of any motorized equipment, including heavy machinery such as bulldozers, would be considered for approval by the District Manager in cases where the fire is threatening human life, property, or wilderness characteristics.
- Use of retardant and/or foam must be approved by the District Manager; if retardant and/or foam is not approved, water may be dropped from retardant aircraft as ordered by the Incident Commander without additional authorization.

Extended Action and Long Term Incident

- BLM will assign Resource(s) Advisors, Agency Representative; issue a written Letter of Direction that provides the IMT with resource objectives to incorporate into planning and implementing fire suppression. Due to the added complexity of suppressing wilderness fires using the minimal tools, a close working relationship will be needed between ODF incident management and BLM representatives.
- BLM will designate a Lead Advisor who will be the point of contact in the event more than one Resource Advisor is assigned.
- Helibases and helispots, other than the pre-approved designated helispots, would be located outside of wilderness boundaries. When this is not feasible, the District Manager may approve sites within wilderness that require minimal clearing of natural vegetation.
- Staging areas and fire camps requiring motorized access would be located outside of wilderness unless authorized by the District Manager.
- Staging areas and fire camps that only require non-motorized access may be located in wilderness areas if authorized by the Wilderness Resource Advisor.

- Sling loading materials into or out of wilderness using a helicopter must be approved by the District Manager.
- Helicopters or other aircraft may be used for aerial reconnaissance work.
- Use of retardant and/or foam must be approved by the District Manager; if retardant and/or foam is not approved, water may be dropped from retardant aircraft as ordered by the Incident Commander without additional authorization.
- The strategy developed for controlling noxious weeds in the monument (CSNM ROD/RMP 2008, Appendix F) would be used. Suppression equipment would be inspected and washed to prevent the spread of noxious weeds. Wash-down sites would be recorded using a GPS unit, if possible, and reported to the Resource Advisor. Camps and other assembly points would not be located in noxious weed infestation areas.
- Leave No Trace principles would be used in wilderness areas. All evidence of human activity would be removed or rehabilitated to the maximum extent possible.

Post Fire and Season Reviews

As soon as possible after a wilderness fire an After Action Review (AAR) should be held to share the lessons learned and consider any improvements that can be made in procedures and operations.



Figure C-1. Example Pre-Season Authorization for Use of Tools, Equipment and Actions for Fire Suppression During Initial Attack Wildfire Suppression in the Soda Mountain Wilderness.

Contact Names & Phone Numbers:

Field Manager:

Assistant Monument/Wilderness Manager:

Resource Advisor:

Alternate Resource Advisor:

Alternate Resource Advisor:

Alternate Resource Advisor:

Alternate Resource Advisor:

BLM Approval by: /S/

25

Date

Approving Official Title: Ashland Resource Area Field Manager



ODF Dispatch Phone # 664-1213
BLM Dispatch Phone # 618-2510

Figure C-2. Form for Requesting Additional Tools, Equipment, and Activities for Initial Attack Wildfire Suppression in the Soda Mountain Wilderness.

Soda Mountain Wilderness Initial Attack Suppression Request

1 Fire Name: _____

2 Fire Location: _____

3 Request Date: _____

4 Requested by: _____

17 Fire Number: _____

18 Requested Time: _____

Small Equipment

5 Chain Saws (Fire line construction, felling danger/burning trees)

6 Portable Pumps (hoselays, waterbags)

7 Fold-a-tanks

8 Hose lays from engines (engines outside of wilderness)

9 All Terrain Vehicles

Large Equipment

19 Fire Engines

20 Tenders

21 Lowbeds

22 Dozers

Aircraft

10 Helicopter for crew transport loading and unloading

11 Helipad construction (fire related, chain saws)

12 Helipad maintenance (fire related, chain saws)

13 Helicopter water drops

14 Helicopter sling loads (waterbags, supplies and equipment)

15 Helicopter use of water from the wilderness

16 Retardant

Miscellaneous

23 Spike/Coyote Camp

24 Trail/Road accessibility improvement (non-fireline, chain saws for firecrew access)

25 _____

26 _____

27 _____



ODF Dispatch Phone # 664-1213
BLM Dispatch Phone # 618-2510

Figure C-2. Form for Requesting Additional Tools, Equipment, and Activites for Initial Attack Wildfire Suppression in the Soda Mountain Wilderness.

28

Additional Instructions:

29

Contact Names & Phone Numbers:

30

BLM Approval by:

Approval Time: _____



ODF Dispatch Phone # 664-1213
BLM Dispatch Phone # 618-2510



Appendix D

Rehabilitation of Wilderness Fire Suppression Activities

The major goal of wildfire rehabilitation is to mitigate or eliminate environmental resource impacts caused by the fire suppression effort and rehabilitate the area to as natural conditions as possible. BLM policy emphasizes the need to rehabilitate areas disturbed during the fire suppression effort to as natural an appearance as possible.

This goal coincides with the intentions of the Wilderness Act, which states: “...wilderness is an area affected primarily by nature, with human activity substantially unnoticeable....” In the case of wildfire suppression, it is the human involvement that has the potential to be the damaging effect on the wilderness resource, even more so than the effects of the fire.

Major areas to consider in rehabilitation of fire suppression activities are firelines, helispots, camps, staging areas and any actions taken related to the fire suppression effort. The following are examples of the actions that may be used for the rehabilitation of fire suppression activities for each area or type of location.

Constructed Fireline Rehabilitation

The following are examples of actions that may be utilized in rehabilitation of constructed firelines:

- After fire spread is secured, replace dug-out soil/duff; obliterate any berms and leave as natural appearing.
- Provide some means for drainage to prevent erosion on firelines or trails created on sloped areas, i.e., shadow-depth water bars, or natural material to act as sediment dams.
- Scatter some cut brush/limbs onto fireline or impacted areas so it blends with the natural appearing landscape.
- Scatter obvious, excess accumulations of cut limbs/seedlings/saplings into a more natural arrangement.
- If excessive amounts of cut vegetation exist, consider piling and burning at a later date.
- Flush cut stumps of felled trees and snags with the ground surface; scatter cut portion out of sight.
- Camouflage cut stumps in a manner that blends with surrounding natural landscape.
- Use a variety of means to camouflage cut faces of stumps and bolewood (rocks, dead woody material, fragments of stumps, bolewood and/or limbs, soil, and fallen/broken green branches).
- If need be, bring in some of the natural material you will use to camouflage cut faces of stumps and boles from adjacent untouched areas.

- Piece together cut sections of down logs to appear natural, if possible. Place soil or some existing debris over where the cut was made.
- Position cut logs where they will be least noticeable to wilderness visitors.
- If bolewood can be moved, place cut end adjacent to or underneath existing down material.
- For large size bolewood that cannot be moved, place a slant cut (45-60 degree angle) on the bottom side.
- Do not lop and scatter tops of cut trees. (Lop and scatter could create a harvest/pre-commercial thin appearance instead of a natural landscape).
- If there has been an excessive amount of bucking, limbing and topping, consider slinging rounds and tops from the site.
- Remove all plastic flagging and trash along the fireline.

Natural Barrier Firelines

Natural or man-made breaks in vegetation, such as water ways, hiking trails, rocky outcrops, talus and scree slopes, and roads, are preferred when possible for use as barriers to contain a fire. These barriers may be effective as is (unimproved) or they may need “improvement.” It is the “improved” barriers that need rehabilitation due to the activities required to widen the barrier. The degree of improvement determines the amount of rehabilitation.

Water Ways

Limbs and logs thrown into a stream during line construction and constructed water impoundments can alter the water flow. Any alteration in water flow should be corrected.

- Remove all woody material (brush, branches and logs) that were thrown into the water during the fire.
- Remove dams, sumps and other human interventions.
- Retrieve flagging and remove all litter, tools, etc.

Hiking Trails

When hiking trails are employed as firelines they may have been widened by the cutting or limbing of trees that line the trail. The following are examples of actions that may be utilized in rehabilitation of hiking trail firelines:

- Flush cut conspicuous stumps and camouflage the ends with soil and vegetation.
- Place all cut limbs and seedlings alongside trail, near their source if possible, with the cut ends facing away from the trail.
- Camouflage or block entrances to access trails and switchback short cuts. Switchback shortcuts need to be rehabilitated according to their level of impact, and may require following the guidelines for firelines.
- Retrieve flagging and remove all litter, tools, etc.

Rocky Outcrops, Talus or Scree Slopes

These natural firebreaks are rarely improved upon. If vegetation was removed, no rehabilitation to replace the vegetation is necessary. Most of the impact seen in these areas will be in the form of trenches for fire access trails.

- If necessary, restore slope contour by raking slope material back into fireline until flush.
- Retrieve flagging and remove all litter, tools, etc.

Fire Access Trails

These are trails created by foot traffic along hose lines and firelines; accessing pump sites; and other areas of the fire. Treatments differ for access trails in burned areas versus vegetated areas.

1) Through Fire: Access trails that travel through the fire usually need attention in preventing further erosion and further use. The following are examples of actions that may be utilized in rehabilitation of access trails created through the fire area:

- Restore slope contour by raking in nearby fill to a level equal to adjacent soil level.
- Drag available burned logs and brush across the “trail” every 50 feet.
- If slope is greater than 25 degrees, drainage dips should be added every 20 feet, or where natural features on the land dictate them most useful, i.e., where they provide the most drainage (where the trail changes direction).
- Camouflage beginning of access trail so visitors will not be tempted to travel on it.

2) Through Vegetation: An access trail through vegetation is rehabilitated as if it were a fireline, but because the level of impact is not normally as severe; the amount of work required is less intensive. Usually, slope and soil loss are observed, as well as compaction of the soil. The degree of rehabilitation required is determined by the amount of impact observed.

- If soil is compacted, scarify the area lightly without killing any vegetation.
- Replace recoverable soil and rocks that were displaced during use of access trail, trying to keep soil horizons correct.
- Restore slope contour, compensating for settling.
- Scrape back litter.
- Drag available burned logs. Drag available burned logs and brush across the “trail.”
- If access trail is deeper than 4 inches and slope is very steep: consider following the rehabilitation standards for constructed fireline.

Special Areas

Special areas receive unusual, intermittent, unregulated, and/or extreme use. These special areas include: helispot sites, “coyote” camps, helispots, pump sites, spike camps, and staging areas. Although the extent of impact to these areas may vary, the same type of impact often occurs throughout.

Helispots

Helispot construction in Wilderness can cause a double impact—the impact of abrupt or unnatural appearing openings in a timber-vegetative covered landscape, and the impact resulting from cut-faces of tree boles and stumps. Many of the same type of impacts associated with fireline construction can occur during helispot construction and operation, therefore many of the techniques listed above under constructed firelines can be used. Some other potential actions include:

- If excessive amounts of cut vegetation exist, pile and arrange to be burned at later date, or consider slinging cut material from the site.
- Obliterate landing pad and leave in as natural a condition as possible: bury painted helispot markers, remove litter, clean up any area where oil or fuel spills occur, and break up compacted soil.

Camp Situations and Personal Conduct

- Scatter campfire site rocks and charcoal; cover charred fire ring rocks with soil if necessary.
- Scatter any cut limbs or saplings that may have occurred.
- Cover latrine sites.
- Remove camp/tent poles and stakes and scatter in nearby timbered area.
- Pick up litter and pack out as garbage.

Staging Areas, Etc.

In some wildfire situations, a fire camp, staging areas, drop-off points, and other miscellaneous constructed facilities are within the Wilderness. These all will be assessed for possible rehab needs, and measures taken accordingly to ensure the area is left in as natural appearing condition as possible.

Spike Camps

Groups of firefighters can stress the resource as they live and work out of spike camps for an extended period of time. Areas of possible impact include sleeping sites, mess area, first aid station, sanitation sites, equipment caches, and vehicle parking. At these specific spots and throughout the area, potential impacts include compacted soil, bare ground, litter, oil/fuel spills, disturbed slope as in leveled sleeping areas, human refuse/toilet paper, kitchen refuse (sump holes), campfire pits, cut seedlings and limbs, social trails between various living areas, and primitive constructions such as nails in trees, hooches, etc.

Coyote Camps

Coyote camps are temporary firefighter camps located throughout the fire. Although these camps are not used for any length of time, they can exhibit impacts which may need rehabilitation work. The main impacts include: litter, compacted soil, bare ground, leveled sleeping sites, human refuse/toilet paper, campfire pits, cut seedlings and limbed trees.

Pump Sites

The operation of a portable water pump impacts both the ground on which the pump is resting and the required water supply. Impacts may include: oil/fuel spills, water pollution, compacted soil, bare ground, dammed and altered streambeds, erosion from overflowing portable water tanks, and litter.

Land Stewardship with Fire Suppression

Suppression impacts and resource damage that may have a level of acceptance on non-wilderness lands may not conform to the “Limits of Acceptable Changes” for wilderness. The appreciation of the need of minimum impact and damage to wilderness resources should occur in initial actions to suppress fire and be incorporated in on-going decisions of suppression actions throughout the incident. The consequence will be a lessening in the need for extensive and costly rehabilitation actions.

Appendix E

Monitoring Plan for the Soda Mountain Wilderness

The following monitoring model is designed for the five qualities of wilderness character found in the Wilderness Act and tailored to the Soda Mountain Wilderness. The five qualities of wilderness character are: 1) Untrammeled; 2) Natural; 3) Undeveloped; 4) Solitude or Primitive and Unconfined Recreation; and 5) Unique/Supplemental.

This framework is a combination of elements described in detail in the following documents:

- 1) Measuring Attributes of Wilderness Character, BLM Implementation Guide *Version 1.4*
- 2) Keeping It Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System (July 2008).

The broad monitoring question for all five wilderness qualities centers on what are the changes in condition and what is the trend over time. To answer the broad monitoring question, four similar components for each key wilderness value are identified to structure the answer. They are Indicator, Measure, Data Source, and Frequency. The Indicator provides the broad resource value question. The Measure provides a specific monitoring question based on specific resource values found in the SMW. The Data Source provides a catalogue of existing data sources and storage locations, and an indication of who might collect future monitoring data and the data quality. These data sources may be National, State or District data and may be stored in different databases and locations. Frequency describes anticipated monitoring data summaries reporting time periods, based on Washington Office standards or Medford District requirements. These timeframes may change over time.

When considering monitoring unique features in the SMW, not all key features mentioned in the Measure category will be monitored each year. Some features may not be monitored in five years, while others may be monitored every year. There may be timeframe gaps or lags that range from months to years in revisiting and monitoring features. Other resource values will be monitored frequently throughout the year. Opportunistic projects may be funded that provide intense monitoring of certain features and provide considerable value.

Untrammeled Quality

Wilderness unhindered and free from modern control or manipulation.

Monitoring Question:

What are the trends in actions that control or manipulate the “earth and its community of life” inside the wilderness?

Indicator	Measure	Data sources	Frequency
Authorized actions that manipulate the biophysical environment?	Number of actions and persistent structures designed to manipulate plants, animals, pathogens, soil, water, or fire. <ul style="list-style-type: none"> ✓ Road obliteration and culvert removal ✓ Fence and grazing infrastructure removal ✓ NNIS treatments and research and monitoring 	<ul style="list-style-type: none"> ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every year
	Number of fire starts from lightning.	<ul style="list-style-type: none"> ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every year
Unauthorized actions that manipulate the biophysical environment?	Number of unauthorized actions that manipulate plants, animals, pathogens, soil, water, or fire.	<ul style="list-style-type: none"> ▪ Local data records and photos by resource specialists and law enforcement 	1) Baseline inventory completed in 2012 2) Report every year

Natural Quality

Wilderness ecological systems are substantially free from the effects of modern civilization.

Monitoring Question:

What are the trends in natural terrestrial, aquatic, and physical processes inside wilderness?

Indicator	Measure	Data sources	Frequency
Biological Resources (plant and animal species and communities)	Number and extent of plant communities ✓ Grassland communities ✓ Chaparral communities	<ul style="list-style-type: none"> ▪ BLM GIS data system ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every 5 year
	Abundance, extent, and distribution of Native Aquatic Communities ✓ Jenny Creek suckers, Redband trout, Fluminicola, amphibians, aquatic macroinvertebrates	<ul style="list-style-type: none"> ▪ BLM data records kept by resource specialists ▪ BLM GIS data system ▪ SOU, and other sources 	1) Baseline inventory completed in 2012 2) Report every 5 year
	Abundance and distribution of non-indigenous species ✓ Invasive plants ✓ Invasive fish, wildlife, and insects	<ul style="list-style-type: none"> ▪ BLM data system (Geo-bob) ▪ Local data entry by resource specialists ▪ State agencies and other partners 	1) Baseline completed in 2012 2) Yearly as discovered 3) Report every 5 year
Physical Resources (water, air, soil, global climate)	Extent and magnitude of change in water quality ✓ Quantity ✓ Temperature ✓ Sediment	<ul style="list-style-type: none"> ▪ BLM data system (Geo-bob) ▪ Local data entry by resource specialists <ul style="list-style-type: none"> ✓ Gauging Stations Jenny Cr. ✓ Thermograph monitoring <ul style="list-style-type: none"> 2- Camp Cr 1- Dutch Oven 7-Jenny Cr (Box O) ▪ Fluvial geomorphology monitoring (riparian transects/stations/bank alterations/stream habitat surveys) <ul style="list-style-type: none"> ✓ 8- Jenny Cr. 	1) Baseline 2012 2) Yearly 3) Report every 5 year
	Extent and magnitude of human caused stream bank erosion (from camping, hiking, and other recreational based	<ul style="list-style-type: none"> ▪ Photo-points ▪ Record cards from staff and volunteers 	1) Yearly as discovered

Indicator	Measure	Data sources	Frequency
	disturbances)		
	Extent and magnitude of global climate change ✓ Permanent veg plots (forest stands, ACEC, inter-agency)	<ul style="list-style-type: none"> ▪ National RAWS data stations ▪ National MODIS satellite imagery ▪ National SNOTEL data stations ▪ Photopoints ▪ Historical/recent photo pairs ▪ Remote sensing (aerial photography, satellite imagery) 	1) Baseline completed in 2012 2) Review on 10 year intervals
Bio-Physical Process	Area and magnitude of loss of connectivity with surrounding landscape	<ul style="list-style-type: none"> ▪ Local data entry by resource specialists ▪ State agencies and other partners ▪ Remote sensing (aerial photography, satellite imagery) 	1) Yearly as discovered
	Departure from natural fire regimes averaged over the wilderness	<ul style="list-style-type: none"> ▪ National LANDFIRE modeling program 	1) Baseline completed in 2012 2) 10 year intervals
	Extent and magnitude of wildfire, landslide, and insect disturbance or loss of soil	<ul style="list-style-type: none"> ▪ Remote sensing (aerial photography, satellite imagery) ▪ Photopoints ▪ Record cards from staff and volunteers ▪ BLM fire report ▪ District GIS 	1) Yearly as discovered
	Area and Magnitude for pathways for introductions and movements of non-indigenous species into the wilderness	<ul style="list-style-type: none"> ▪ Agency data systems (if available) ▪ Local data entry by resource specialists ▪ State agencies and other partners 	1) Yearly as discovered

Undeveloped Quality

Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation.

Monitoring Question:

What are the trends in non-recreational development and mechanization inside wilderness?

Indicator	Measure	Data sources	Frequency
Non-recreational structures, installations, and developments	Index of authorized physical development for authorized or pre-designation structures and developments and degree of impact: <ul style="list-style-type: none"> ✓ Nonresidential buildings <ul style="list-style-type: none"> ✓ Houses, barns, sheds, farm equipment, irrigation canals, etc ✓ Road and culvert development ✓ Grazing fences and improvements ✓ Buildings and equipment ✓ Water sources, diversions, and ditches ✓ ROW 	<ul style="list-style-type: none"> ▪ GIS data system ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Review yearly 3) Report every 5 year
Inholdings	Area and existing or potential impact of inholdings <ul style="list-style-type: none"> ✓ Road development or access ✓ Water rights access ✓ Utility corridors ✓ Forest management ✓ Grazing 	<ul style="list-style-type: none"> ▪ Local data entry and photos by resource specialists ▪ GIS data system ▪ Remote sensing (aerial photography, satellite imagery) ▪ Local data entry by resource specialists 	1) Baseline inventory completed in 2012 2) Report every 5 year
Use of motor vehicles, motorized equipment, or mechanical transport	Type and amount of administrative use of motor vehicles, motorized equipment, or mechanical transport <ul style="list-style-type: none"> ✓ Road obliteration and culvert removal ✓ Fence and grazing infrastructure removal ✓ Other authorized road use 	<ul style="list-style-type: none"> ▪ Local data entry and photos by resource specialists 	1) Per activity 2) Review yearly 3) Report every 5 year
	Type and amount of law enforcement and emergency use of motor vehicles, motorized equipment, or mechanical transport <ul style="list-style-type: none"> ✓ Law enforcement ✓ Wildland fires ✓ Emergency response 	<ul style="list-style-type: none"> ▪ Agency data systems ▪ Local data entry and photos by resource specialists and law enforcement 	1) Per incident 2) Yearly 3) Report every 5 year
	Type and amount of unauthorized motor vehicle, motorized equipment, or mechanical transport use. <ul style="list-style-type: none"> ✓ Road development ✓ Buildings and equipment ✓ Water diversions ✓ Marijuana gardens 	<ul style="list-style-type: none"> ▪ Local data entry by resource specialists and law enforcement 	1) Yearly as discovered 2) Report every 5 year

Solitude or Primitive and Unconfined Recreation Quality

Wilderness “has outstanding opportunities for solitude or a primitive and unconfined type of recreation” and “shall be administered...in such a manner as will leave them unimpaired for future use and enjoyment as wilderness.”

Monitoring Question:

What are the trends in outstanding opportunities for solitude or primitive and unconfined recreation inside the wilderness?

Indicator	Measure	Data Sources	Frequency
Remoteness from sights and sounds inside the wilderness	Amount of visitor use: <ul style="list-style-type: none"> ✓ Based on observed resource impacts ✓ Hunter contact sheet ✓ Law enforcement contacts ✓ Visitor counts 	<ul style="list-style-type: none"> ▪ Local observations and data entry by resource specialists and law enforcement ▪ Trail counters 	1) Yearly
	Number of trail users <ul style="list-style-type: none"> ✓ Log of visitor encounters by activity and season: <ul style="list-style-type: none"> ✓ PCT Trail ✓ Designated Trails 	<ul style="list-style-type: none"> ▪ RMIS (Recreation Management Information System) ▪ Number of authorized groups ▪ Trail counters ▪ Casual Observations 	1) Yearly
	Number and condition of trails and campsites <ul style="list-style-type: none"> ✓ Log of campsite location and visitor encounters 	<ul style="list-style-type: none"> ▪ Local observations, photos and data entry by resource specialists and law enforcement ▪ Geo-database of location 	1) Baseline 2012 2) Report yearly (or as needed) 3) Report every 5 years
	Area of wilderness affected by access or travel routes that are inside the wilderness <ul style="list-style-type: none"> ✓ Trails 	<ul style="list-style-type: none"> ▪ GIS data, aerial photography interpretation 	1) Baseline inventory completed in 2012 2) Report every 5 years
Remoteness from developments and people outside the wilderness	Development Type: <ul style="list-style-type: none"> ✓ Roads <ul style="list-style-type: none"> ✓ Paved, gravel, OHV trail ✓ Residential development ✓ Utilities (powerlines) 	<ul style="list-style-type: none"> ▪ GIS data, aerial photography interpretation ▪ Casual Observations 	1) Baseline inventory completed in 2012

Indicator	Measure	Data Sources	Frequency
			2) Report every 5 years
Facilities that decrease primitive and unconfined recreation	<p>Type and number agency provided recreation and wildland fire facilities</p> <ul style="list-style-type: none"> ✓ System trail segment type ✓ Trail markers or signs ✓ Major trail feature <ul style="list-style-type: none"> ✓ Primitive, native or nonnative materials ✓ Campsite development type ✓ Amenities type <ul style="list-style-type: none"> ✓ Corrals, water sources ✓ Wildland fire facilities <ul style="list-style-type: none"> ✓ Designated water sources ✓ Designated helispots <p>Type and number of user-created recreation facilities</p> <ul style="list-style-type: none"> ✓ User created trail segment type ✓ User created trail markers or signs ✓ User created major trail feature ✓ User developed campsite ✓ User developed amenity 	<ul style="list-style-type: none"> ▪ Local data entry by resource specialists ▪ Local data records and photos by resource specialists 	<p>1) Baseline inventory completed in 2012</p> <p>2) Report every 5 year</p> <p>1) Baseline inventory completed in 2012</p> <p>2) Yearly as identified by staff</p> <p>3) Report every 5 year</p>
Management restrictions on visitor behavior	<p>Type and extent of management restrictions</p> <ul style="list-style-type: none"> ✓ Restricted activities <ul style="list-style-type: none"> ✓ Campfires ✓ Camping ✓ Group size ✓ Closed areas ✓ Human waste ✓ Stock/pack animal use ✓ Prohibited Activities <ul style="list-style-type: none"> ✓ Target practice ✓ Physical geo-caching ✓ Rock collecting ✓ Hang-gliding ✓ Para-gliding ✓ Other activity specific regulations 	<ul style="list-style-type: none"> ▪ Wilderness Plan ▪ Local data entry by resource specialists 	<p>1) Baseline inventory completed in 2012</p> <p>2) Report every 5 year</p>

Unique Qualities

Wilderness areas “may also include ecological, geological, or other features of scientific, educational, scenic, or historical value.”

Monitoring Question:

What are the trends in unique features inside the wilderness?

Indicator	Measure	Data sources	Frequency
What are the unique biological features and their significance and status?	Change in the number of populations and population size of rare and unusual plants ✓ Gentner’s fritillaria ✓ Green’s mariposa lily	<ul style="list-style-type: none"> ▪ BLM Geo-Bob data system ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every 5 year
	Population trends of rare and unusual fish, wildlife, and aquatic organisms ✓ Jenny Creek sucker ✓ Redband trout ✓ Peregrine falcon ✓ Spotted frog ✓ Northern spotted owl ✓ Pebble snails	<ul style="list-style-type: none"> ▪ BLM Geo-Bob data system ▪ Local data records and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every 5 year
What are the unique historic and cultural features?	Status of each object ✓ Change in condition ✓ Discovery/documentation of new sites	<ul style="list-style-type: none"> ▪ Oregon Heritage Information Management System (OHIMS) ▪ Local district data base and photos by resource specialists 	1) Baseline inventory completed in 2012 2) Report every 5 year

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