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Boise National
Forest

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Summary

Supplemental Draft Environmental Impact Statement

Scriver Creek Integrated Restoration Project

Forestland restoration within the Scriver drainage is essential to both improving forest resiliency and restoring wildlife habitat in low- to mid-elevation forests that historically were dominated by large ponderosa pine.

Road management activities within the Scriver drainage are needed to improve water quality and fish habitat. Activities include improving existing road conditions, decommissioning unneeded roads and replacing culverts that are barriers to fish passage

Boise National Forest

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S.1 Introduction

This supplemental draft environmental impact statement (SDEIS) discloses in detail the environmental impacts of the No Action Alternative (Alternative A), Proposed Action (Alternative B), and two additional action alternatives (Alternatives C and D), for the Scriver Creek Integrated Restoration Project (Project). The area is located on the Emmett Ranger District (RD) of the Boise National Forest (Forest). This document has been prepared under the National Environmental Policy Act [(NEPA); 42 U.S.C. 4321 *et seq.,* 40 CFR 1500–1508] and the *Boise National Forest Land and Resource Management Plan* (Forest Plan) as amended in 2010 (Forest Service 2003a, 2010a).

The need for an SDEIS is to allow the Forest Service to clearly identify all permits, licenses, and other entitlements that were not otherwise identified in the Draft Environmental Impact Study (DEIS) released December 30, 2011 (FR Vol. 76, No. 251; NOA for EIS No. 20110438) that may be needed to implement the proposed activities. Specifically, an SDEIS is needed to identify that it is uncertain whether a National Pollutant Discharge Elimination System (NPDES) permit may be required and comments on the SDEIS will be requested from the appropriate regulatory agencies and public to help assess whether such a permit is required (refer to section 1.9.2). Disclosure of this uncertainty in a DEIS is required at 40 CFR 1502.25(b).

Also, as identified in the June 18, 2012, Federal Register Notice of Intent to prepare an SDEIS, the Proposed Action identified in the DEIS released December 30, 2011, has been modified concerning road systems, logging systems, and watershed restoration opportunities as a result of updated field information. These updates resulted in measurable changes in the effects disclosures from those displayed in the DEIS. Finally, Alternatives C and D were developed in response to comments received on the DEIS and their respective effects disclosures have not been reviewed by the public. Thus, the Responsible Official has determined that the purpose of the act (NEPA) would be furthered by issuing an SDEIS for additional review and comment prior to the final environmental impact statement (FEIS).

S.1.1 Relationship of this Project to the 2010 Forest Plan

In 2003, the Forest issued a revised Forest Plan (Forest Service 2003a). On July 1, 2010, Forest Supervisor, Cecilia R. Seesholtz, issued an amendment to the 2003 Forest Plan to integrate a wildlife conservation strategy (WCS) for the forested biological community. This Forest Plan WCS complements the *Idaho Comprehensive Wildlife Conservation Strategy* (Idaho CWCS) (IDFG 2005) by building on the broad-scale conservation needs identified in the Idaho CWCS for the Forest area.

The Forest Plan vegetation management strategy calls for managing within the historic range of variability (HRV) using both passive and active management (Forest Service 2010c, p. 6). The strategy is based on the assumption that conditions within the HRV will promote a network of habitats to support the diverse array of native and nonnative vertebrate wildlife species.

The Forest Plan identifies conservation and restoration of low- to mid-elevation, dry ponderosa pine (*Pinus ponderosa*) forests as a management priority. The analysis for the 2010 Forest Plan amendment found that habitats for some wildlife species have declined substantially[1] compared to historic conditions. An underlying philosophy of the 2010 Forest Plan and the WCS is that restoring desired conditions within the HRV and emulating natural disturbance processes within individual forested stands and across landscapes will contribute to species conservation and recovery (Forest Service 2010c p. 6, Haufler et al. 1996, Hunter et al. 1988, Noss 1987, Raphael et al. 2000, McComb and Duncan 2007, and Wisdom et al. 2000).

The 2010 amendment added a comprehensive and diverse set of management direction for vegetative and wildlife habitat conservation and restoration. The new wildlife guideline (WIGU15) emphasizes using conservation principles to identify treatment priorities, design restoration treatments, and help understand the effects of proposed activities on vegetative and wildlife habitat diversity (Forest Service 2010a, p. III-28 and Appendix E).

The Forest Plan includes objectives that identify the need to focus restoration-related management activities for the remainder of the planning period within priority watersheds. The Forest will also address and integrate related multiple-use objectives in vegetative restoration projects where practical and efficient to do so. The Proposed Action (Alternative B) for the Project addresses the following priorities and management objectives from the 2010 Forest Plan:

- *Restoration and maintenance of priority forested acres*—The 2010 Forest Plan focuses forest restoration and maintenance in low- to mid-elevation forests dominated by ponderosa pine in the nonlethal and mixed1 fire regimes. The Forest Plan also emphasizes areas occupied by wildlife species of concern, such as white-headed woodpecker (*Picoides albolarvatus*). The Project area is in a watershed identified as "Active, High Priority" for restoration under the *Vegetation and Wildlife Habitat Restoration Strategy* (Forest Service 2010a). Restoration in low- to mid-elevation pine forests starts with forested acres currently within desired conditions and develops landscape patches of large tree size class and old forest habitat more typical of historical size and extent (Forest Service 2010a, Appendices A and E). In addition, maintenance activities designed to retain patches within desired conditions are used to develop and sustain functional landscape patches over time. The Proposed Action would maintain and restore low- to mid-elevation forested stands/patches in the nonlethal and mixed1 fire regimes within the Project area.
- *Restoration of forested stands in the Scriver Creek subwatershed*—The Project is in Management Area (MA) 14, Lower Middle Fork Payette River. Objective 1423 (Forest Service 2010a, p. III-290) identifies a need to restore vegetative conditions in Potential Vegetation Group (PVG) 1[2], PVG 2[3], PVG 3[4], PVG 5[5], and PVG 6[6] within MA 14, emphasizing the large tree size class in all watersheds.

[1] Other broad-scale assessments have reached similar conclusions (Forest Service 2000b, NPPC 2005, IDFG 2005, and Mehl and Haufler 2004).

[2] PVG 1 = Dry Ponderosa Pine/Xeric Douglas-fir

[3] PVG 2 = Warm Dry Douglas-fir/Moist Ponderosa Pine

[4] PVG 3 = Cool, Moist Douglas-fir

- *Restoration of a Watershed and Aquatic Recovery Strategy (WARS) priority subwatershed and National (Watershed Condition Framework [WCF]) priority watershed*—The Scriver Creek subwatershed is a high priority for active restoration to improve watershed and aquatic conditions under the Forest Plan. Additionally, the Forest Service has completed a national assessment of the current condition and prioritization of subwatersheds on National Forest System (NFS) lands. This WCF identified two subwatersheds on the Forest as priority watersheds. The Scriver Creek subwatershed is one of the WCF priority watersheds.
- *Removal of wood products as an outcome of forest maintenance and restoration treatments on acres in the suited timber base*—The 2010 Forest Plan amendment reallocated acres previously assigned to Management Prescription Category (MPC) 5.2 (Commodity Production Emphasis) to MPC 5.1 (Restoration and Maintenance Emphasis). Although this reallocation does not change the number of acres in the suited timber base, it does change the focus of treatments from an emphasis on wood product growth and yield to an emphasis on forest restoration with wood products as an outcome or byproduct of restoration activities. All acres within the Project area are now allocated to MPC 5.1. The Proposed Action includes removing wood products as a byproduct of forest restoration and maintenance treatment on acres in the suited timber base.

S.1.2 Project History

The Emmett RD began planning for this project in 2007 after completing an interdisciplinary evaluation of the resource conditions in the Scriver Creek subwatershed. This project was originally scoped in January 2007. Following scoping, the interdisciplinary team (IDT) evaluated the public and internal comments and began the environmental analysis of the Project. However, in summer 2007, the Forest, including the Emmett RD, experienced a particularly challenging and extensive wildfire season, postponing the environmental analysis of this project. In 2009 and 2010, the Project area conditions were reviewed in light of current information about vegetation, wildlife, fuels conditions, and restoration needs. Based on this review, minor changes to the original Proposed Action were made, and the Emmett RD scoped this Project a second time in April 2010.

S.1.3 Project Area Description

The Project area covers approximately 11,510 acres in the Scriver Creek subwatershed, which is a tributary to the Middle Fork Payette River drainage approximately 6 miles north of Crouch, Idaho (Figure S-1). The Project area is located entirely on NFS lands in sections 3-10, 15-18, and 20, T. 10 N., R. 4 E.; Sections 21-23, and 26-34, T. 11 N., R. 4 E., Boise Meridian, Boise and Valley Counties, Idaho.

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[5] PVG 5 = Dry Grand Fir

[6] PVG 6 = Cool, Moist Grand Fir.

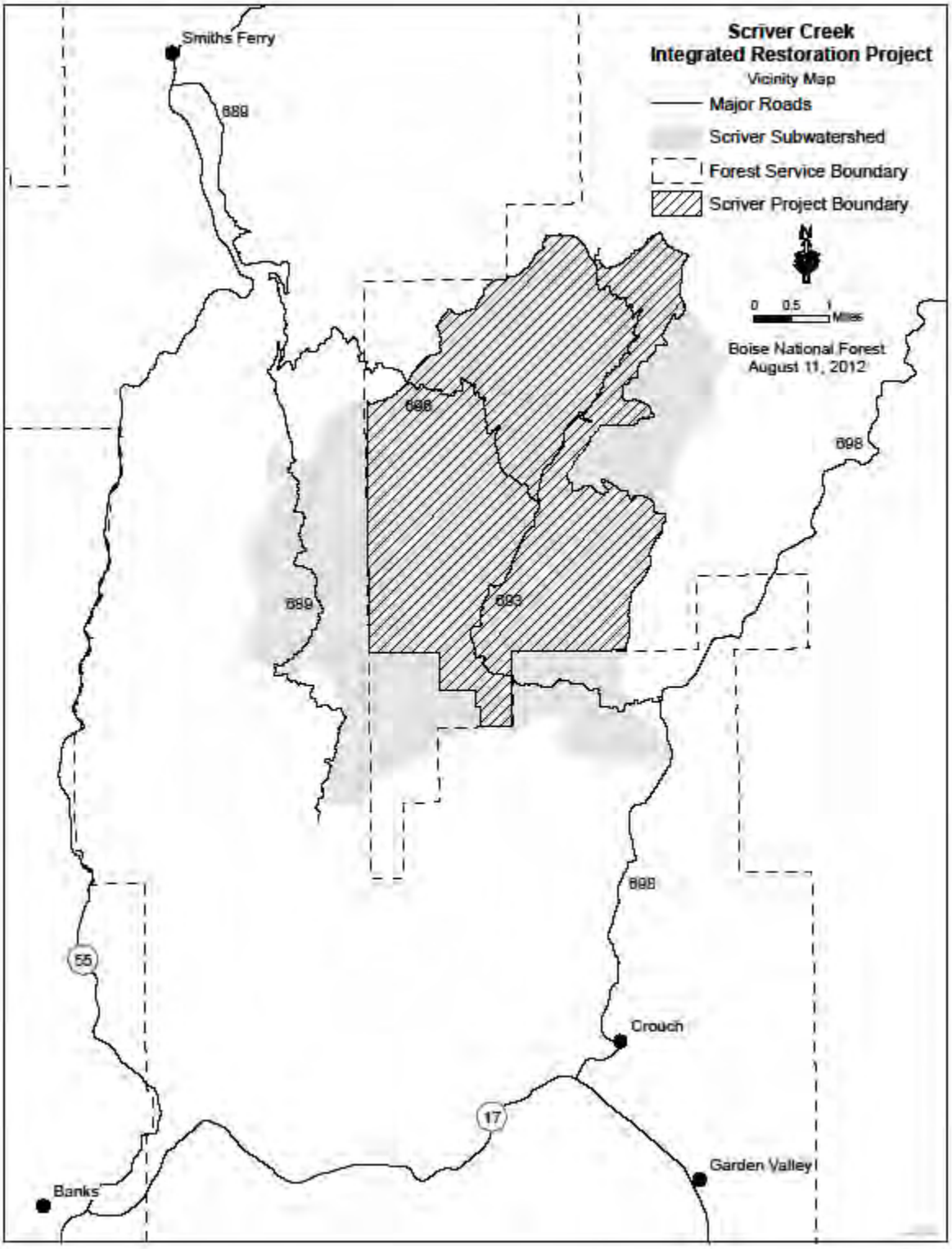

Figure S-1. Scriver Creek Integrated Restoration Project Vicinity Map

S.2 Purpose and Need

S.2.1 PURPOSE 1

Manage forest structure, density, and species composition to accelerate development of large tree size class and old forest habitat dominated by early seral tree species (e.g., ponderosa pine) that will contribute to achievement of Forest Plan desired vegetation and associated wildlife habitat conditions.

The 2010 Forest Plan includes a *Vegetation and Wildlife Habitat Restoration Strategy* (Strategy) that lists Forest-wide restoration priorities. The Strategy identifies the Scriver Creek subwatershed as a high priority for restoration and specifies that active treatments are needed for restoration. High priority, active forest restoration watersheds were historically dominated by nonlethal and mixed1 fire regimes. These areas are most likely to be successfully restored because of their current acreage in medium and large tree class size (Forest Service 2010a, Appendix A, p. A-16). Though the Strategy emphasizes restoring the medium and large tree size class, restoring other tree size classes that, in combination, contribute to historical landscape patches and patterns helps achieve the "Conservation Principles" described in Appendix E of the 2010 Forest Plan.

Five PVGs occur in the analysis area: PVG 6 (80 percent), PVG 2 (13 percent), PVG 5 (4 percent), and PVG 8[7] and PVG 9[8] (3 percent). PVGs 2 and 5 represent the nonlethal fire regime, with a fire interval of 5–25 years that develops relatively homogenous patches dominated by large ponderosa pine trees with small inclusions (typically <1 acre) of smaller tree size classes. Historically, periodic fires in PVGs 2 and 5 inhibited the development of continuous ladder fuels of saplings or pole-sized trees that could carry fire into the crowns of larger ponderosa pine trees. PVG 6 spans both the mixed1 and mixed2 fire regimes. Acres of PVG 6 within the Project area in need of restoration fall within the drier habitat types and are more consistent with a mixed1 fire regime where relatively frequent fires maintained the dominance of earlier seral tree species, including ponderosa pine; western larch (*Larix occidentalis*); and, to a lesser degree, Douglas-fir. As a result of past fire suppression and management activities, such as historic timber harvest discussed in section 1.4.1, large ponderosa pine are absent or reduced in these PVGs compared to historical densities (Forest Service 2010a, Appendix A, Table A-1 and Table A-2, p. A-3 and A-6). PVGs in the Project area have the following specific needs:

- Stand structure of small and medium tree size class stands in PVGs 2 and 5 and the drier habitat types of PVG 6 needs to be changed to accelerate movement towards the large tree size class and old forest habitat dominated by early seral species such as ponderosa pine. Tree size class reflects the physical development stage of a forest stand. The grass/forbs/shrub/seedling (GFSS), sapling, and small tree size classes in the Scriver Creek Project area represent a relatively small percentage of the acres within the various PVGs, while the medium and large tree size classes generally

[7] PVG 8 = Cool, Moist Subalpine Fir

[8] PVG 9 = Hydric Subalpine

dominate the Project area. Although the large tree size class is over-represented in PVG 6 (80 percent of the analysis area), the existing large tree species composition is dominated by late seral species, such as grand fir (*Abies grandis*), rather that the desired early to mid-seral species, such as ponderosa pine. The large tree size class is under-represented in PVGs 2 and 5 when compared to tree size class desired conditions defined in the 2010 Forest Plan (Forest Service 2010a, Appendix A, Tables A-4 and A-5, p. A-7 and 8). In addition, the medium tree size class is over-represented in PVGs 2 and 5 and under-represented in PVG 6 compared to the desired conditions defined in the 2010 Forest Plan (Forest Service 2010a, Appendix A, Tables A-4, p. A-7).

- Canopy cover and ladder fuel conditions in PVGs 2 and 5 and the drier habitat types within PVG 6 need to be modified to fall within low and moderate canopy cover classes composed of the desired mix of early to mid-seral tree species. Canopy cover (a byproduct of stand density) represents the total nonoverlapping cover of all trees in a stand, except the seedling tree size class. Canopy cover of stands identified as large tree size class in the Project area exceed the desired canopy cover levels in PVGs 2 and 5 and the drier habitat types of PVG 6 (Forest Service 2010a, Appendix A, Table A-5, p. A-8). In addition, while some areas fall within the appropriate canopy cover classes, the mix of tree species that contribute to that canopy and/or structural variation within a forested area are not consistent with desired conditions (i.e., currently late seral species vs. desired early to mid-seral species). In these cases, tree canopies need to be reduced in the short term to provide the appropriate growing conditions to restore the desired early seral species (e.g. ponderosa pine) in the long term and/or reduce undesirable ladder fuels that have increased the risk of losing desirable vegetative features to uncharacteristic disturbance events.
- Stands dominated by ponderosa pine (Figure S-2) need to be increased to Forest Plan desired conditions (Forest Service 2010a, Appendix A, Table A-5, p. A-8). The desired condition is landscapes dominated by early-seral[9] species in the nonlethal and mixed1 fire regime. Douglas-fir are overabundant in PVGs 2 and 5 within the Project area. Grand fir is overabundant in the overstory and understory of the drier habitat types of PVG 6 and exceeds the desired conditions for species composition by a wide margin (section 3.2.5).

[9] The species or community that is replaced by another species or community as succession progresses. In PVGs 2 and 5, Douglas-fir replaces early seral pine in absence of disturbances. In the drier habitat types of PVG 6 ponderosa pine are replaced by grand fir and Douglas-fir.

Figure S-2. The Scriver Integrated Restoration Project Strives to Restore Ponderosa Pine in Low- to Mid-Elevation Forests where it Historically was the dominate Tree Species. (National Forest Library)

- Densities in plantations need to be reduced and a more natural grouping of irregularly spaced clumps of small diameter trees (<8 inches diameter at breast height [d.b.h.]) need to be created. Tree densities within plantations are resulting in inter-tree competition that is substantially slowing progression toward larger tree size class patches that are lacking in the Project area. The uniform tree spacing in these plantations should be broken up to create a more natural grouping and irregular spacing of trees that is typical of the forest types when historical disturbances were operating on the landscape.
- Habitat for the white-headed woodpecker (PVGs 2 and 5) and flammulated owl (*Otus flammeolus*) (drier habitat types within PVG 6) need to be restored within the forest types they historically occupied. The Ponderosa Pine Task Force (Mehl and Haufler 2004) identified approximately 3,130 acres of forested stands within the Project area as having high potential for restoring ponderosa pine. Restoring ponderosa pine forests in PVGs 2 and 5 would benefit bird species, such as the white-headed woodpecker, which is a species of conservation concern according to the State of Idaho (IDFG 2005). Restoring ponderosa pine communities in the drier habitats of PVG 6 would benefit the flammulated owl (Figure S-3), an R-4 Sensitive species. These restoration efforts would benefit other wildlife species associated with low- to mid-elevation forests that were historically dominated by ponderosa pine.

Figure S-3. Flammulated Owl

S.2.2 PURPOSE 2

Improve watershed conditions by reducing road-related impacts to wildlife, fish, soil, and water resources while providing for the transportation system necessary to meet long-term management needs.

The Scriver Creek subwatershed is identified in the Forest Plan Aquatic Conservation Strategy (ACS) as a high priority subwatershed for active restoration to improve watershed and aquatic conditions. Much of the existing road system in the Scriver Creek subwatershed is poorly located and deteriorating. In some cases, deterioration is occurring within Riparian Conservation Areas (RCAs). The *Scriver Creek Subwatershed Travel Analysis Process Report* (TAP) (Forest Service 2011b) determined that many roads are a source of management-induced sediment reaching Scriver Creek, and this sediment is impacting watershed quality and aquatic resource conditions (Forest Service 2011b). The Forest Service has also completed a national WCF assessment of the current condition and prioritization of subwatersheds on NFS lands. This WCF assessment identified the Scriver Creek subwatershed as a priority watershed.

The following specific actions have been identified as necessary to reduce road-related effects to resources:

- Decommissioning[10] authorized roads and obliterating[11] unauthorized routes within the Scriver Creek subwatershed to reduce sediment to streams, improve soil productivity, and thereby improve overall watershed and aquatic resource conditions. The 2010 Forest Plan states that the transportation system should be managed to reduce the degradation of resources (FROB04 and FROB06; Forest Service 2010a, p. III-60). Roads not needed for land and resource management should be evaluated for disposal and decommissioning (FROB04 and FROB06; Forest Service 2010a, p. III-60–61).
- Total road/route density and RCA road/route density within the Scriver Creek subwatershed are approximately 4.9 miles per square mile (mi/mi^2) and 5.4 mi/mi^2, respectively. The TAP identified 12.8 miles of authorized roads and 3.3 miles of unauthorized routes that are no longer needed to meet long-term management objectives and should be obliterated or decommissioned (Forest Service 2011b). Reducing road/route-related effects on water quality and aquatic/riparian species and their habitats is identified in the 2010 Forest Plan as Forest-wide objective SWOB18 (Forest Service 2010a, p. III-21)
- Roads are also considered a total soil resource commitment (TSRC) as defined by converting a productive site to an essentially nonproductive site for more than 50 years (Forest Service 2010a, p. GL-50). Reducing road/route-related effects on soil productivity is identified in the 2010 Forest Plan as Forest-wide objective SWOB18 (Forest Service 2010a, p. III-21)
- Reducing the effects of roads needed for long-term management. To reduce the effects of existing roads on resources, 2.8 miles of existing authorized road in an RCA needs to be realigned outside of the RCA, 3 stream crossings need to be replaced with new structures that allow fish passage (Figure S-4), and other road improvements need to be completed to reduce sediment delivery to streams and improve overall riparian function.
- In addition, 2.8 miles of NFS roads need tobe reconstructed to reduce sediment delivery to streams. Reconstruction would include upgrading the surface type with new surface aggregate and placing new aggregate for up to 300 feet on both sides of perennial stream crossings on roads that facilitate vegetation management.

[10] Decommission or obliteration would be done in a manner that minimizes resource effects while accomplishing the road management objective to return the prism to a productive state. In some cases, this would include complete recontouring and revegetation, while in other situations, it may include closing the entrance into the route and letting the route naturally revegetate when compaction within the prism is being reduced through freeze and thaw, it is hydrologically stable and revegetating on its own.

[11] While decommissioning applies to closing NFS roads and obliteration applies to removing unauthorized roads, the terms may be used interchangeably throughout this document for both types of routes.

- Closing roads within the Project area that have been identified in the TAP as necessary for vegetation management only after the project has finished. To meet other resource objectives, impacts indirectly tied to increased motorized access (e.g., removing snags and down logs for fuelwood that are important to the quality of wildlife habitat) need to be mitigated. Roads identified in the TAP as only needed for vegetation management need to be closed to general public access.
- Constructing new NFS roads to support the long-term management of the vegetative resource within the Project area—The TAP identified the need to construct 2.7 miles of new NFS road to facilitate access to current and future vegetation management areas (Forest Service 2011b). Because these roads are needed only to facilitate vegetation management, these roads would be closed when no longer needed to reduce road and access-related effects to other resources (see above).

Figure S-4. Upper Mainstem Scriver Creek Culvert Proposed for Replacement

S.2.3 PURPOSE 3

Utilize wood products resulting from restoration treatments to support local and regional economies.

Providing a predictable and recurring supply of wood products from lands identified as suitable for timber management in the Forest Plan is needed. Providing wood products that contribute to sustaining a wood products processing industry is essential for continuing forestland restoration and maintenance services in southwest Idaho and to support local and regional economic sustainability (Figure S-5). Activities are proposed within MPC 5.1 (Restoration and Maintenance Emphasis within Forested Landscapes). Most forestlands in MPC 5.1 have been identified in the Forest Plan as suitable for timber management where wood products produced from treatments are an outcome of achieving restoration objectives. MPC 5.1 emphasizes restoring or maintaining vegetation within desired conditions to provide a diversity of wildlife habitats, reduce risk from undesirable disturbance events, and support sustainable human uses of resources (Forest Service 2010a, p. III-90).

Figure S-5. Providing Wood Products that Contribute to Sustaining a Wood Products Industry is Essential for Continuing Forestland Restoration and to Support Local and Regional Economic Sustainability

S.3 Alternatives Considered in Detail

NEPA requires federal agencies to rigorously explore and objectively evaluate a reasonable range of alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). An alternative that was considered but eliminated from detailed study, including reasons for not addressing in detail, is disclosed in section 2.3.1.

Four alternatives were considered in detail, including the No Action Alternative, Alternative A.

As disclosed in Chapter 1 of this document, four concerns were raised that the Responsible Official determined to be issues and unresolved conflicts with the Proposed Action, Alternative B. To resolve these issues, two additional action alternatives, Alternatives C and D, were developed to clearly display the effects and tradeoffs of responding to these issues.

- *Issue 1:* All acres in need of restoration that are accessible from the proposed transportation system should be included in the Proposed Action. Commenters believed that including additional acres for commercial treatment that did not require additional road access may improve the economics of the project and more fully accomplish Purposes 1 and 3.
- *Issue 2:* All road-related restoration opportunities identified in the TAP should be carried forward into the Proposed Action regardless of whether funding would be generated from the project to complete the activity. Commenters believed that carrying all road-restoration opportunities through the NEPA process would allow these projects to be implemented whenever funding became available. They identified many cases where restoration funds became available but could not be used because the NEPA process could not be completed before the deadline. Commenters believed carrying these additional activities forward now would allow Purpose 2 to be more fully accomplished should unanticipated funds become available.

- *Issue 3:* Commercial treatments in units immediately adjacent to the Bear Wallow Inventoried Roadless Area (IRA) could impact the visual quality and detract from the natural appearance of these areas as viewed from the IRA. While the Proposed Action includes mitigation to address this concern, commenters believe that not treating these areas could result in a more natural appearance than what would occur under the mitigated Proposed Action.
- *Issue 4:* The Proposed Action removes some large diameter trees important to the quality of habitat preferred by some terrestrial wildlife species. Some commenters believe that prohibiting the removal of any tree ≥20 inches d.b.h. would benefit some wildlife species. While the Proposed Action retains many of the large trees, there are cases where later seral large trees (e.g., grand fir) would be removed to facilitate retaining and regenerating early seral species such as ponderosa pine. Thus, while retaining and restoring early seral tree species in forests would benefit some wildlife species over time (e.g., flammulated owl), it would have tradeoffs to other wildlife species who prefer larger, later seral tree species (e.g., pileated woodpeckers).

The Responsible Official also reviewed other concerns raised during scoping or as comments on the DEIS issued December 30, 2011. These concerns are valuable to help refine the effects analysis, but did not raise unresolved conflicts with the Proposed Action and therefore are not treated as issues. Typically, these concerns have been addressed by incorporating additional mitigation or design features and/or more specifically addressed the analysis and disclosure of effects in Chapter 3. These concerns address a variety of subjects and are summarized in Chapter 1, section 1.11.2.

S.3.1 Alternative A—No Action

This alternative provides a baseline against which to measure and compare the impacts of the action alternatives. Under this alternative, no new management activities would occur in this area although all other ongoing activities (e.g., recreational activities, public fuelwood gathering, livestock grazing, motorized travel) would continue. Suppression of wildfires within the Project area would also continue as needed. Figure S-6[12] displays the existing transportations system.

S.3.2 Alternative B—Proposed Action

Alternative B (Proposed Action) was developed to meet Project Purpose and Need. This Alternative is described in detail in section 2.4.2 and includes Design Features in section 2.4.5. Proposed vegetation (Purpose 1) and road management (Purpose 2) activities are summarized in Table S-1 and Table S-2 of this summary, and displayed in Figures S-7 and Figure S-8. As displayed in Table S-1, this Alternative is projected to commercially harvest 20.8 million board feet (MMBF) of wood products (Purpose 3), estimated to directly and indirectly support 720 jobs.

[12] Due to size, Figures S-6 through S-12 have been placed at the end of this document.

S.3.3 ALTERNATIVE C

Alternative C was developed to meet the Project's Purpose and Need, and address Issues 1–3. Alternatives C is described in detail in section 2.4.3 of the SDEIS and includes Design Features in section 2.4.5. Proposed vegetation (Purpose 1) and road management (Purpose 2) activities under this alternative and how they compared to Alternative B are summarized in Table S-1 and Table S-2 of this summary, and displayed in Figures S-9 and Figure S-10. As displayed in Table S-1, this Alternative is projected to commercially harvest 24.8 MMBF of wood products (Purpose 3) which is estimated to directly and indirectly support 858 jobs.

To address Issue 1, Alternative C includes an additional 428 acres of vegetation management treatments, all of which are accessible from the existing road system.

To address Issue 2, an additional 3.6 miles of NFS roads would be decommissioned, 1.7 miles permanent roads proposed for construction under Alternative B would be changed to temporary roads and decommissioned following vegetation management activities, 2 additional culverts would be replaced to address aquatic organism/fish passage barriers, add an addition 2.5 miles of surface aggregate to roads along riparian areas to reduce sediment delivery to streams, and stabilize 0.5 miles of routes in the southern in of the project area contributing sediment to streams.

To address Issue 3, the 118 acres of commercial harvest activities immediately adjacent to the western boundary of the Bear Wallow IRA were dropped and would not be treated.

S.3.4 ALTERNATIVE D

Alternative D was developed to meet the Project's Purpose and Need, and address Issues 1–4. Alternative C is described in detail in section 2.4.4 of the SDEIS and includes Design Features in section 2.4.5. Proposed vegetation (Purpose 1) and road management (Purpose 2) activities under this alternative and how they compared to Alternatives B and C are summarized in Table S-1 and Table S-2, and displayed in Figures S-11 and S-12. As displayed in Table S-1, this Alternative is projected to commercially harvest 20.4 MMBF of wood products (Purpose 3) which is estimated to directly and indirectly support 706 jobs.

Alternative D addresses Issues 1 and 3 the same as Alternative C. As to Issue 2, Alternative D addresses this issue in all ways described under Alternative C plus eliminates all new construction of permanent roads; i.e. eliminates 1.0 miles of road construction (NFS road 696D1).

To address Issue 4, a 20-inch diameter limit on all trees species was included in all commercial harvest activities.

Table S-1. Comparison of Alternatives by Proposed Vegetation and Fuels Management Activity

Indicator		Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
VEGETATION MANAGEMENT ACTIVITIES					
Acres of Commercial Vegetation Treatments by Yarding System	Tractor	0	1,212	1,582	1,472
	Cable	0	969	1,238	1,238
	Helicopter	0	1,084	755	865
	TOTAL	0	3,265	3,575	3,575
Acres of commercial vegetation treatment adjacent to IRA	TOTAL	0	118	0	0
Acres of commercial treatment by silvicultural prescription	Commercial Thin	0	2,169	2,518	2,518
	Improvement Cut	0	1,069	1,057	1,057
	TOTAL	0	3,265	3,575	3,575
Acres of commercial treatment within each PVG[a]	PVG 2	0	1,069	1,069	1,069
	PVG 5	0	36	36	36
	PVG 6	0	2,160	2,470	2,470
	TOTAL	0	3,265	3,575	3,575
Helicopter Landings	New	0	14	11	12
	Existing	0	1	1	1
	TOTAL	0	15	12	13
Total Volume MMBF	TOTAL	0	20.8	24.8	20.4
Acres of Non-commercial plantation treatments outside or within (RCA)	Outside RCA	0	676	676	676
	Within RCA	0	163	163	163
	TOTAL	0	839	839	839
FUELS TREATMENTS TIED TO COMMERCIAL VEGETATION ACTIVITIES					
Acres of Fuels treatments following commercial vegetation management treatments[b]	WTY + RxBurn	0	500	488	488
	LOP + RxBurn	0	462	462	462
	LOP to 36" depth only	0	622	293	403
	WTY + Haul back in unit	0	1,011	1,241	1,131
	WTY + burn landing piles	0	670	1,091	1,091
	TOTAL	—	3,265	3,575	3,575

Note: All fuels treatment in noncommercial units is LOP
[a]PVG 2 = Warm Dry Douglas-fir, Moist Ponderosa Pine; PVG 5 = Dry Grand Fir; PVG 6 = Cool Moist Grand fir (refer to Appendix D for detailed discussions concerning PVGs, associated fire regimes and important seral tree species
[b] WTY = Whole Tree Yard; RxBurn = Prescribed Fire; LOP = lop and scatter residual slash; Haul back = trees whole tree yarded to landing, some bole material hauled back as needed to meet coarse woody debris objectives.

Table S-2. Comparison of Alternatives by Proposed Road Management Activity

Indicator		Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
ROAD MANAGEMENT ACTIVITIES					
Miles of road decommissioning[a]	NFS road	0	12.8	16.4	16.4.
	Realigned	0	3.3	3.3	3.3
	Unauthorized	0	3.8	3.8	3.8
	TOTAL	0	19.8	23.5	23.5
Miles of new temporary or specified (permanent) road construction	Temporary	0	1.0	4.2	4.2
	Specified Road	0	2.7	1.1	0
	TOTAL	0	3.7	5.3	4.2
Miles of Road Reconstruction	NFS road 696 realign (new Prism)	0	4.3	4.3	4.3
	Rd 696 realign (existing Prism)	0	3.5	3.5	3.5
	Subtotal	0	7.8	7.8	7.8
	NFS road 696d realign (new Prism)	0	0.1	0.1	0.1
	NFS road 696d realign (existing Prism)	0	0.4	0.4	1.4
	Subtotal	0	0.5	0.5	0.5
	New Aggregate—NFS road 693	0	2.8	2.8	2.8
	New Aggregate—NFS road 693b	0	0	2.5	2.5
	Subtotal	0	2.8	5.3	5.3
	TOTAL	0	11.1	13.6	13.6
Road Maintenance	TOTAL	0	40.9	38.3	38.3
Road Stabilization	TOTAL	0	0	0.5	0.5
Final miles of road in Level 1, 2 or 3 maintenance status; post-project	Level 1	51.7	38.7	33.6	32.4
	Level 2	13.3	17.1	17.1	17.1
	Level 3	8.6	8.6	8.6	8.6
	TOTAL	73.6	64.4	59.3	58.1
Project area Road Density (miles/miles^2) Post-Project	Open to motorized use	1.2	1.4	1.4	1.4
	Closed	3.2	2.2	2.0	1.9
	TOTAL	4.4	3.6	3.4	3.3
Riparian Conservation Area (RCA) Road Density (miles/miles^2) Post Project	Open to motorized use	2.6	2.4	2.4	2.4
	Closed	2.6	1.3	1.3	1.2
	TOTAL	5.2	3.7	3.7	3.6

Indicator		Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
Aquatic Organism Passage (AOP) culvert Replacements	NFS road 695 at Middle Fork Scriver Creek	0	1	1	1
	NFS road 693A at Scriver Creek	0	1	1	1
	NFS road 693 at Scriver Creek	0	1	1	1
	NFS road 693B at Scriver Creek	0	0	1	1
	NFS road 693 at WF Scriver Creek	0	0	1	1
	TOTAL	0	3	5	5

[a] Realigned sections of NFS road 696 or 696D

S.4 Comparison of Alternatives by Purpose and Need

S.4.1 PURPOSE 1

Move toward restoration of 2010 Forest Plan desired vegetation conditions within PVGs 2, 5, and the drier habitat types of PVG 6 by changing the forest structure, density, and species composition in order to accelerate development of large tree and old forest habitat dominated by early seral species.

S.4.1.1 Summary of Existing Condition

Large tree and old forest habitat occurs in the mid-seral, fire-maintained systems associated with fire regimes that were historically prevalent in central Idaho. In PVG 2, these systems were historically large diameter; open canopy landscapes dominated by ponderosa pine and maintained under a nonlethal fire regime. In the drier habitat types of PVG 6, vegetative communities were historically made up of stands in the medium or large tree size classes, in the moderate canopy cover class, dominated by ponderosa pine and Douglas-fir and smaller amounts of other species such as grand fir and maintained under a mixed1 fire regime. Old forest habitat is an important source habitat condition that provides denning, nesting, foraging, and cover habitat for many wildlife species. Old forest habitats are distinguished by old trees and related structural attributes, which may include tree size, species compostition, signs of decadence, large snags and logs, canopy gaps, and understory patchiness (Forest Service 2003a, Van Pelt 2007 and 2008). In different forested habitat types, site quality, climate, and disturbance patterns, old forest habitats may vary extensively in tree sizes, species composition, and presence and abundance of structural elements (Helms 1998). Large tree habitat is an important foundational component of old forest habitat that has been identified at the scale of the Forest as being below desired quantities in nonlethal and mixed1 fire regimes. Large tree habitat can be a critical building block to restoration of old forest habitat when quantities and distribution of old forest habitat are not reflective of historic conditions and can provide foraging and breeding habitat for many wildlife species that also use old forest habitat.

Currently no one stand within the project area meets all attributes that characterize old forest habitat as described in the 2010 Forest Plan. However, the large tree stands in the project area contain attributes of both low elevation (Family 1) and broad elevation (Family 2) large tree and old forest habitat. The large tree size class provides important habitat for a variety of wildlife species even when not in an old forest habitat condition. Existing large tree and old forest habitat components (i.e., species compositions, legacy-like trees, large diameter snags, canopy cover) within large tree stands provide building blocks for developing stands to maintain desired large tree and old forest habitat components. Management actions can facilitate movement toward developing remaining components, such as species composition, that are presently not within the desired conditions for low and broad elevation old forest habitat.

S.4.1.2 Summary of Environmental Consequences

Immediately following treatment all action alternatives would make improvements in species composition compared to Alternative A, with the greatest gains made in Alternatives B and C in the non-lethal regime (Table S-3). In the mixed1 fire regime Alternative C would improve the species composition the most followed by Alternative B. However, gains in other components of old forest and large tree habitat[13] would not be measurably realized until 2030.

By 2030, more stands would be in the large tree size class under Alternatives B, C and D than Alternative A. All stands in PVGs 5 and 6 would be in the large tree size class but Alternative A would have three fewer large tree size class stands than Alternatives B, C and D in PVG 2. No stands would meet all old forest habitat attributes in combination but stand conditions would be progressing. Under Alternatives A and D, about the same number of stands would meet the large tree canopy cover of ≥30 percent which would be more than under either Alternatives B and C. However, more stands would meet the desired mix of early seral species under Alternatives B and C compared to Alternatives A and D. This difference between alternatives would reflect the trade-off between restoration approaches (i.e., an emphasis on recruiting early seral species at the expense of maintaining large tree canopy cover versus maintaining large tree canopy cover at the expense of recruiting early seral tree species).

[13] Forest Plan Appendix E describes the following as key attributes in the definition of old forest habitat: (1) Stand falls within the large tree size class, (2) canopy cover represented by large tree is ≥30%, (3) total stand canopy of all tree size class (varies by PVG), (4) strong seral species composition consistent with the PVG, (5) number of large snags and tons of coarse woody debris, and (6) presence of legacy trees.

Table S-3. Comparison of Alternatives by Large Trees per Acre and Percent of Large Tree Size Class in Ponderosa Pine

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
FORESTED VEGETATION—NONLETHAL FIRE REGIME (1,069 acres commercially treated)					
Ponderosa Pine Restoration Indicator : Large ponderosa pine vs. large Douglas-fir (section 3.2.4.2.1) *(Projection period = 2030)*	Number of live large ponderosa pine *Existing = 6.1 TPA*	8.3 TPA	9.8	9.8	8.8
	Number of live large Douglas-fir *Existing = 2.8 TPA*	5.0 TPA	3.6	3.6	4.6
	Percent of large tree class in ponderosa pine (Existing=63%)	62%	71%	71%	66%
FORESTED VEGETATION—MIXED1 FIRE REGIME (2,196 acres commercially treated Alternative B; 2,506 Alternatives C and D)					
Ponderosa Pine Restoration Indicator : Large ponderosa pine vs. large Douglas-fir (section 3.2.5.2.1) *(Project period = 2030)*	Number of live large ponderosa pine *Existing = 6.1 TPA*	6.6	6.9	6.9	7.0
	Number of live large Douglas-fir *Existing = 5.1 TPA*	7.8	5.6	5.5	6.8
	Number of live large grand fir/other *Existing = 6.8 TPA*	9.7	6.8	5.8	8.3
	Percent of large tree class in ponderosa pine (*Existing=34%)*	27%	36%	38%	32%

Under Alternatives A and D, the large snags and coarse woody debris (CWD) that develop in the future would be from a greater proportion of later-seral tree species while large snags and coure woody debris under Alternatives B and C would be from a mix of early- and late-seral tree species. Because some wildlife species prefer snags of certain species, the restoration approach that results in different mixes of tree species snags is also a trade-off and effect to different wildlife species. Refer to discussions under Issue #4 below for more specifics concerning tradeoffs to different wildlife from recruiting early seral tree species versus retaining later seral tree species that meets the large tree canopy cover.

Finally, existing deficits in CWD would improve faster in the short-term under the action alternatives due to Design Feature TH-8 which would intentionally haul back or leave large CWD on-site in areas with large coarse wood debris deficits. The tons of CWD reflected in Table S-8 of the Forest Vegetation section does not reflect the potential benefits of this CWD haul back. With haul back, CWD deficits would improve in some areas

S.4.2 PURPOSE 2

Improve watershed conditions by reducing road-related impacts to wildlife, fish, soil, and water resources while providing for the transportation system necessary to meet long-term management needs in the project area as identified in the Scriver Creek Subwatershed Travel Analysis Process (TAP) Report (Forest Service 2011b).

Transportation, soil and water quality and fisheries habitat are discussed below relative to accomplishment of purpose 2. Refer to discussions under Issue 4 for a summary concerning benefits to wildlife species as a result of reducing road related effects. Refer to section 3.4 for detailed discussions, by wildlife species, as to the benefits from reduced road related effects.

S.4.2.1 Transportation Management Needs

A detailed list of all changes in the transportation system is shown in Table S-2, Table S-4 displays the final miles of road by maintenance level, total and RCA road density of open versus closed to public motorized use as displayed on the 2012 Emmett RD Motor Vehicle Use Map (MVUM). The changes reflected in these numbers between the alternatives provides a relative comparison of choices made in each alternative to provide the transportation needs to support future vegetation management and dispersed recreation within the project area versus balancing the needs to improve water quality, total soil resource commitments and reduce the effects to wildlife habitat. As displayed below in Table S-4, Alternative A provides the greatest network of roads to support future vegetation management and dispersed recreation while maintaining a high level of risk to resources from road related impacts, followed by Alternative B, then C and then D. Alternatives C and D provide a similar balance between the need for a road network to support vegetation management and dispersed recreation in the future, while reducing risk and actual impacts to resources.

Table S-4. Final Post Project Miles of Road by Maintenance Level, Total and Riparian Conservation Area (RCA) Road Density of Open Versus Closed to Public Motorized Use, by Alternatives

INDICATOR	MEASURE	ALT A	ALT B	ALT C	ALT D
Final Miles of Road in Level 1, 2 or 3 Maintenance Status; Post-project	Maintenance Level 1[a]	51.7	38.7	33.6	32.4
	Maintenance Level 2[b]	13.3	17.1	17.1	17.1
	Maintenance Level 3[c]	8.6	8.6	8.6	8.6
	TOTAL	73.6	64.4	59.3	58.1
Project Area Road Density (miles/miles^2 Post-project	Open to motorized use	1.2	1.4	1.4	1.4
	Closed	3.2	2.2	2.0	1.9
	TOTAL	4.4	3.6	3.4	3.3
RCA Road Density (miles/miles^2) Post-project	Open to motorized use	2.6	2.4	2.4	2.4
	Closed	2.6	1.3	1.3	1.2
	TOTAL	5.2	3.7	3.7	3.6

[a.] Maintenance Level 1 = Assigned to intermittent service roads during the time they are closed to vehicular traffic. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities

[b.] Maintenance Level 2 = Assigned to roads open for public or permitted use by high clearance vehicles. Passenger car traffic is not a consideration

[c.] Maintenance Level 3 = Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience area not considered priorities

S.4.2.2 Soil and Water Quality

S.4.2.2.1 Summary of Existing Conditions

Water quality within the analysis area over the past 50 years demonstrates little evidence of increased fine soil sediment associated with natural events, such as landslides and/or wildfires. Management-induced sediment is generally associated with the existing transportation system, past timber harvest, recreation activities, and historical livestock grazing (see Appendix B for a map and list of past activities). Forest roads are sources of sediment (Megahan and Kidd 1972, Megahan 1983, Megahan and Bohn 1989, Ketcheson and Megahan 1996, Madej 2001). Roads may directly affect natural sediment and hydrologic regimes by altering streamflow, sediment loading, sediment transport and deposition, hillslope stability, channel morphology, channel stability, substrate composition, stream temperatures, water quality, and riparian conditions within a watershed (Quigley and Arbelbide 1997, p. 1103). Roads alter surface and subsurface water flow, concentrate water, expose and alter soil, increase the slope angle on cuts/fills, and decrease infiltration.

While all streams within Scriver Creek are designated as fully supporting beneficial uses in the 2010 State of Idaho Integrated Water Quality Report, the downstream receiving water body (i.e., the Middle Fork Payette River) has two total maximum daily loads (TMDLs) in place, one for temperature and one for sediment. These TMDLs call for a 76 percent reduction in instream fine sediment and a 16 percent reduction in stream temperature from solar loading in the Scriver Creek subwatershed to assist in achieving their goals.

S.4.2.2.2 Summary of Environmental Consequences

Implementing Alternative A would not reduce sediment or temperature loads within the Scriver Creek subwatershed as directed in the TMDL for the Middle Fork Payette River. All action alternatives show a measurable reduction in sediment compared to Alternative A (Table S-5). Alternatives vary in the amount of reduction depending on the proposed amount of new road construction, temporary road, road reconstruction, road maintenance, road aggregate placement, and miles of roads decommissioned within and outside of RCAs.

Refer to Table S-2 for detailed descriptions of road activities by alternative.

Alternatives C and D, compared to Alternative B, places an additional 2.5 miles of road surface aggregate on the NFS road 693B and decommissions more miles of road to further reduce road sediment production and potential delivery to streams. The primary difference between Alternative D and Alternative C is that Alternative D proposed no new system road construction; Alternative C includes 1.1 miles of new construction, including 0.2 miles of RCA roads (NFS road 696D1).

Table S-5. Water Quality Improvements: Changes in percent over natural sediment yields (BOISED and sediment delivery (GRAIP)

Indicator	Measure	Alt A	Alt B	Alt C	Alt D
BOISED[a] modeled sediment yield by 2030 (NFS Roads and vegetation mgmt. activities in Scriver Creek subwatershed only)	Percent (%) over natural following implementation	23.3	17.5	15.4	15.3
	Tons per year of sediment produced following implementation	359	269	237	236
GRAIP[b] modeled sediment yield by 2030 (Includes NFS roads + other roads with in Scriver Creek subwatershed).	Tons per year of sediment produced following implementation	528	350 (–34%)	340.5 (–36%)	340.5 (–36%)
Total Maximum Daily Load (TMDL) goal: 76% sediment reduction in Scriver Creek subwatershed	Contribute to TMDL sediment reduction goal	No	Yes	Yes	Yes

[a.] BOISED model (Forest Service 1991, 1995) was used to estimate current and predicted changes in percent over natural sediment yield associated with harvest, landings, prescribed fire, and road activities for each alternative
[b.] Geomorphic Road Analysis and Inventory Package (GRAIP; Prasad 2007) provides site-specific estimates of road related sediment production and sediment delivery based on a field evaluation of road segments, drain points and connection to stream channel. GRAIP sediment delivery amounts are modified based road management activities

S.4.2.3 Fisheries

S.4.2.3.1 Summary of Existing Conditions

The degraded water quality discussed in the previous section directly and indirectly impacts fish habitat. In addition, the presence of migration barriers also prevents existing fish from migrating to more desirable locations as necessary for spawning and rearing. Based on the 2004 Forest culvert inventory survey, three known and surveyed migration barrier culverts fragment approximately 9.5 miles of available aquatic habitat within the project area. Two additional migration barriers, for a total of five, fragmenting an additional 3 miles of habitat, were identified during the Project data collection.

S.4.2.3.2 Summary of Environmental Consequences

Improvements in water quality discussed in the previous section will be beneficial to fish habitat. In addition to the benefits to fish habitat resulting from improvements in water quality, replacing barriers to fish passage resulting from existing culverts at five road crossings would also improve habitat access conditions. As shown in Table S-6, Alternatives C and D replace 5 of these culverts, Alternative B replaces 3 and Alternative A replaces done.

Table S-6. Aquatic Organism/Fish Passage Culvert Replacements

Indicator	Measure	Alt A	Alt B	Alt C	Alt D
Aquatic Organism Passage (AOP) Culvert Replacements	Road 695 at Middle Fork Scriver Creek	0	1	1	1
	Road 693A at Scriver Creek	0	1	1	1
	Road 693 at Scriver Creek	0	1	1	1
	Road 693B at Scriver Creek	0	0	1	1
	Road 693 at West Fork Scriver Creek	0	0	1	1
	TOTAL	0	3	5	5

S.4.3 PURPOSE 3

Utilize wood products resulting from restoration treatments to support local and regional economies.

Both jobs supported directly from removal and processing of wood products and those indirectly associated with these activities that are identified as other restoration activities (e.g., precommerical tree thinning, road management activity) are discussed below. Both contribute to support of local economies.

S.4.3.1 Summary of Existing Conditions

The Project area is located within Boise and Valley counties. Timber sales and their associated activities affect local communities within these counties and other nearby areas based on their impact to employment. The 2011 unemployment rate for Boise County was 9.6 percent and Valley County was 15.2 percent compared to the National rate of 8.9 percent.

S.4.3.2 Summary of Environmental Consequences

Under Alternative A, no new management activities would be implemented in the analysis area. No wood products would be removed from the analysis area, nor would submerchantable trees be thinned. Additionally, the transportation system would remain at its current level (section 3.11.2) and fire and fuels conditions would remain on current trajectory (section 3.4.2). This alternative would have no effect on employment opportunities in Boise and/or Valley County. No expenses would be incurred for sale preparation, contract administration, thinning operations, prescribed burning activities, culvert replacement (AOP), or road decommissioning.

The action alternatives remove from 20.4 MMBF to an estimated 24.8 MMBF of wood products which would generate a potential net value (PNV) from $622,700 to $1,925,700 (Table S-7). Wood products and work associated with implementation of restoration items under this alternative would help sustain economies in Boise and Valley counties and adjacent areas. Job creation and support under the action alternatives would directly and indirectly benefit local economies. According to Lippke and Mason (2005), the estimated direct annual employment rate for forest products is 7.84 jobs/MMBF; the indirect employment rate is 26.73 jobs/MMBF (Table S-7). The estimate for job creation for the American Recovery and Reinvestment Act of 2009 was that $92,000 of government spending created 1 job/year; 64 percent of the jobs created was in direct or indirect effects (Table S-7).

As displayed in Table S-7, of the action alternatives, Alternative C would support the greatest number of jobs, followed by Alternative B and Alternative D.

Table S-7. Summary of Jobs Supported by Restoration Activities

Indicator	Measure	Alt A	Alt B	Alt C	Alt D
Summary of Wood Product Volume, Appraised Value, and Jobs Supported (section 3.15.4)	Volume (MMBF)	0.0	20.8	24.8	20.4
	Potential Net Value ($)	0	1,024,900	1,925,700	622,700
	Jobs Supported	0	720	858	706
Summary of Project Cost and Job Support for Restoration Activities other than commercial vegetation treatments (section 3.15.4)	Project Cost ($)	0	1,828,700	2,196,300	2,196,300
	Number of Activities	0	13	16	16
	Jobs Supported	0	12.1	14.6	14.6

S.5 Comparison of Alternatives by Issue

S.5.1 Issue 1

All acres in need of restoration that are accessible from the proposed transportation system should be included in the Proposed Action: Commenters believed that including additional acres for commercial treatment that did not require additional road access may improve the economics of the project and more fully accomplish Purposes 1 and 3.

Alternatives C and D added an additional 310 acres that could be accessed by the existing road system, compared to Alternative B, Proposed Action. As to how this improved or reduced the economics of the project depended on several factors. As shown in the PNVs for the alternatives (Table S-7), adding acres in Alternative C improved the PNV compared to Alternative B, the Proposed Action. However, under Alternative D it actually reduced the PNV compared to Alternative B.

The lower potential net value displayed for Alternative D compared to Alternatives B and C is largely due:

- Yarding cost differences. The alternative with the higher number of helicopter acres with lower volumes per acre removed (Table S-8) contribute to a lower PNV (Table S-7).
- Lower volumes per acre with smaller log sizes due to diameter limits for all species under Alternative D, would increase cost due to the greater number of trips to pick-up the same amount of volume. For example, two 20 inch diameter trees that are 70 feet tall have about 100 cubic foot of volume. It would take 6-7 trees that are 12 inches in diameter by 70 feet tall to achieve an equivalent amount of volume (FSH 2209.22, Chapter 10). Depending on location of trees felled, it could take 2-3 trips more to pick-up the number of smaller size trees compared to the larger size trees.
- More acres would have to be covered to get the equivalent volume under Alternative D compared to B. While the total volumes are similar between Alternatives B and D, 310 more acres are being treated under Alternative D. Thus, your average costs/MMBF removed goes up because you have to cover more acres.

Table S-8. Acres of Commercial Vegetation Treatment by Yarding System by Alternative

Indicator	Measure	Alt A	Alt B	Alt C	Alt D
Acres of Commercial Vegetation Treatments by Yarding System	Tractor	0	1,212	1,582	1,472
	Cable	0	969	1,238	1,238
	Helicopter	0	1,084	755	865
	TOTAL	0	3,265	3,575	3,575
	MMBF	0	20.8	24.8	20.4
	BF/Acre	0	6,370	6,937	5,706

S.5.2 ISSUE 2

All road-related restoration opportunities identified in the TAP should be carried forward into the Proposed Action regardless of whether funding would be generated from the project to complete the activity—Commenters believed that carrying all road-restoration opportunities through the NEPA process would allow these projects to be implemented whenever funding became available. They identified many cases where restoration funds became available but could not be used because the NEPA process could not be completed before the deadline. Commenters believed carrying these additional activities forward now would allow Purpose 2 to be more fully accomplished should unanticipated funds become available.

Alternatives C and D add more road decommissioning, road aggregate work and AOP/fish passage barrier culvert replacements that were identified in the TAP but not carried forward into Alternative B, the Proposed Action. As displayed in Table S-9, Alternatives C and D add to additional AOP/fish passage culvert replacements. As shown below in Table S-9, Alternatives C and D both add an additional 3.7 miles of NFS road decommissioning and 2.5 miles of additional road aggregate work.

Table S-9. Miles of road decommissioning and new surface aggregate road work, by Alternative

Indicator	Measure	Alt A	Alt B	Alt C	Alt D
Miles of road decommissioning[a]	NFS road	0	12.8	16.4	16.4
	Realigned	0	3.8	3.8	3.8
	Unauthorized	0	3.3	3.3	3.3
	TOTAL	0	19.8	23.5	23.5
New aggregate to road surface to reduce sedimentation.	Aggregate–Rd 693	0	2.8	2.8	2.8
	Aggregate–Rd 693b	0	0	2.5	2.5
	TOTAL	0	11.1	13.6	13.6

[a.] Realigned sections of NFS road 696 or 696D

In addition, unlike Alternatives B or C, Alternative D eliminates all new permanent road construction (i.e., does not construct NFS road 696 D1 estimated to be 1 mile long. Also, Alternatives C and D, unlike Alternative B, stabilize approximately 0.5 miles of route in the south end of the project contributing sediment to streams.

S.5.3 ISSUE 3

Commercial treatments in units immediately adjacent to the Bear Wallow IRA could impact the visual quality and detract from the natural appearance of these areas as viewed from the IRA. While the Proposed Action includes mitigation to address this concern, commenters believe that not treating these areas could result in a more natural appearance than what would occur under the mitigated Proposed Action.

S.5.3.1 Summary of Existing Condition

IRA are inventoried tracts of NFS land characterized as having an undeveloped character. The Bear Wallow IRA is one of 42 IRAs identified on the Boise National Forest. This IRA comprises approximately 9,133 acres of the total 1,108,500 IRA acres on the Boise National Forest (Forest Service 2003b, Appendix H). The Bear Wallow IRA lies between the NFS Road 698 (Middle Fork Payette River Road) and the eastern edge of the project area.

On October 16, 2008 the Forest Service published a final rule (36 CFR 294) that adopted state specific management direction for designated roadless areas in the State of Idaho (i.e., the Idaho Roadless Rule). About 8,400 acres of Bear Wallow Roadless Area has been designated as Primitive and approximately 700 acres are designated as a Forest Plan Special Area under the Idaho Roadless Rule (36 CFR 294.29). The portions of the Bear Wallow Roadless Area adjacent to the Project area are designated as Primitive.

The Idaho Roadless Rule establishes permissions and prohibitions that govern the types of activities that may occur within IRAs. It does not establish management direction for areas adjacent to an IRA. Direction for management of areas adjacent to IRAs, such as the Scriver Creek Integrated Restoration project area, is provided in the Forest Plan direction (Forest Service 2010). The Forest Plan allocates the adjacent area immediately west of the Bear Wallow IRA in which the Scriver project falls to MPC 5.1, Restoration and Maintenance Emphasis within Forested Landscapes.

As seen in section 3.16, the areas proposed for treatment under Alternative B that are immediately adjacent to the western boundary of the IRA have an established Visual Quality Objectives (VQO) of modification. Under a modification VQO management activities may visually dominate the original characteristic landscape; however, activities of vegetative and landform alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type. Additional parts of these activities such as structures and roads must remain visually subordinate to the proposed composition.

S.5.3.2 Summary of Environmental Consequences

Alternatives A, C, and D do not propose any commercial treatments immediately adjacent to the western boundary of the Bear Wallow IRA, thus no management-induced changes to the scenic environment would occur from commercial treatments along the western boundary of the IRA (Figure S-6, Figure S-9 and Figure S-11). Over time, evidence of previous disturbances would continue to diminish as trees increase in size and density and line and form conditions from past road activity and cable corridors would also diminish in appearance. Absent an uncharacteristic disturbance event, subtle changes in the vegetative structure and composition from natural processes would generally be unnoticeable to forest visitors and would meet the assigned VQOs within the analysis area. Because no direct or indirect effects to the scenic environment would be expected with implementation of these alternatives, there would be no cumulative effects.

Alternative B proposes to treat 54 acres along the northern portion of the western boundary of the Bear Wallow IRA and 64 acres along the southern portion of the boundary (Figure S-7). Helicopters would be used to log 100 acres of these units, thus minimizing ground disturbance on the majority of the area treated. Tractor skidding would be used on the remaining 18 acres. Fuels resulting from harvest would be lop on the helicopter units and prescribed underburned on the tractor skidding units.

Proposed improvement cut activities under Alternative B would result in a more open forested appearance on the 118 acres treated compared to Alternatives A, C, or D where these acres would not be treated. As displayed in a modeled depiction of the change expected between the current condition and proposed treatments under Alternative B (Figure S-13), the foreground landscape seen from viewpoints along the western boundary of the IRA where these treatments are proposed would continue to convey a predominantly natural appearing forested condition with varying ranges of tree densities within patches and configurations characteristic of the fire regime (Stand Basal Area and Canopy cover, sections 3.2.4.1.4 and 3.2.4.1.5, respectively).

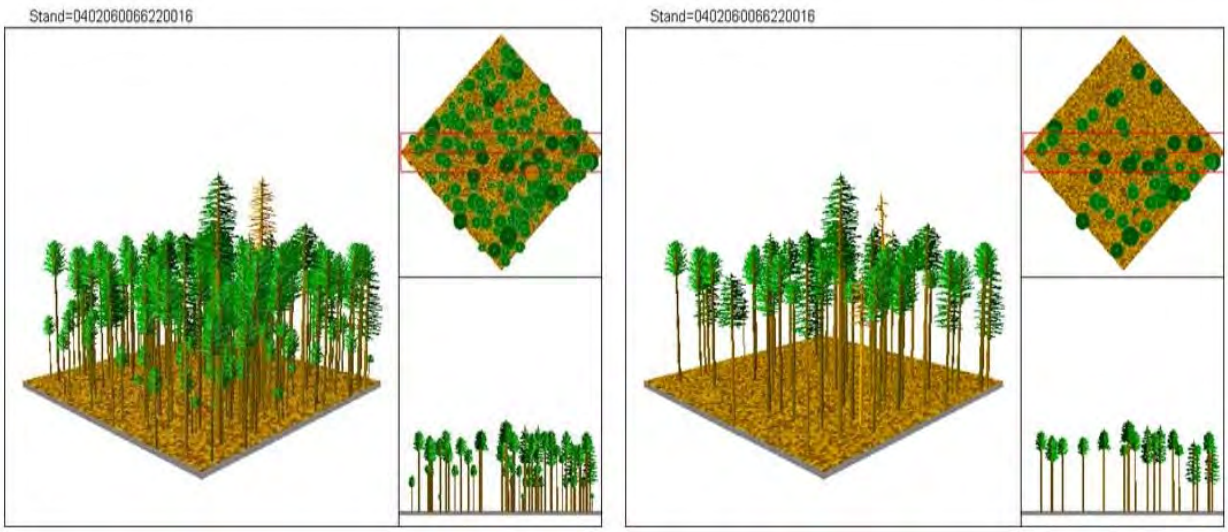

Figure S-13. Illustration of Existing Stand Conditions in Unit 13 (Stand 6220016) in 2010 and Stand Conditions One Year Following Treatment

For the first 1–3 year period following implementation of Alternative B treatments there is likely to be evidence of harvest activity from ground and soil disturbance and harvest residues in the location seen in the foreground of viewpoints along the western boundary of the IRA near these proposed harvest units. Harvest slash would generally be unnoticeable within 3–5 years as the material begins to blend with surrounding surface material. While evidence of treatment would be visible, whereas under Alternatives A, C and D there would be none, the proposed vegetation management activities under this alternative would meet the required modification VQO.

While visually different than no treatment, the appearance of a similar forest stand along the IRA boundary would be expected to be maintained with implementation of proposed activities under Alternative B given that the silvicultural prescription for these units would result in a residual density of about 80 square feet of basal area. With this prescription, it is anticipated there would not be a visible demarcation or edge effect between the IRA and the units/stands treated. Figure S-13 illustrates the existing stand conditions for Unit 13 (Stand 6220016) as compared to what the stand conditions would likely look like one year following treatment in all units/stands treated adjacent to the Bear Wallow IRA.

While not specifically raised as a concern, the benefits of the 194 acres of precommercial thinning activities proposed near the IRA boundary under all action alternatives is worth noting. These treatments would be expected to put these forested stands on a trajectory toward vegetative desired conditions, creating more of a natural forest appearance. Overtime, the visual quality of these areas as viewed from the IRA should improve under all the action alternatives compared to Alternative A which would maintain a uniform tree pattern characteristic of a plantation environment that is not typical of the natural landscape. Thus, in the short- and long-term, precommerical thinning treatments would create a more natural forested appearance of the forested areas along the boundary of the project area and Bear Wallow IRA.

In summary, while there would be a visual difference between not commercially treating areas adjacent to the IRA boundary under Alternatives A, C and D versus treating these areas under Alternative B, all alternatives would meet the identified VQO for the areas, blending at the IRA boundary. Commercial vegetation activities under Alternative B would borrow from naturally established form, line, color, and texture so that the visual characteristics following treatment would be those expected to occur naturally within the surrounding area, including within the IRA where change would generally occur more through natural disturbances. In addition, the precommecial treatments proposed in plantations adjacent to the IRA under all action alternatives would measurably improve the natural forest appearance of these areas compared to Alternative A. These plantation treatments would help blend these forested areas in with those in the adjacent IRA over time.

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The Proposed Action removes some large diameter trees important to the quality of habitat preferred by some terrestrial wildlife species. Some commenters believe that prohibiting the removal of any tree ≥20 inches d.b.h. would benefit some wildlife species. While the Proposed Action retains many of the large trees, there are cases where later seral large trees (e.g., grand fir) would be removed to facilitate retaining and regenerating early seral species such as ponderosa pine. Thus, while retaining and restoring early seral tree species in forests would benefit some wildlife species over time (e.g., flammulated owl), it would have tradeoffs to other wildlife species who prefer larger, later seral tree species (e.g., pileated woodpeckers).

Appendix E of the Forest Plan groups source habitats[14] for terrestrial wildlife species across the Forest. These source habitat groups fit into a hierarchical system of four broad suites of habitat: (1) Forest Only; (2) Combination of Forest and Rangeland; (3) Rangeland Only, and; (4) Riverine and Non-riverine Riparian and Wetland. These four suites are further refined by categorizing similar source habitats into 14 habitat families; Families 1–4 are within Suite 1; Families 5–9 are within Suite 2; Families 10–12 are within Suite 3, and; Families 13–14 are within Suite 4. Habitat families are a collection of species that share similarities in source habitats, which are arranged along major vegetative themes such as ecological communities, vegetative structure, and fire regime. Focal species are selected species within these habitat families that represent key environmental correlates and ecological functions that may be affected by management activities. Key environmental correlates are the biotic or abiotic habitat elements that species use on the landscape to survive and reproduce. Key ecological functions are the set of ecological roles performed by a species in its ecosystem (Marcot and Vander Heyden 2001). These ecological roles are the primary ways organisms use, influence, and alter their biotic and abiotic environments.

The analysis for this project focused on four families including Family 1—Low Elevation, Old Forest, Family 2—Broad Elevation, Old Forest, Family 5—Forest and Range Mosaic and Family 13—Riverine Riparian and Wetland. Six focal species from these four families (Chapter 3, Section 3.4, Table 3.34) were selected for this evaluation based on their use of key environmental correlates potentially affected by the action alternatives.

S.5.4.1 Whiteheaded Woodpecker (Chapter 3, Section 3.4.3.1)

S.5.4.1.1 Summary of Existing Condition

This Scriver Creek subwatershed historically provided approximately 14,145 acres of source habitat for the white-headed woodpecker and was a substantial source of habitat for this species on the Boise NF. Source habitat in this subwatershed has declined by nearly 97 percent for the white-headed woodpecker, which is consistent with the current trends for Family 1 habitat across the Forest (Nutt et al. 2010).

Existing amounts and distribution of source habitat were also found to be limited within the project area. The small amount of existing source habitat remaining would not likely contribute to a potential home range within the project area or that went beyond the project area boundary. The capability of the project area to provide source habitat is greater than current conditions provide for.

Three occurrences of white-headed woodpeckers have been reported in the vicinity of the analysis area, ranging from 0.1 to 5.2 miles from the analysis area boundary (IFWIS 2011, NRIS 2011). The nearest was just over 0.1 mile from the east edge of the analysis area, a second was less than 1 mile from the southeastern boundary, and a third was more than 5 miles south of the analysis area within the Crouch watershed.

[14] Source habitat = Source habitats are those characteristics of macrovegetation (i.e., cover types and structural stages) that contribute to stationary or positive population growth for a species in a specified area and time (Wisdom et al. 2000).

S.5.4.1.2 Summary of Environmental Consequences

Under Alternative A there would be a continued downward trend in source habitat for the white-headed woodpecker as changes to tree species composition trend toward shade-tolerant species and stand densities increase. Actions under Alternatives B, C or D would increase the amount of white-headed woodpecker source habitat immediately after harvest and into the long term in comparable amounts and average patch size. Alternatives C and D result in slightly less habitat compared to Alternative B due to the removal of commercial treatment units immediately adjacent to the Bear Wallow Inventoried Roadless Area to address Issue #3. However, all three action alternatives would create enough source habitat within PVG 2 habitat types to form a single potential home range. All three action alternatives would shift species composition toward desired species (ponderosa pine) and away from shade-tolerant species, essentially moving these stands back into the HRV.

Total open road densities would decrease within source habitat following implementation of all three action alternatives, improving the quality of source habitat through reduced disturbance and snag removal through fuelwood harvest along open road corridors. Large snag densities would remain within desired ranges following harvest and would increase into the long term. As a result, while all three action alternatives would move habitat indicators in the right direction and result in more source habitat for the white-headed woodpecker, Alternatives B and C would have the largest gain in source habitat quantity and quality for this species.

S.5.4.2 Flammulated Owl: (Chapter 3, Section 3.4.41)

S.5.4.2.1 Summary of Existing Condition

This watershed historically provided approximately 7,872 acres of source habitat. Source habitat in the watershed has increased by 59 percent for the flammulated owl, which is consistent with the current condition for Family 2 within the watershed (Nutt et al. 2010). Due to the area's overall mid- to low elevation and warm habitat types, a high percentage (70 percent) of source habitat capacity is susceptible to noxious weeds. Invasive weed species can affect prey availability through displacement of native plant species. Roads often facilitate the spread of invasive plant species. Road densities are also impacting source habitat quality as total road densities are within the high classification (>1.7 mi/mi^2). Higher road densities increase the risk of the loss of snags to fuelwood collection over time. A portion of source habitat is suitable for range; 8,300 acres of the Middle Fork South S&G Allotment occurs within the project area. Livestock grazing may also adversely impact the understory herb and shrub community, which can influence Lepidoptera prey abundance and diversity.

The analysis area for flammulated owl consists of the 11,510-acre project area and will be used to assess impacts to the amount, distribution and quality of source habitat for this species. This analysis area was chosen because of the capability of the project area to provide source habitat for this species and because potential direct and indirect impacts are not expected to go beyond the project area boundary.

Surveys were conducted for flammulated owls within the analysis area in June of 2012, June of 2006 and June of 2010 using the ASC Flammulated Owl protocol. A total of 13 responses, some with multiple owls, were recorded in 2012; a total of six responses were solicited in 2010; and a total of four responses were solicited in 2006 (Survey Records available in Project Record). Detections were concentrated in the very northern part of the analysis area, as well as the

southeast portion. The 2012 survey detected owls in the extreme southern section, which had not occurred in previous survey attempts, and expanded known owl locations in the southeastern section of the analysis area. No other anecdotal sightings have been documented within the analysis area (IFWIS 2011, NRIS 2011).

Three of the four PVGs capable of developing source habitat for flammulated owls are present in the analysis area, including PVGs 2, 5, and 6. These PVGs represent approximately 11,403 acres or 99 percent of the analysis area. The majority of these acres are in PVG 6 (82 percent).

S.5.4.2.2 Summary of Environmental Consequences

Alternative A would improve some habitat conditions for flammulated owls as stands in the large tree size class increase over time and the lack of disturbances allows some stands to move from low canopy cover class to moderate. However, stands would continue to trend away from desired species composition as shade tolerant species would continue to replace seral ponderosa pine, and other stands would move from moderate to high canopy cover, negating the gain in preferred large tree size class and moderate canopy cover classes. Total road densities (Indicator 4) would remain high and continue to degrade habitat through access for removal of snags for firewood. The effect of this alternative, when combined with the ongoing and foreseeable activities within the analysis area, would be a decreasing trend in source habitat quantity and quality within the analysis area into the short-and long-term.

Alternatives B, C or D would move vegetation toward its desired conditions within PVG 2, 5, and 6 habitat types, increasing source habitat within PVGs 5 and 6 (mixed1 fire regime) and reducing source habitat within PVG 2 (nonlethal fire regime). However, individual alternatives sometimes had different impacts on the four habitat indicators selected for this species. For example Alternative D results in the most source habitat immediately following harvest (1,874 acres), but Alternative C results in the largest total amount of source habitat in the long term (2,229 acres), The Alternative C long-term total is the same as under the No Action alternative. Alternatives B, C and D would all initially move 625 acres in PVG 2 below the preferred 40 percent threshold for canopy cover (and back into HRV) immediately following harvest. However, Alternative C would result in the largest gain of source habitat in PVG 6 habitat types in the long term (558 acres). Alternative C also results in the largest improvement in species composition, slightly more than Alternative B. All three action alternatives would reduce total road densities within flammulated owl source habitat. Alternative D results in the largest decrease in total road density into the long term, closely followed by Alternative C.

Altogether, habitat indicators show that Alternative C would result in the most source habitat in the long term, the largest gain in source habitat within PVG 6 habitat types, and the largest improvement in species composition. In addition, Alternative C would retain the second most home ranges immediately following implementation and would maintain the most home ranges into the long term. Alternative C would also result in the second most road density reduction throughout the modeling period compared to Alternative A.

S.5.4.3 Northern Goshawk (Chapter 3, Section 3.4.4.2)

S.5.4.3.1 Summary of the Existing Condition

Source habitat in the watershed has increased by nearly 35 percent for the northern goshawk (Nutt et al. 2010). The abundance of goshawk source habitat within the watershed is a result of large portions of the PVG 2 habitat types being outside HRV, likely caused by fire suppression activities that allowed higher tree densities and favored shade tolerant species to develop within the stands. Similarly, there is likely an abundance of source habitat within the analysis area due to PVG 2 habitat types in the southeastern corner also being outside HRV with regard to canopy cover.

There are 9,246 acres of existing modeled source habitat within the analysis area, which equates to approximately 93 percent of source habitat capacity within the analysis area. The ratio of source habitat to source habitat capacity is high because of the large number of stands within PVG 2 that are currently outside HRV and are providing source habitat. The analysis area's large amount of PVG 5 and 6 within the mixed1 fire regime would suggest that this portion of the watershed would have historically provided the majority of source habitat within the watershed, as habitat types in the south half of the watershed are predominantly PVG 2 and would not have provided source habitat when within the HRV.

Total road densities are high and the motorized access they facilitate are likely impacting source habitat quality. Higher road densities increase the risk of the loss of snags to fuelwood collection over time. A portion of source habitat is suitable for livestock grazing; 8,300 acres of the 46,800-acre Middle Fork South Sheep and Goat Allotment occurs within the project area. This watershed historically provided approximately 6,236 acres of source habitat for the goshawk, which equates to 16 percent of federally managed lands (37,848 acres) in the watershed. The prevalence of PVG 2 within the watershed is likely the reason less than 20 percent of the watershed historically provided source habitat.

Surveys were conducted in June of 2012 using the protocol from Northern Goshawk Inventory and Monitoring Technical Guide (Woodbridge and Hargis 2005). An active nest with one nestling was located within the analysis area in June of 2012, near the center of the analysis area (Project Record, Wildlife Survey Information, 2012). In addition, the survey crew located the historical nest that was found in 2005 (NRIS 2011). This nest site is likely an alternative nest site and is approximately 1.30 miles northwest of the active nest site. Three other sightings have occurred within the analysis area since 2002 (NRIS 2011). In addition to the surveys completed in 2012, earlier surveys had been completed within the analysis area in July 2010, which resulted in no detections (Project Record, Wildlife Survey Information, 2010).

S.5.4.3.2 Environmental Consequences Summary

Alternatives B, C or D would reduce northern goshawk source habitat abundance (Indicator 1) within the analysis below what would be expected to occur under the No Action alternative, primarily from reductions in canopy cover that move densities under 60 percent for nesting and 40 percent for forage habitat. Nesting habitat would correspondingly decrease as well under all three alternatives. Most of the reductions in forage habitat were a result of stands in PVG 2 being moved back into HRV. While there were some losses of forage habitat within PVGs 5 and 6, stands that fell below canopy cover requirements for nesting habitat in these PVGs shifted to forage habitat. As a result, forage habitat remained generally unchanged under all three

alternatives. Of the three action alternatives, Alternative D retains the most total northern goshawk source habitat (nesting and forage) through the modeling period. Alternative D also retains the most nesting habitat through 2030.

All three action alternatives would retain sufficient quantity and distribution of source habitat to support a home range, within the analysis area. In addition, all action alternatives would retain the important vegetation characteristics within the active nest stand as a result of Design Feature WL-2, would retain the quality of nesting habitat within the five other alternate/replacement nest stands, and would retain overall source habitat quality within the PFA. While the differences between the alternatives are relatively small with respect to effects within the home range, Alternative D would retain the most nesting habitat within the potential home range throughout the modeling period, and would retain more of the PFA above 60 percent canopy cover than Alternatives B and C, although there would be less actual harvest within Alternative B.

Average patch size (Indicator 2) would be less in Alternatives B, C or D than Alternative A throughout the modeling period for all action alternatives, although Alternative B would retain the largest average patch size. All three action alternatives would reduce total road densities compared to Alternative A (Indicator 3). Alternative D results in the largest decrease in total road densities into the long term.

Overall the habitat indicators show that Alternative D would retain the most source habitat and the most nesting habitat throughout the modeling period, would retain the most nesting habitat within the home range, would maintain more of the PFA above the 60 percent canopy cover threshold, and would result in the largest long term reduction of total road density within source habitat. The quality and quantity of source habitat within the home range would be maintained closest to the existing condition under Alternative D.

S.5.4.4 Pileated Woodpecker (Chapter 3, Section 3.4.4.3)

S.5.4.4.1 Summary of the Existing Condition

Source habitat in the watershed has increased by nearly 53 percent for the pileated woodpecker (Nutt et al. 2010). The abundance of pileated source habitat within the watershed is likely a result of large portions of PVG 2 and 5 habitat types being outside HRV, likely caused by fire suppression activities that allowed higher tree densities and favored shade tolerant species to develop within the stands.

The analysis area's large amount of PVG 6 within the mixed1 fire regime would suggest that this portion of the watershed would have historically provided the majority of source habitat for pileated woodpeckers within the watershed, as habitat types in the south half of the watershed are predominantly PVG 2 and would have provided source habitat only when outside the HRV.

There are 9,602 acres of existing modeled source habitat, which equates to approximately 96 percent of source habitat capacity within the analysis area. Of the existing modeled source habitat, 5,695 acres are nesting habitat and 3,907 acres are forage habitat. Similar to source habitat conditions in the watershed, there is a greater amount of source habitat within the analysis area than would be expected due to PVG 2 habitat types in the southeastern corner being outside HRV with regard to canopy cover. Patches of nesting habitat are somewhat concentrated on the west half of the analysis area, while modeled forage habitat is well distributed and connected.

S.5.4.4.2 Environmental Consequences Summary

Considering that there is an abundance of source habitat within the watershed, the overall effect of Alternatives B, C, and D, is that despite habitat reductions within the analysis area the overall trend for source habitat would be maintained and source habitat quantity and quality would remain abundant within the watershed.

Alternatives B, C and D would reduce source habitat abundance (Indicator 1) within the analysis below what would be expected to occur under the No Action alternative, primarily from reductions in canopy cover that move densities under 60 percent for nesting and 30 percent for forage habitat. Nesting habitat would correspondingly decrease as well under all three alternatives. A significant portion of the reductions in forage habitat was a result of stands in PVG 2 being moved back into HRV. While there were some losses of forage habitat within PVGs 5 and 6, most stands that fell below canopy cover requirements for nesting habitat in these PVGs shifted to forage habitat. As a result, forage habitat generally increased under all three alternatives due to reductions in nesting habitat. Of the three action alternatives, Alternative D retains the most total source habitat (nesting and forage) through the modeling period.

Alternatives B, C, and D would maintain five potential home ranges with no modification, would maintain three with minor reconfiguration, and would result in the acceptable loss of one potential home range that occurred within PVG 2 habitat types. Alternative B would retain the most nesting habitat within the analysis area immediately following harvest, while Alternative D would retain the most nesting habitat into the long term.

Average patch size (Indicator 2) would be less than Alternative A throughout the modeling period for all action alternatives, although Alternative C would retain the largest average patch size. All three action alternatives would reduce total road densities compared to Alternative A (Indicator 3). Alternative D results in the largest decrease in total road density within the analysis area throughout the modeling period.

Altogether the habitat indicators show that Alternative D would retain the most source habitat within the analysis area throughout the modeling period, the most nesting habitat into the long term, and would retain the most overall nesting habitat within the potential home ranges. While all three action alternatives would retain the same amount of existing potential home ranges, the quality and quantity of source habitat within the analysis area would be maintained closest to the existing condition under Alternative D.

S.6 Summary of Resource Effects Disclosed in Chapter 3 of the Supplemental Draft Environmental Impact Statement

Table S-10 displays summaries of some of the key indicators of effects for each resource addressed in detail in Chapter 3, including:

- Forest Vegetation (*Section 3.2*)
- Fire, Fuels (*Section 3.3*) and Air Quality (*Section 3.5*)
- Wildlife (*Section 3.4*)
- Hydrology (*Section 3.6*) and Fisheries (*Section 3.7*)
- Soils (*Section 3.8*)

- Botanical Resources (*Section 3.9*)
- Noxious Weeds (*Section 3.10*)
- Range (*Section 3.11*)
- Transportation Systems (*Section 3.12*)
- Recreation Resources (*Section 3.13*)
- Cultural Resources (*Section 3.14*)
- Socioeconomic Environment (*Section 3.15*)
- Scenic Environment (*Section 3.16*)
- Inventoried Roadless Area (*Section 3.17*)
- Climate Change (*Section 3.18*)

Table S-10. Comparison of Alternatives by Chapter 3 Resource Effects

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
FORESTED VEGETATION—NON-LETHAL FIRE REGIME (1,069 acres commercially treated)					
Average Large Trees per Acre (TPA) Pre- and Post-harvest, by Alternative (section 3.2.4.1.3)	Existing	8.9	8.9	8.9	8.9
	Harvested	0.0	1.1	1.1	0.0
	Remaining in 2011	8.9	7.8	7.8	8.9
	Projected in 2030	13.3	13.4	13.4	13.8
Ponderosa Pine Restoration Indicator: Large Ponderosa Pine vs. Large Douglas-fir (section 3.2.4.2.1) *(Projection period = 2030)*	Number live large ponderosa pine *Existing = 6.1 TPA*	8.3	9.8	9.8	8.8
	Number life large Douglas-fir *Existing = 2.8 TPA*	5.0	3.6	3.6	4.6
	Percentage (%) of large tree class in ponderosa pine (*Existing = 63%)*	62	71	71	66
Total Canopy and Canopy of Large Trees (parentheses) Existing, Post-treatment (2011) and Projected at 2030 in Percentage (%). (section 3.2.4.1.5)	Existing	61 (8)	61 (8)	61 (8)	61 (8)
	Remaining 2011	61 (8)	36 (7)	36 (7)	35 (8)
	Projected in 2030	64 (13)	45 (12)	45	45 (12)
Total Stand Basal Area (section 3.2.4.2.2)	Existing	112	112	112	112
	2011, Post-treatment	112	60	60	60
Snags per Acre ≥20 inches d.b.h (snags/acre) (section 3.2.8.1)	Plan Desired Condition	0.4–3.0	0.4–3.0	0.4–3.0	0.4–3.0
	Existing Condition	0.54	0.54	0.54	0.54
	2011 post-treat	0.61	0.56	0.56	0.57
	2030 projection	2.00	1.27	1.27	1.32
Coarse Woody Debris (CWD) ≥12 inches d.b.h (tons/acre) (section 3.2.8.1)	Plan Desired Condition	3–10.5	3–10.5	3–10.5	3–10.5
	Existing Condition	0.01	0.01	0.01	0.01
	2011 post-treat	0.01	0.01	0.01	0.01
	2030 projection	0.23	0.15	0.15	0.15

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
FORESTED VEGETATION—MIXED1 FIRE REGIME (2196 acres commercially treated Alternative B; 2506 Alternatives C and D)					
Average Large Trees per Acre (TPA) Pre- and Post-harvest, by Alternative (section 3.2.5.1.3.2)	Existing	6.8	6.8	6.8	6.8
	Harvested (*DF/GF only*)	0.0	3.1	3.9	0.0
	Remaining in 2011[15]	18.5	15.2	14.4	18.5
	Projected in 2030	24.1	19.3	18.2	22.2
Ponderosa Pine Restoration Indicator : Large ponderosa pine vs. large Douglas-fir (section 3.2.5.2.1) (Projection period = 2030)	Number live large ponderosa pine Existing = 6.1 TPA	6.6	6.9	6.9	7.0
	Number live large Douglas-fir Existing = 5.1 TPA	7.8	5.6	5.5	6.8
	Number live large grand fir/other Existing = 6.8 TPA	9.7	6.8	5.8	8.3
	Percentage (%) of large tree class in ponderosa pine (Existing=34%)	27	36	38	32
Total Canopy and Canopy of Large Trees (parentheses) Existing, Post-treatment (2011) and Projected at 2030 (section 3.2.5.2.2 and 3.2.5.1.5)	Existing	81% (21%)	81 (21)	81 (21)	81 (21)
	Remaining 2011	82% (21%)	54 (18)	46 (17)	49 (21)
	Projected in 2030	83% (29%)	59 (24)	51 (23)	55 (27)
Total Stand Basal Area (section 3.2.5.2.2)	Existing	145 ft^2/acre	145	145	145
	2011, post-treatment	145 ft^2/acre	95	84	94
Snags per acre ≥20 inches d.b.h. (snags/acre) (section 3.2.8.1)	Plan Desired Condition	0.2–3.5	0.2–3.5	0.2–3.5	0.2–3.5
	Existing Condition	1.90	1.90	1.90	1.90
	2011 post-treat	2.00	1.96	1.94	1.97
	2030 projection	4.03	2.91	2.63	3.04
Coarse Woody Debris (CWD) ≥12 inches d.b.h. (tons/acre) (section 3.2.8.1)	Plan Desired Condition	2.6–9.1	2.6–9.1	2.6–9.1	2.6–9.1
	Existing Condition	0.03	0.03	0.03	0.03
	2011 post-treat	0.04	0.04	0.04	0.04
	2030 projection	0.55	0.47	0.44	0.46

[15] The year 2011 was the projection year used in the model work started in 2009 to indicate immediately post-harvest. While treatment is not expected to occur in 2013, the two year difference would not measurably change the result

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
FIRE and FUELS and AIR QUALITY					
Crown Fire Hazard Rating Change in acres from existing condition to 2030 project year (section 3.3.3.1)	Low—Existing vs. 2030 (acres)	37 to 0	37 to 233	37 to 233	37 to 233
	Mod—Existing vs. 2030 (acres)	1,427 to 1,464	1,427 to 2865	1,427 to 3,119	1,427 to 3,119
	High—Existing vs. 2030 (acres)	2,228 to 2228	2,228 to 594	2,228 to 340	2,228 to 340
	TOTAL (acres)	3,692	3,692	3,692	3,692
Air Quality—PM2.5 NAAQS standard met or not met (section 3.5.3)	NAAQS = 35 $\mu g/m^3$ in a 24-hour period)	N/A—no activities propose	Met	Met	Met
WILDLIFE					
ESA—Threatened, Endangered, Proposed or Candidate Species (TEPC) Determination (section 3.4)	Canada Lynx (T)	N/A	No Effect	No Effect	No Effect
	Wolverine (C/S)	N/A	No Impact	No Impact	No Impact
	Greater Sage Grouse (C/S)	N/A	No Impact	No Impact	No Impact
	N. Idaho Ground Squirrel (T)	N/A	No Effect	No Effect	No Effect
	S. Idaho Ground Squirrel (C)	N/A	No Impact	No Impact	No Impact
	Yellow-billed Cuckoo (C/S)	N/A	No Impact	No Impact	No Impact
Intermountain Regionally Sensitive Species and Forest Plan MIS	Refer to summary discussion under ISSUE #4, section S.1.7.4, for discussions concerning whiteheaded woodpecker, flammulated owl, pileated woodpecker and northern goshawk				
Old forest and large tree habitat	Refer to summary discussion under Purpose and Need #1, section S.1.6.1.				

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
HYDROLOGY AND FISHERIES					
Water Quality BOISED modeled sediment reduction by 2030	Percent over natural	23.3	17.5	15.4	15.3
	Tons per year of sediment	359	269	237	236
	Contribute to TMDL sediment reduction goal	No	Yes	Yes	Yes
Aquatic Organism/Fish Passage (AOP) culvert Replacements	NFS road 695 at MF Scriver Creek	0	1	1	1
	NFS road 693A at Scriver Creek	0	1	1	1
	NFS road 693 at Scriver Creek	0	1	1	1
	NFS road 693B at Scriver Creek	0	0	1	1
	NFS road 693 at WF Scriver Creek	0	0	1	1
	TOTAL	0	3	5	5
ESA listed Threatened, Endangered, Candidate or Proposed Fish Species, Intermountain Sensitive Fish Species (*Sections 3.7.1—3.7.3*)	Bull trout and bull trout critical habitat	N/A	No effect	No effect	No effect
	Snake River spring/summer chinook salmon and steelhead and proposed or designated critical habitat	N/A	No Effect	No Effect	No Effect
	West slope cutthroat trout	N/A	No Impact	No Impact	No Impact
SOILS					
Total Soil Resource Commitment (TSRC) (Plan Standard = do not exceed 5% of activity area)	Direct/indirect effects (immediately post-treat)	2.8%	3.7%	3.8%	3.8%
	Cumulative effects (5 years post-treat)	2.8%	2.7%	2.6%	2.6%
Detrimental Soil Disturbance (DD) (Plan Standard = do not exceed 15% of activity area)	Direct/indirect—5 years post treatment (range for activity units)	0.0–4.0%	1.3–7.1%	1.3–8.1%	1.3–8.1%
	Cumulative—10 yrs post treatment (Range for activity units)	0.0–4.0%	0.6–3.5%	0.6–4.0%	0.6–4.0%

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
BOTANICAL RESOURCES[16]					
Determinations for Region 4 Sensitive Plant Species (section 3.9.3) *MII—May Impact Individuals*	*Lewisia sacajaweana* Sacajawea's bitterroot	None	MII	MII	MII
	Phacelia minutissima Least phacelia	None	MII	MII	MII
Determinations for Risk to Population Viability for Boise Forest Watch List Plant Species Relative risk based on acres of disturbance … the greater the disturbance in an alternative, the greater the risk relative to another alternative	*Allium validum* Tall swamp onion	None	Low	Low	Low
	Botrychium lineare Slender moonwort	None	Low	Low	Low
	Botrychium crenulatum Scalloped moonwort	None	Low	Low	Low
	Botrychium simplex Least moonwort	None	Low	Low	Low
	Relative Risk between alternatives	None	Least	Most	Moderate
NOXIOUS WEEDS					
Leafy Spurge—susceptible disturbed by proposed activities Total acres susceptible in project area = 2,142	Helicopter Logging (acres)	0	259	220	243
	Skyline/Cable Logging (acres)	0	242	358	358
	Tractor Logging (acres)	0	153	246	223
	Non-Commercial thin (acres)	0	358	358	358
	Prescribed Fire (acres)	0	293	291	291
	Road construction, reconstruction, decomm. (miles)	0	3.4	4.4	4.0

[16] No ESA listed plant species would be affected by activities proposed under action alternatives, or no habitat for these species exist (section 3.9.3)

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
Noxious Weeds (continued)					
Rush Skeltonweed—susceptible acres disturbed by proposed activities Total acres susceptible in project area = 6,065	Helicopter Logging[17] (acres)	0	615	422	482
	Skyline/Cable Logging (acres)	0	585	736	736
	Tractor Logging (acres)	0	635	842	782
	Non-Commercial thin (acres)	0	609	609	609
	Prescribed Fire (acres)	0	639	630	630
	Road construction, reconstruction, decomm. (miles)	0	13.4	16.7	16.0
Spotted Knapweed—susceptible disturbed by proposed activities Total acres susceptible in project area = 1,834	Helicopter Logging (acres)	0	206	166	189
	Skyline/Cable Logging (acres)	0	242	358	358
	Tractor Logging (acres)	0	153	246	223
	Non-Commercial thin (acres)	0	302	302	302
	Prescribed Fire (acres)	0	288	286	286
	Road construction, reconstruction, decomm. (miles)	0	3.3	4.4	4.0

[17] Acres by logging system have been separated due to the varying levels of ground disturbance associated with each. The system with the greatest disturbance carries with it the greatest risk to weed susceptibility. Tractor logging results in the highest level of ground disturbance, followed by cable with the least from helicopter.

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
RANGE					
Displacement of livestock in areas of disturbance (e.g. vegetation management, road management, etc.) and the resulting change in grazing patterns within the allotment.	Duration of project implementation, likely 5 years.	No management-induced changes to the range resources would be expected to occur. Authorized livestock grazing would occur under the term grazing permit and AOI similar to that which is currently occurring.	Effects of all action alternatives would be similar. Each could result in temporary to short term effects (i.e., during implementation) due to displacement. This likely result in modifying grazing patterns in the allotment to exclude all or some portions of the 9,943 acres of Middle Fork South S&G Allotment that falls within the Project area. However, modifying the grazing patterns would not be expected to impact the livestock numbers and/or grazing season because of the overall size of the allotment which extends well outside the Project area and the ability to move livestock into portions of the allotment unaffected by the disturbance activity.		
TRANSPORTATION SYSTEMS					
Final miles of road in Level 1, 2 or 3 maintenance status Post project	Level 1	51.7	38.7	33.6	32.4
	Level 2	13.3	17.1	17.1	17.1
	Level 3	8.6	8.6	8.6	8.6
	TOTAL	73.6	64.4	59.3	58.1
Project area Road Density (miles/miles^2) Post project	Open to motorized use	1.2	1.4	1.4	1.4
	Closed	3.2	2.2	2.0	1.9
	TOTAL	4.4	3.6	3.4	3.3

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
RECREATION RESOURCES					
Impacts to both motorized and non-motorized access	Open to All Vehicles Yearlong (NFS roads 693, 693B. 695, and 696)	21.2 miles	25.0 miles	25.0 miles	25.0 miles
	NFS Trails Open to Vehicles ≤50 inches in width Yearlong (NFS trail 035)	1.7 miles	1.7 miles	1.7 miles	1.7 miles
	NFS Trails Open to Vehicles ≤50 inches in width Seasonally Closed (October 1 through June 30) (dual designation portions of NFS roads 693Q, 693L and 693L5 comprise NFS trail 448)	4.0 miles	4.0 miles	4.0 miles	4.0 miles
	NFS Roads Closed to motorized use, but open to non-motorized use	52.4 miles	39.4 miles	34.3 miles	33.1 miles
Consistency with current ROS classifications as defined in 2010 Forest Plan	Roaded Modified	11,471 acres	maintain	maintain	Maintain
	Semi-primitive motorized	39 acres	maintain	maintain	maintain
CULTURAL RESOURCES					
Effects to historic properties	Within Area of Potential Affect (APE)	N/A—No Federal Action	No Effect	No Effect	No Effect

Indicator	Indicator Item or Time period	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D
SOCIOECONOMIC ASSESSMENT					
Summary of Wood Product Volume, Appraised Value, and Jobs Supported (section 3.15.4)	Volume (MMBF)	0.0	20.8	24.8	20.4
	Potential Net Value ($)	0	1,024,900	1,925,700	622,700
	Jobs Supported[18]	0	720	858	706
Summary of Project Cost and Job Support for Restoration Activities other than commercial vegetation treatments (Section 3.15.4)	Project Cost	0	1,828,700	2,196,300	2,196,300
	Number of Activities	0	13	16	16
	Jobs Supported[19]	0	12.1	14.6	14.6
SCENIC ENVIRONMENT					
Forest Visual Quality Objectives (VQOs) for the Scriver Integrated Restoration Project	Retention Acres	0 (existing)	maintain	maintain	maintain
	Partial Retention Acres	5,460 (existing)	maintain	maintain	maintain
	Modification Acres	4,330 (existing)	maintain	maintain	maintain
	Maximum Modification Acres	1,720 (existing)	maintain	maintain	maintain
VQOs from Forest Plan identified sensitive routes, Bear Wallow Trail (NFS trail 035)	Foreground—Partial Retention	N/A	maintain	maintain	maintain
	Middleground—Modification	N/A	maintain	maintain	maintain
	Background—Modification	N/A	maintain	maintain	maintain
INVENTORIED ROADLESS AREA					
Refer to summary discussion under ISSUE #2, Section S-1.7.2, for discussions concerning effects of action alternatives on the Bear Wallow IRA compared to no action.					
CLIMATE CHANGE					
Resistance and Resilience to disturbance, including climate change	Adaptive Capacity	Continue to Decline—continued loss in seral species such as pine and landscape heterogeneity	Improve, less than C because treats less acres; but more than D due to increase pine composition and improved landscape heterogeneity	Improve, more than B because treats more acres, and more than D because increase pine composition and improved landscape heterogeneity	Improve, but less than B or C because of reduced landscape heterogeneity and less improvements in pine composition

[18] According to Lippke and Mason (2005), the estimated direct annual employment rate for forest products is 7.84 jobs/MMBF; the indirect employment rate is 26.73 jobs/MMBF

[19] Estimated job creation from American Recovery and Reinvestment Act of 2009; $92,000 of government spending = 1 job/year

S.7 Decisions to be Made

Based on the analysis in the FEIS, the Forest Supervisor will make one or more of the following decisions:

- Should vegetation restoration in the Project area be completed, and if so, which forested stands should be treated and what silvicultural treatments should be applied?
- Should activity fuel treatments be completed at this time in the Project area, and if so, which treatments should be applied?
- Should modifications be made to the NFS transportation system as recommended by the TAP (Forest Service 2011b), and if so, which road activities should occur?
- What design features, mitigation measures, and/or monitoring should be applied to the project?

S.8 Preferred Alternative

The preferred alternative is Alternative C.

The Responsible Official's selected alternative for implementation could be this alternative or another alternative considered in detail. The final decision will be documented in a ROD accompanying the Final EIS.

S.9 Document Organization

This document is tiered to the FEIS and planning record for the 2003 Forest Plan. This document is also tiered to the *Final Environmental Impact Statement Supporting Forest Plan Amendments to Integrate the Boise National Forest Wildlife Conservation Strategy, Phase 1: Forested Biological Community* (Forest Service 2010b), Record of Decision (Forest Service 2012c), and the 2010 Forest Plan (Forest Service 2010a). This documentation includes monitoring reports. Analyses from the 2003 FEIS and the 2010 FEIS have been referenced rather than repeated in some instances. Analyses pertaining to the FEIS for the 2003 Forest Plan (Forest Service 2003a) and the FEIS for the 2010 amendment (Forest Service 2012b) to the Forest Plan are contained in the Project Record located at the Forest Supervisor's Office in Boise, Idaho. Detailed information that supports the analyses presented in this document, unless specifically noted otherwise, is contained in the Project Record located at the Forest Supervisor's Office.

This document consists of the following main chapters:

- **Chapter 1,** Purpose and Need—Describes the relationship of this project to the 2010 Forest Plan, Purpose and Need for the action, the Proposed Action, decisions to be made, Forest Plan direction, regulatory requirements and required coordination, public involvement efforts, and identification of significant issues.
- **Chapter 2,** Alternatives—Includes descriptions of alternatives considered but eliminated from detailed study; descriptions of the alternatives considered in detail; design features associated with the alternatives, and; a comparative summary of the environmental consequences, activities, and outputs.

- **Chapter 3,** Affected Environment and Environmental Consequences—Describes the existing conditions of the resources within the analysis area(s) and the environmental impacts of the alternatives on those resources.
- **Chapter 4,** Consultation and Coordination—Provides a list of the primary preparers of this document, a summary of the scoping and public involvement efforts, and a list of agencies, organizations, and persons who received copies of the DEIS and this SDEIS.

Four appendices follow the main chapters:

- **Appendix A**—Roads Tables by Alternative
- **Appendix B**—Cumulative Effects: Past, Present, and Reasonably Foreseeable Actions
- **Appendix C**—Soils Detrimental Disturbance Table
- **Appendix D**—Vegetative Strata Description

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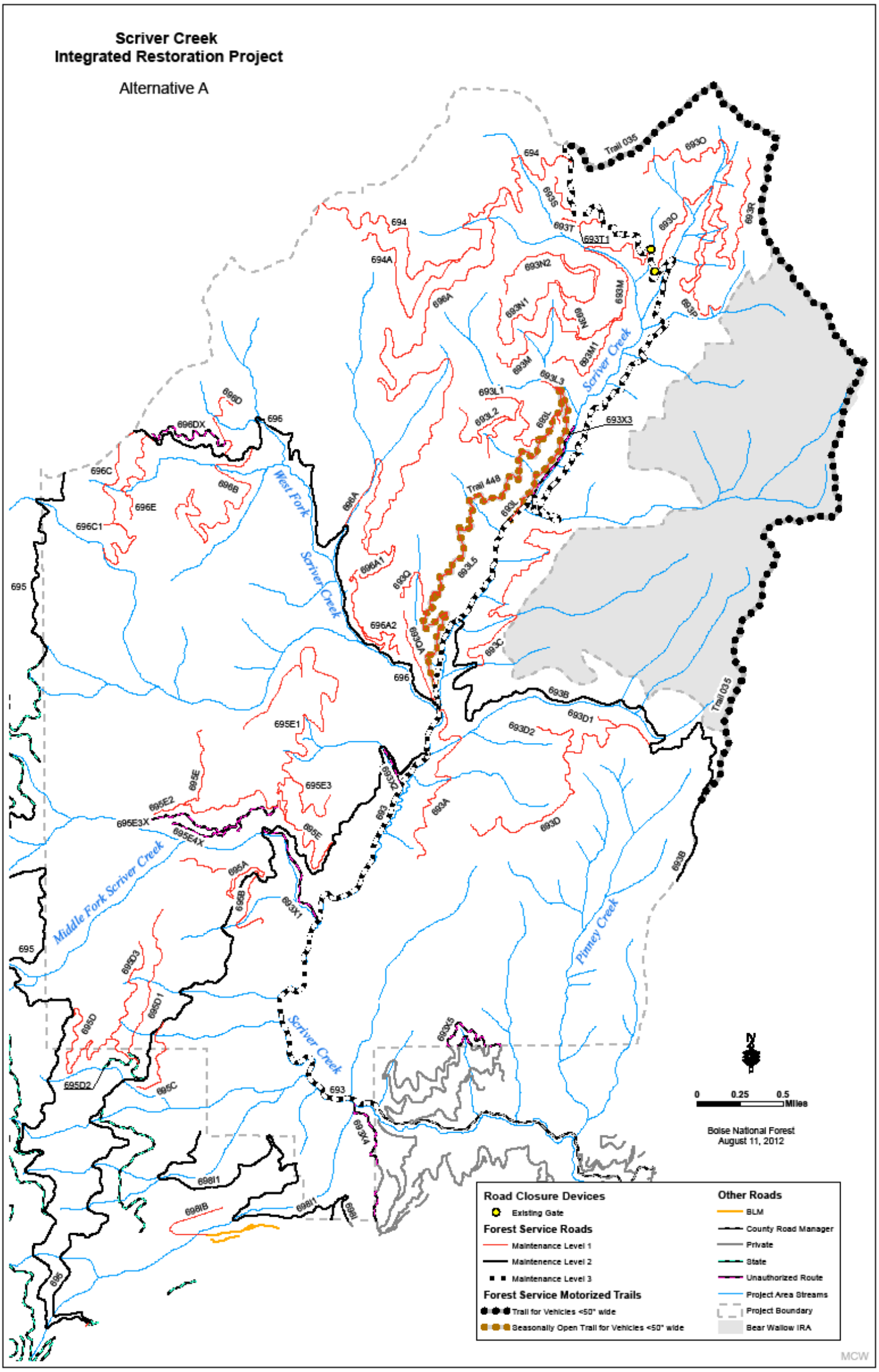

Figure S-6. Alternative A, Current Transportation System

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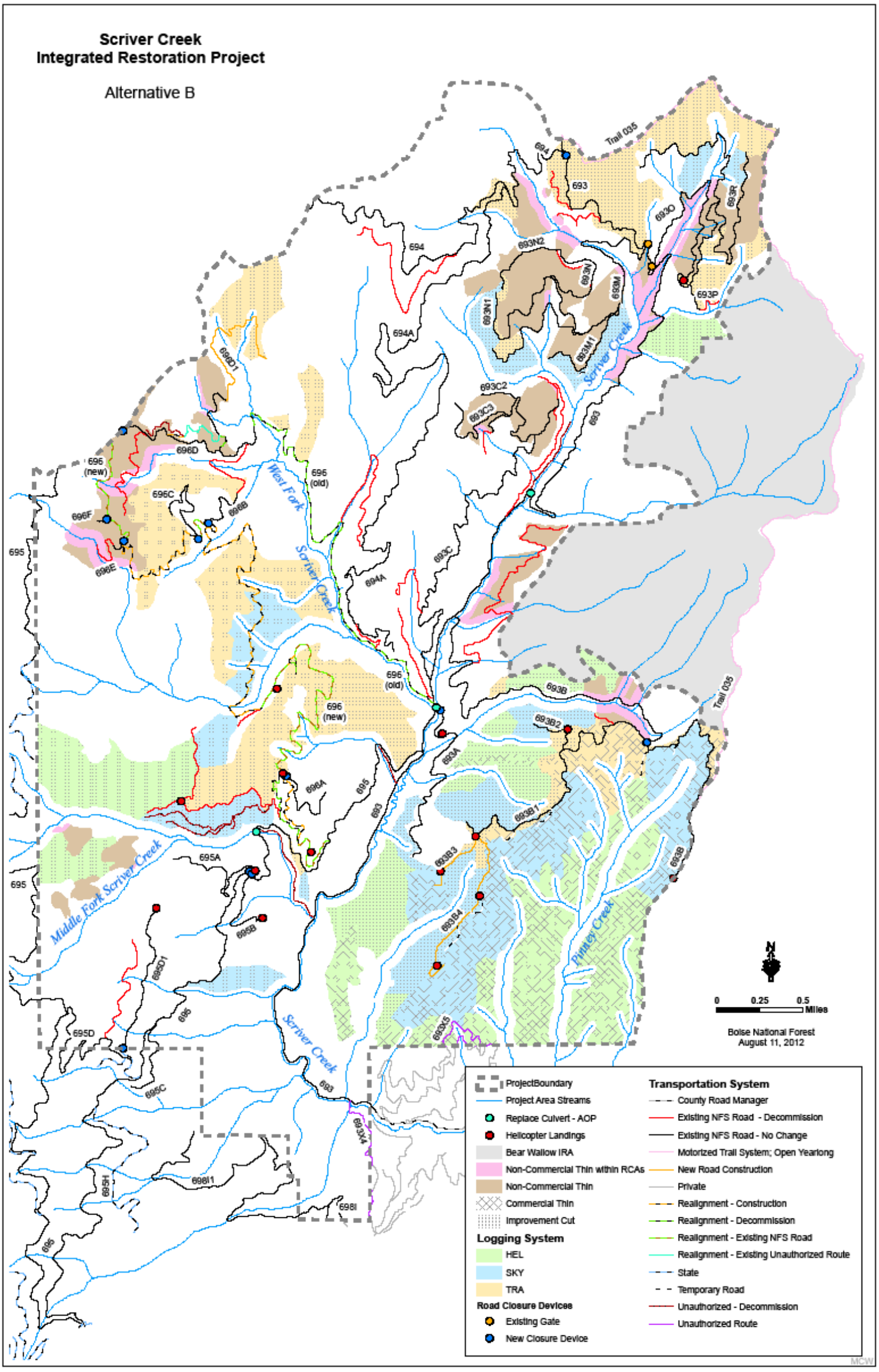

Figure S-7. Alternative B, Proposed Action, Proposed Vegetation Management Activities

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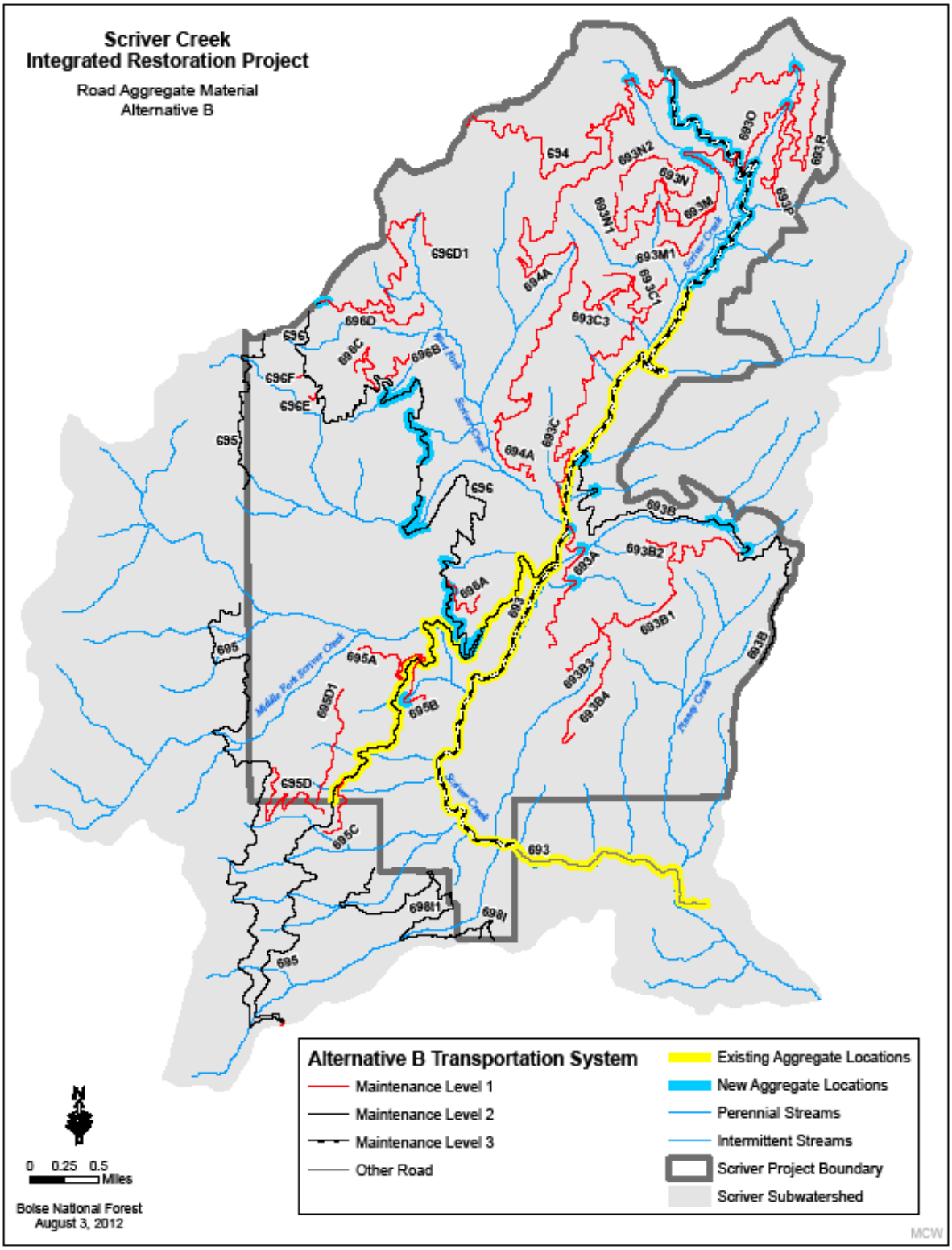

Figure S-8 Alternative B, Proposed Action, Proposed Road Management Activities

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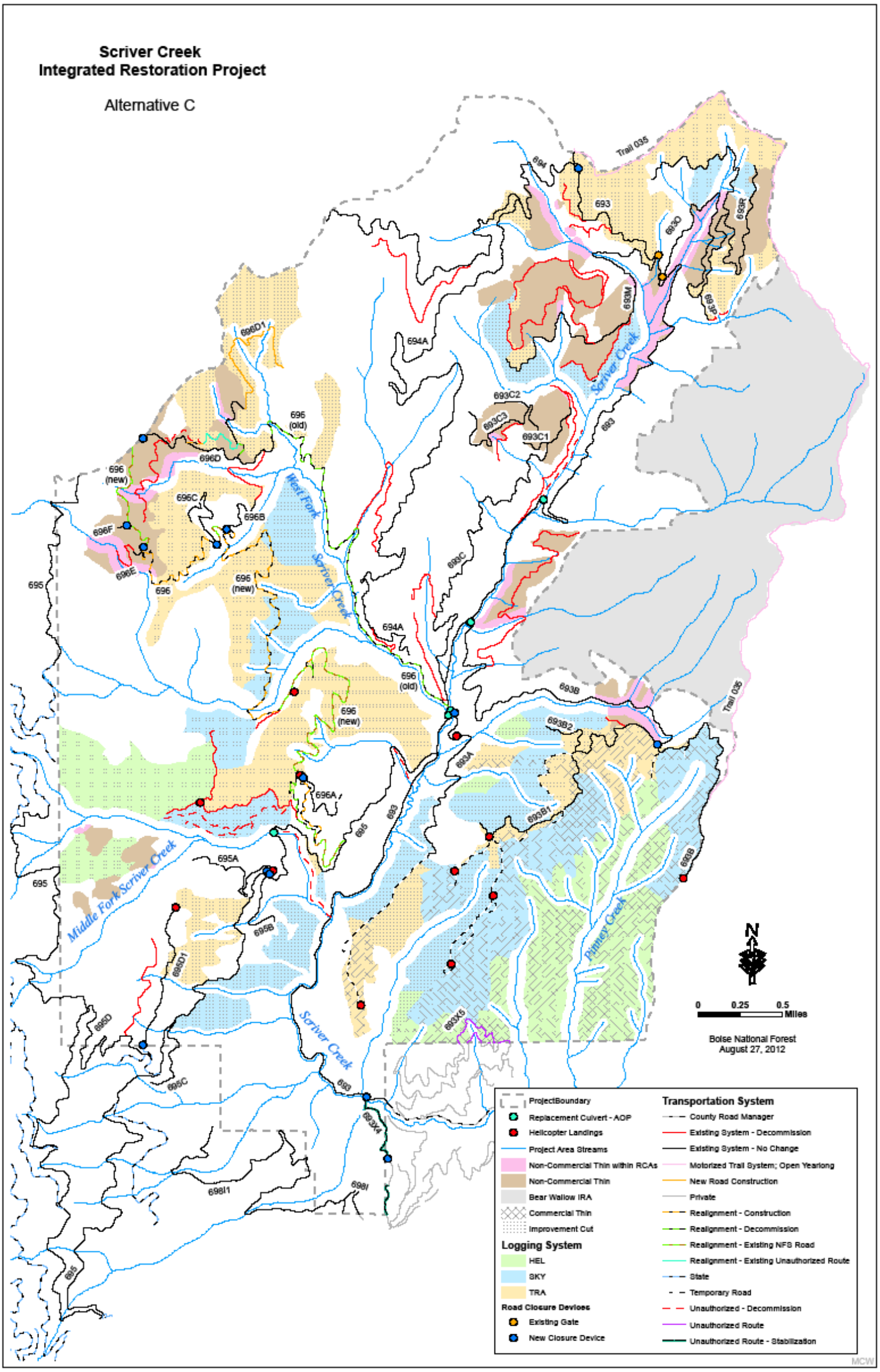

Figure S-9 Alternative C, Proposed Vegetation Management Activities

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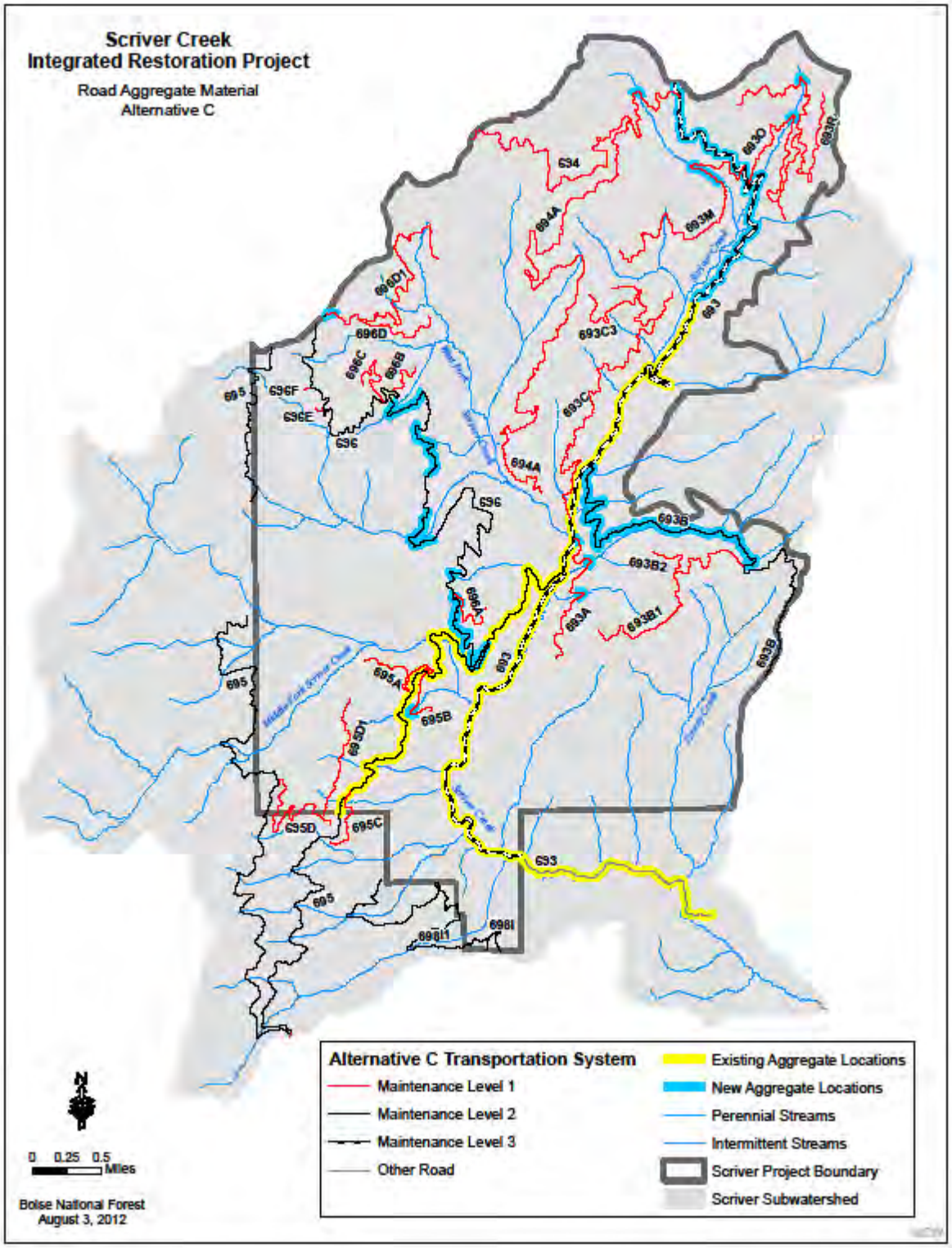

Figure S-10. Alternative C, Proposed Road Management Activities

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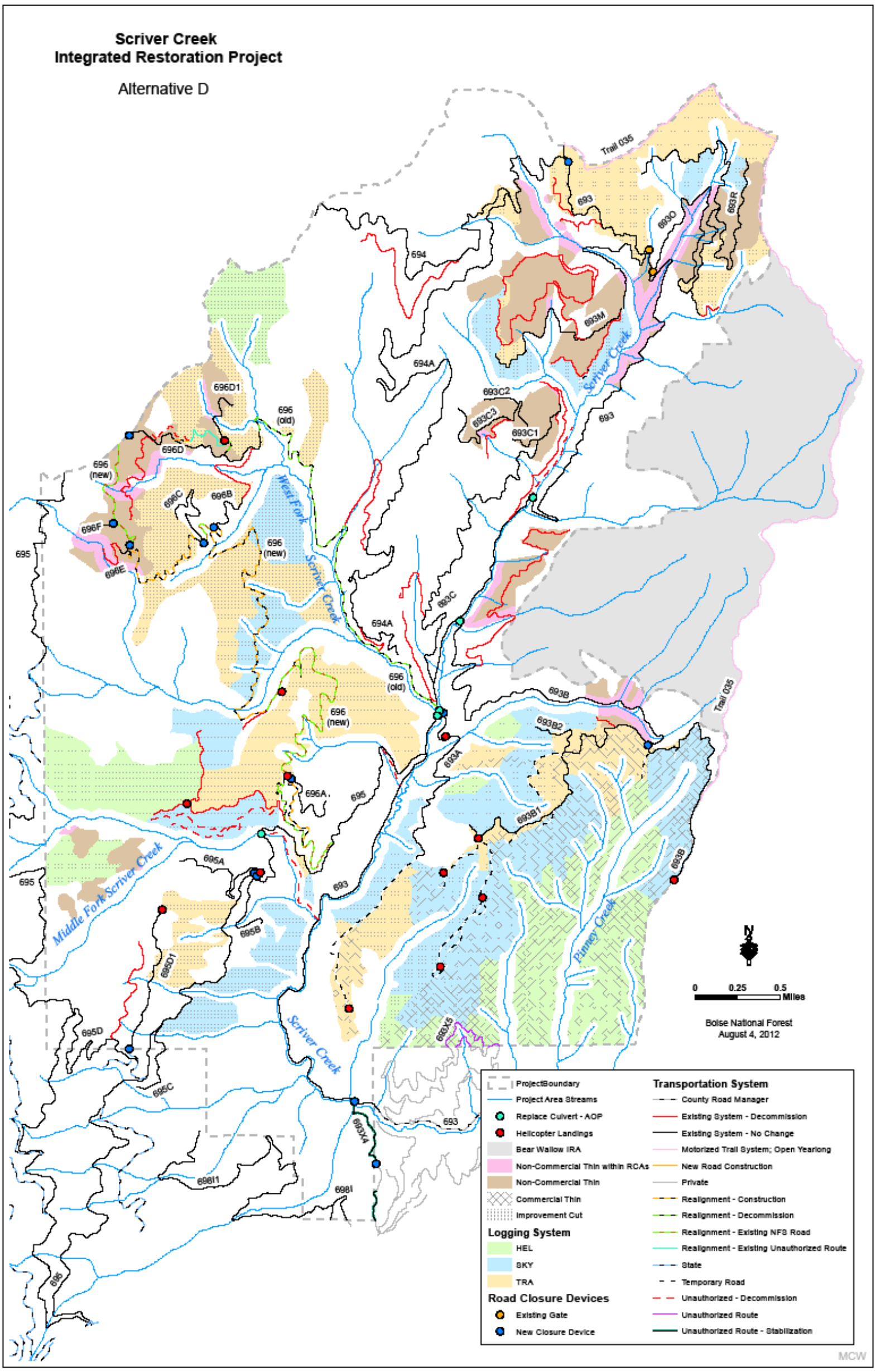

Figure S-11. Alternative D, Proposed Vegetation Management Activities

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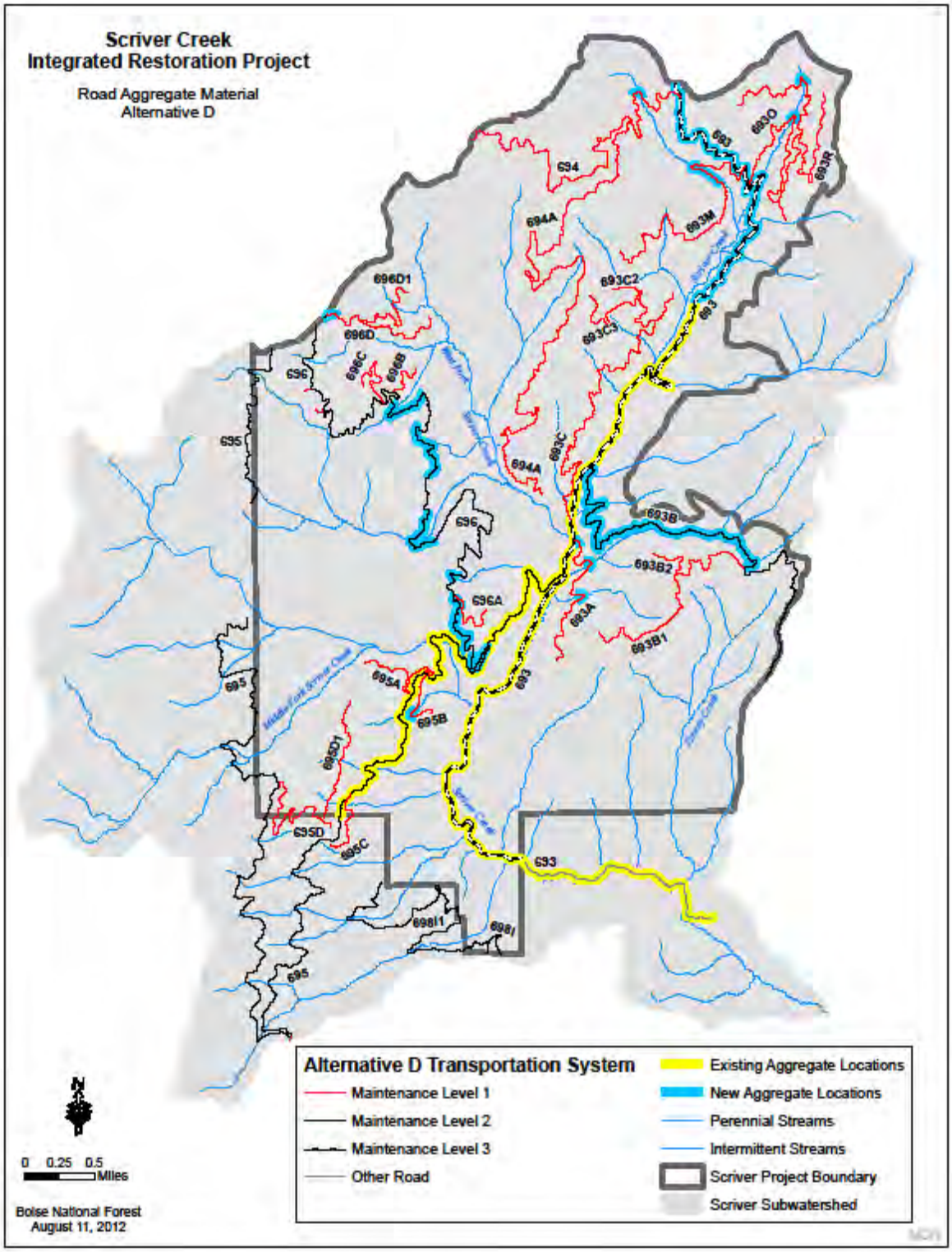

Figure S-12. Alternative D, Proposed Road Management Activities