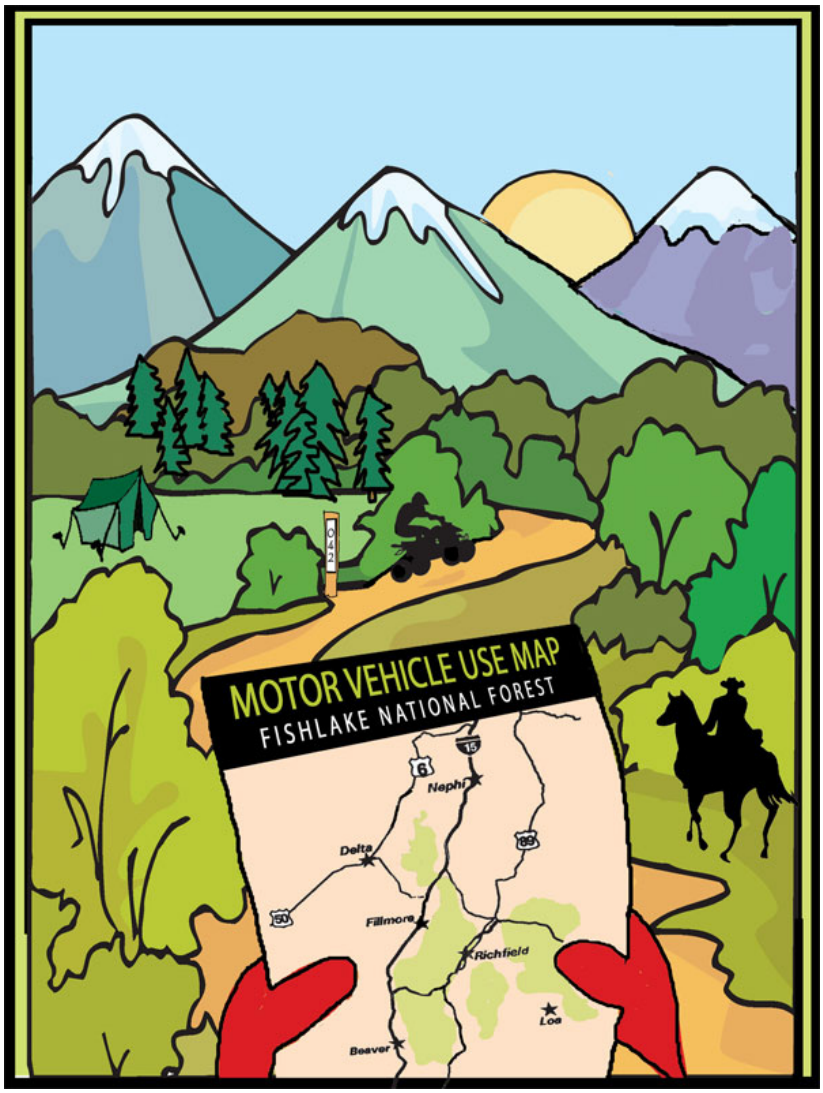
United States Department of Agriculture

Forest Service

Intermountain Region

Final Environmental Impact Statement for the Fishlake National Forest Off-Highway Vehicle Route Designation Project



On the cover: Once the final preferred alternative is implemented, the Fishlake National Forest will begin producing motor vehicle use maps that will be updated annually and distributed free to the public. Forest users will need to obtain and use a current motor vehicle use map to know where and when routes and areas are open to motorized use. These maps will be available on the Internet and at district and forest headquarters. This requirement applies to all National Forests in the nation. A motor vehicle use map is as necessary to travel on National Forest System lands as a hunting proclamation is necessary to know how and where to legally hunt.

Final Environmental Impact Statement for the Fishlake National Forest Off-Highway Vehicle Route Designation Project

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Abstract: The Final Environmental Impact Statement (FEIS) discloses the effects of modifying the current motorized travel plan for the Fishlake National Forest to make it compliant with new travel management regulations. The current travel plan, which is presented as the No Action alternative, maintains existing allowances and restrictions for motorized use and cross-country travel. Each of the action alternatives specifies open routes and areas, seasons of use, and appropriate vehicle types for motorized travel. The preferred alternative, Alternative 5, adds 587 miles of unauthorized routes to and would remove 73 miles of authorized routes from the forest's existing motorized system. About 635 miles of unauthorized motorized routes would be obliterated and 23 miles converted to non-motorized trail. This action would result in a system of roughly 2,181 miles of road and 639 miles of trail for a combined total of 2,820 miles of motorized routes. Of the latter total, 2,742 of these miles would be open to the public. The amount of seasonally restricted routes would increase from 329 miles to 424 miles. The January 1st starting date for seasonal closures would remain, while the ending date for the closure period for nearly all of these routes would be lengthened from March 31 to April 15th. The existing configuration of the Paiute and Great Western Trail systems would be retained. Motorized travel off designated routes would be prohibited except in open use areas or as specified for access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, Forest Service administrative use, or for over-snow vehicle travel. Some changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges. The preferred alternative designates 690 acres in two open use areas west of Richfield, UT and 189 acres at Velvet Ridges above Torrey, UT where motorized cross-country travel would still be permitted. The alternatives also incorporate an implementation plan that identifies strategies for managing risks from motorized use and infrastructure, enforcement considerations, public education plans, monitoring requirements, and, strategic considerations for future travel planning decisions.

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Date Appeals Must Be Received: 45 days after publication of the notice of availability for this document in the Federal Register (see the Record of Decision for details).

Project Website: http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml

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Summary

The Fishlake National Forest proposes to update the current motorized travel plan by designating a system of roads, trails, and open use areas consistent with federal regulation 36 CFR 212.51 from the travel rule released on November 2, 2005. The area affected by the proposal is all National Forest System land within the Fishlake National Forest administrative boundary. This project was initiated because the forest recognized a need for improving management and enforcement of motorized use – off-highway vehicle (OHV) use in particular. There has been unanticipated growth in OHV use since the 1986 Fishlake Forest Plan was written. Forest monitoring of motorized use, known conflicts and impacts, and enforcement issues form the basis of the need for change. A desired result from this project is to provide ample motorized recreational opportunities that minimize the potential for user conflicts and resource impacts, and to create a system that can be maintained over time with the resources available to the forest. The forest intends to meet these objectives, but biophysical, fiscal, and socio-political realities necessitate that progress will occur incrementally over time. A route network that has evolved over 130 years cannot be instantaneously transformed to meet all idealized objectives. The proposed actions represent practical and substantial measurable progress towards the desired ends.

The Fishlake National Forest has one of the larger motorized networks available to ATV and off-highway motorcycles in the National Forest System (NFS). An important niche of the Fishlake is and will continue to be motorized recreation. However, there is a strong need to balance motorized recreational opportunities with other uses and resource protection. The forest has determined that most of the long-term needs for motorized recreation are met by the current system. The forest does not have the resources or justification to greatly expand the system by constructing entirely new routes. Incremental improvements such as constructing short route segments that create loops and relocating or removing routes to reduce resource impacts and use conflicts are still needed however. There may also be a future need to further refine suitable modes of travel on motorized and non-motorized routes. For example, specific routes could be designated for motorized single-track opportunities or mountain biking in the future.

Unmanaged recreation is a national emphasis item for the Forest Service. New federal regulations require National Forests to designate routes and areas and to display them on a motor vehicle use map. A closure that prohibits motorized cross-country travel, except over adequate snow with over-snow vehicles, takes effect once the motorized system is designated. The route designation process initiated by the Fishlake Forest is consistent with and responsive to the new travel management rules. This project should reduce impacts from unmanaged recreation and invasive plants, which the Chief of the Forest Service has identified as two of the four most critical threats affecting the Nation's Forests and Grasslands. However, unmanaged motorized recreation is the fundamental focus for the purpose and need and proposed actions.

The increased popularity and widespread use of OHVs on public lands in the 1960's and early 1970's prompted the development of a unified Federal policy for such use. Executive Order (EO) 11644 was issued in 1972 and EO 11989 was issued in 1977. They provide direction for Federal agencies to establish policies and provide for procedures to control and direct the use of OHVs on public lands so as to: 1) protect the resources of those lands; 2) promote the safety of all users of those lands; and 3) minimize conflicts among the various users on those lands. The Forest Service developed regulations in response to the EOs (36 CFR 216, 219, and 295) that have subsequently been updated and replaced by the new travel rule. The Fishlake National Forest issued its first travel plan in 1976 in response to the EOs.

External and internal reviews at the national level have identified concerns with Forest Service implementation of the Executive Orders (1995, General Accounting Office, Information on the Use and Impact of Off-Highway Vehicles; 1991, 1986, Forest Service review of its OHV program; and the 1979 Council on Environmental Quality review of Off-Road Vehicles on Public Land). These reviews have identified numerous resource concerns that are addressed by the Fishlake motorized travel plan proposals being evaluated in this FEIS.

Over-snow travel by motor vehicles is outside the scope of the route designation project except in the limited cases where seasonal closures to all motorized use are necessary to protect the integrity of critical mule deer winter range or non-motorized recreation uses. All motorized use is prohibited in areas with special designations such as Research Natural Areas. Throughout this document, the term "cross-country travel" assumes motorized rather than non-motorized travel and excludes over-snow travel unless noted otherwise.

The Fishlake National Forest manages motorized use based on its Land and Resource Management Plan (referred to as a Forest Plan). The DEIS provided an opportunity to gather and incorporate public input into the proposed route and area designations and rules needed to create the new motorized travel plan. These comments were used to develop the final preferred alternative presented in this FEIS. The Forest Plan revision team is also using these comments as they assess other transportation and recreation issues.

Substantial public input on the existing and proposed travel plan was received and incorporated into the DEIS and FEIS alternatives. Prior to release of the NOI, the Forest Service briefed local governmental officials, motorized advocacy groups, businesses, and environmental groups. Public scoping meetings were held in Richfield, Salina, Fillmore, Beaver, Loa, Junction, and Salt Lake City Utah during the month of June in 2004. The project web site http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml, press releases, and postings at some trailheads were used to disseminate information and gather comments. About 198 scoping responses from individuals, advocacy groups, State and other federal agencies were received and analyzed for content (see project file or project web page). Public open houses were held in Richfield, Fillmore, Loa, and Beaver Utah in August of 2005 following release of the DEIS. Twenty-four comments were received between the formal scoping period and the formal DEIS comment period. Fifty comments were received during the formal DEIS comment period and an additional 15 comments arrived after the formal comment period.

Issues

Forest monitoring and enforcement have revealed that the current travel plan has several fundamental design flaws. In addition to known mapping errors, the flaws include unnecessarily complex rules and inconsistent travel management policy with adjacent lands. This makes the motorized travel plan difficult for the public to understand and adhere to. Thus, the travel plan is difficult to enforce.

Fishlake National Forest System lands are either near to or contiguous with the lands managed by the Dixie and Manti-LaSal National Forests, Capitol Reef National Park, the Bureau of Land Management (BLM), and State lands (DWR and SITLA). These organizations believe that it is better customer service to have consistent policies across their boundaries, but currently that consistency does not exist (see Appendix F). This issue is discussed further in Chapter 3.

The rapid growth in OHV uses on the forest necessitates that the current travel plan be updated and replaced with a management scheme that realistically addresses current and future management concerns. A travel plan that is difficult to understand and enforce, that is

inconsistent with adjoining public lands, and that allows unrestricted motorized cross-country travel on over 62 percent of the forest, is incompatible with the agency mission to provide public service and protect natural resources, especially in light of current and anticipated levels of motorized use.

Resource protection needs led the forest to propose limiting motorized travel to designated routes and areas only. Primary concerns are to make the travel plan enforceable by making it easy to understand and consistent among public lands, and to reduce impacts from motorized cross-country travel. Motorized cross-country travel is tied to many actual and potential resource issues and impacts, which include the introduction and spread of invasive plants, displacement and compaction of soils, impacts to rare plants, rutting of wetlands, disturbance of wildlife and livestock, damage to cultural resources, and impacts to water quality, riparian and fisheries habitats. As we evaluated the existing travel plan, two resource issues surfaced that broadly influenced the development of the proposed actions. These are the need to protect critical mule deer winter range and Threatened and Endangered plants. However, there are innumerable other site and resource specific concerns addressed by the proposed actions as is documented in the project file.

The above issues are by no means the complete list of topics identified during internal and public scoping processes, but they did help guide development of the alternatives. Most of the public comments received during scoping were from persons who frequently use national forests for one or more purposes. They expressed concerns that their access to the resources was either enhanced or impacted by the use or presence of motorized use. As an example, all parties expressed concern about the potential impacts from future growth in OHV use. However, motorized proponents desire enough riding opportunities to avoid overcrowding, while preservation groups want greater immediate protection of unroaded and undeveloped areas before it is too late. An analysis and summary of content from public comments is located in the project file and on the project web site at http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml.

Questions from Scoping

A number of important issues raised during scoping are addressed in detail in the FEIS in Chapter s 2 and 3, and in Appendix D. Agencies, advocacy groups, and members of the public often asked similar questions about the scope of the proposal, which are briefly discussed in Chapter 1.

Alternatives

Alternatives Considered in Detail

Management Common to All Alternatives: The following management guidance will continue, regardless of which alternative is selected, and is common to all alternatives.

The following vehicles and uses are exempted from the prohibitions to motorized cross-country travel by 36 CFR part 212.51:

a. Aircraft;
b. Watercraft;
c. Over-snow vehicles [Note: Limited restrictions of over-snow vehicles are included in the proposed actions consistent with (§212.81)]
d. Limited administrative use by the Forest Service;
e. Use of any fire, military, emergency, or law enforcement vehicle for emergency purposes;
f. Authorized use of any combat or combat support vehicle for national defense purposes;
g. Law enforcement response to violations of law, including pursuit; and

h. Motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations.

The Forest Service will continue to use infrastructure and resource inventories, monitoring, landscape analysis and watershed assessments, or activity plans for geographical areas to identify needed adjustments to the transportation facilities and uses. Site-specific planning could identify opportunities to address access or resource protection needs. This includes construction of new routes and redesigning, moving, or obliterating existing routes. The Forest Service will continue to monitor impacts from road and trail facilities and route use and will prioritize and address resource issues on an ongoing basis. This is standard procedure.

A motor vehicle use map will be used to display and enforce route and area designations. Expectations from the travel rule are that the map will be updated yearly. The forest would have to rely on existing designations if No Action is chosen, which would be difficult to implement because only routes in restricted areas are explicitly designated currently. The forest would also have to go through a process to designate appropriate vehicle types by route.

The Forest Supervisor may continue to issue travel management orders pursuant to part 261, subpart B, and impose temporary, emergency closures based on a determination of considerable adverse effects pursuant to §212.52(b)(2). This includes considerable adverse impacts to soil, vegetation, wildlife, wildlife habitat, cultural resources, Threatened or Endangered species, other authorized uses, or other resources, until the effects are mitigated or eliminated and measures are implemented to prevent future recurrence. The proposed actions do not in any way limit this existing authority.

We will consult with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act. The act requires consultation to ensure that any site-specific plan (1) is not likely to jeopardize continued existence of any species listed or proposed to be listed, or (2) does not destroy or adversely modify critical habitat. Access standards in effect for existing recovery plans will be followed. In addition, the authorized officer retains authority to immediately close areas, roads, or trails if motorized use is causing or will cause considerable adverse environmental effects to species listed or proposed to be listed.

The following definitions apply to all alternatives:

Road: A motor vehicle route over 50 inches wide, unless identified and managed as a trail. A road may be authorized, unauthorized, or temporary.

Trail: A route 50 inches or less in width, or a route over 50 inches wide that is identified and managed as a trail. A trail may be authorized, unauthorized, or temporary.

Off-Highway Vehicles (OHV): Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. Vehicle types include but are not limited to sport utility vehicles, jeeps, ATVs, minibikes, amphibious vehicles, over-snow vehicles, off-highway motorcycles, go-carts, motorized trail bikes, and dune buggies. Wheelchairs that are designed solely for use by a mobility-impaired person for travel are not included in this definition. *Most issues associated with over-snow vehicles are outside the scope of this project. However, exceptions are noted and addressed where necessary.*

Over-snow vehicle: A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow.

The Alternatives: Based upon the effects of the alternatives, the responsible official will decide which proposed plan best addresses the purpose and need for action while being responsive to public input. Four action alternatives were developed and analyzed in detail for contrast with the No Action Alternative. The major management actions and environmental consequences of the four alternatives are summarized in Tables 2-35 and 2-36. These tables are summaries of the alternative descriptions contained in Chapter 2 and the environmental consequences contained in Chapter 3. The reader is referred to those chapters for more specific information. Alternative 2 is the proposed action that was released with the Notice of Intent. Alternative 3 modifies the proposed action based on public comments, internal reviews, and additional route inventory from 2004. The changes to Alternative 2 reflected in Alternative 3 represent an evolutionary improvement and progression towards a preferred alternative. Alternative 4 combines suggestions from public comments and advocacy groups such as Utah Forest Network, Three Forest Coalition and Utah Environmental Congress to emphasize greater protection of wilderness characteristics and additional protection of biological and physical resources. Alternative 4 removes motorized trails in undeveloped areas and only adds unauthorized routes when needed to provide private land and special use access. Alternative 5 is the final preferred alternative that incorporates a substantial amount of addition internal review and public comments received during the formal and informal DEIS comment periods. The Three Forest Coalition and the Utah Environmental Congress submitted a route designation proposal that was not received in time to evaluate before release of the DEIS. The final review indicated that this proposal is not substantially different than Alternative 4. Nonetheless, the differences were evaluated route-by-route and information provided by the coalition was considered in development of the final preferred alternative. Maps of all of the alternatives, including the TFC/UEC proposal can be found on the CD-ROM that accompanies the FEIS or on the interactive map server on the web at http://maps.fs.fed.us/tm_jsp/r4/fishlake/.

Alternatives Eliminated from Detailed Study

The following alternatives were eliminated from detailed study because they do not meet the purpose and need; they cannot be implemented due to technical, legal, or other constraints; or the interests are already represented in an alternative that is being studied in detail. More information on these alternatives and why they were eliminated from detailed study can be found in Chapter 2 of the FEIS.

Issue a Forest-wide Emergency Closure Order

Start the Travel Plan with a Blank Map

Retain All “Existing” Routes as Open to Motorized Use

Construct New Motorized and Non-motorized Routes

Close the Forest to All Forms of Cross-country Travel

Close to All Traffic Except Search/Rescue and Emergency Military Traffic

Create a Game Retrieval Exemption for Motorized Cross-country Travel

Allow Open Use Areas on Soils that are Resistant to Motorized Cross-country Travel

Create Special Route Designations for Motorized Single-Track Trails

Create Special Route Designations and Closures for Mechanized Trail Use

Create Special Route Designations and Closures for Over-snow Vehicles

Closed Unless Posted Open / Open Unless Posted Closed

Utah Forest Network’s Sustainable Multiple Use / Comprehensive Proposal

Utah Environmental Congress Wilderness Protection Alternative

Three Forest Coalition / Utah Environmental Congress "Natural Heritage" Proposals

Changes between the Draft EIS and the Final EIS

Final Travel Management Rule Released

The revisions to the Code of Federal Regulations (CFRs) for travel management (36 CFR parts 212, 251, 261, and 295) were in draft form at the time the Fishlake OHV Route Designation DEIS was released for public review. The changes in those regulations were made final on November 2, 2005. The FEIS was edited where necessary to reflect this completed status.

Some Definitions Changed

The DEIS used the proposed definition for snowmobile that was contained in the draft travel management rule. The proposed rule used the term snowmobile as "A motor vehicle that is designed exclusively for use over snow and that runs on a track or track and/or a ski or skis." The final rule provided the definition as an over-snow vehicle, which is "A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow." The terminology in FEIS is consistent with the final rule. Resource specialists reassessed the route and area designations in light of the new definition. In particular, seasonal route and area closures for critical mule deer winter range [and elk] were revised because the final definition includes ATVs with track conversions as over-snow vehicles. These vehicles were not legitimate over-snow vehicles using the initial definition in the draft travel rule.

The final rule eliminated use of the terms "classified" and "unclassified" for describing whether a route is an official part of the legitimate travel network on National Forest System lands. The terms "Forest road or trail" are used for authorized routes. "Unauthorized" is now used instead of "unclassified" to indicate a route that is not officially recognized and included on the forest travel atlas. The FEIS uses this new terminology, but retains some references to classification where it adds context to historical actions and considerations. The final rule also changed the definition of "construction" from an "activity that results in the addition of forest classified or temporary road miles" to "supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road." Under the old definition, classifying a road was treated as construction that then required a Roads Analysis. The draft guidance for implementing the final rule is indicating that a Transportation Analysis process will replace Roads Analysis. It will be a streamlined version of Roads Analysis that will be done for roads and motorized trails. The Roads Analysis Supplement prepared for the route designation project already includes motorized trails and roads and is consistent with the travel rule and proposed directives as currently drafted.

Treatment of Dispersed Camping Changed

The current travel plan treats the permission to camp 300-foot off open roads as an exemption. Under the final travel rule, the exemptions are limited to those specified in 36 CFR 212.51(a). Dispersed camping provisions are now handled as part of the route designations and are not considered an exemption. The action alternatives and descriptions in the FEIS have been updated accordingly. The forest is proposing to start out with distances from designated routes where existing dispersed campsites can be accessed. Over time, the forest will add routes not already in the inventory if they are desired for dispersed camping access. Subsequent yearly updates to the motor vehicle use map will replace most distance designations with designated routes to dispersed sites. As such, the distance designations will in most cases be temporary allowing the forest to transition to the preferred travel rule option of designating routes to desired campsites.

Public Comments Incorporated

Roughly 89 written comments were received between release of the DEIS and the FEIS. Of that total, 50 were received during the formal comment period. District staff and forest specialists evaluated all of the individual route or area specific comments [regardless of when the comment was received] to determine what if any changes should be made for the final preferred alternative. This process took months to complete, in part because some of the comments necessitated updates to the route inventory.

Route Inventory Updated

About 144 miles of road, 245 miles of motorized trail, and 5 miles of non-motorized trail have been added to the forest route inventory between the draft and final EIS. These routes would, by default, be obliterated in Alternatives 2, 3, and 4. Each route received due consideration for being added to the motorized system or obliterated in the final preferred alternative. Only routes that could be verified by corporate knowledge or aerial photography were added to the Geographic Information System (GIS). Many of the routes were identified by members of the public in their comments or by counties, particularly Sevier County. Other routes are added to begin addressing the need to designate routes to existing desired dispersed campsites as described previously. The effects analyses for the FEIS reflect the current inventory and proposed designations.

A Non-significant Forest Plan Amendment Occurred

A Forest Plan amendment to clarify which guild species to monitor was approved. The amendment eliminates the following guilds: Cavity Nesters, Riparian Guild and Sage Nesters and replace those guilds with the following individual species as MIS:

- Hairy Woodpecker, Western Bluebird, and Mountain Bluebird
- MacGillivary's Warbler, Yellow Warbler, Lincoln's Sparrow, and Song Sparrow
- Brewer's Sparrow, Vesper Sparrow, and Sage Thrasher

A Non-significant Forest Plan Amendment Is Needed

Six existing and one proposed route designation require minor boundary adjustments to Management Area 3A, which emphasizes non-motorized recreation opportunities. Three of the adjustments are located on the Fillmore Ranger District, one on the Beaver Ranger District, and three on the Fremont River Ranger District. All but one of the changes fix 1986 Forest Plan mapping errors that were not caught until the review done for this project. The need for management area changes on the one route (xt_020) is more clearly tied to decisions made for the route designation project than it is to mapping errors. A description of the amendment is contained in Appendix G.

Decisions on "C" Area Restrictions Are Being Deferred

The "C" area restrictions on the current travel plan prescribe that no motorized use occurs yearlong in areas with this designation. The delineation of these areas makes more sense for the current travel plan that combines summer and winter restrictions on one map than it does for the system set up by the travel rule that creates separate summer and winter use maps. Most of the "C" areas do not get enough snow in the winter or are inaccessible due to steep and rugged terrain. Their primary purpose in the original travel plan was to control summer use. Under the new travel rule, this concern is covered by the prohibition on cross-country travel that is automatically triggered once the motor vehicle use map is developed and made available to the public. Thus, most of the "C" area designations in the areas of concern are no longer needed to

assure that motorized use does not occur. Over-snow closure areas were redefined and redrawn in Alternatives 2, 3, and 4 accordingly. Subsequently internal review and interaction with the public revealed the need to delay making changes to the "C" closures on the winter use map until the special area designations from Forest Plan revision are assigned. Therefore, Alternative 5 retains the current "C" closure delineations except where they overlap with the proposed seasonal over-snow closures, which take precedence. The forest will revise the over-snow vehicle use map some time after Forest Plan revision is complete.

Changes to Recreational Uses Tracked More Clearly

In the DEIS, changes to motorized and non-motorized recreation opportunities were presented in the Description of Alternatives in Chapter 2. At the time, it was felt that this would be the best way to help the public understand the nature of the proposed actions. However, this confused some reviewers who were looking for this information in the effects sections of the documents. Consequently, this concern is tracked as an issue in Chapters 1 and 3 of the FEIS with the hope of improving focus and clarity of the documentation.

A New Final Preferred Alternative Developed

The above changes led to numerous site-specific adjustments to Alternative 3, the modified proposed action that was identified as the preferred alternative in the DEIS. As a result, Alternative 5 was added to the FEIS. It is the final preferred alternative. This was done so that the effects from the unique combinations of route and area designations can be properly analyzed and so that the public can be clear about how the final preferred alternative is configured.

The Loa Ranger District Is Now the Fremont River Ranger District

The Fishlake National Forest began administering the Teasdale Ranger District of the Dixie National Forest on October 1, 2004 in combination with the Loa Ranger District from the Fishlake. Due to the timing of the transition, the Teasdale portion of the district is not included into the Fishlake OHV Route Designation project area. Consequently, the Dixie National Forest motorized travel planning project will update the travel plan for Teasdale. The Loa / Teasdale combination was formally designated as the Fremont River Ranger District after the DEIS was released. Any reference to the Fremont River Ranger District in the FEIS excludes the Teasdale portion. This is a change from the DEIS, which only referred to the Loa Ranger District.

Document Structure

The Forest Service has prepared this final environmental impact statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and state laws and regulations. This final environmental impact statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

Chapter 1. Purpose of and Need for Action - The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.

Chapter 2. Description of the Alternatives - This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures.

Finally, this section provides a summary table of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment and Environmental Consequences - This chapter describes the existing conditions of and potential environmental impacts to at-risk resource values and uses for each alternative. Resource areas, significant issues, and environmental components organize this analysis. The final environmental impact statement incorporates existing condition information from several sources by reference.

Chapter 4. Consultation and Coordination - This chapter provides a list of preparers and agencies consulted during the development of the draft and final environmental impact statements.

References Cited: This section contains all direct reference citations used in this document and from the specialist reports.

Glossary: The Glossary contains definitions of terms used in this document.

Appendix A: Executive Orders 11644 and 11989 – This appendix contains executive branch direction directly related to OHV management on National Forest System lands.

Appendix B: Implementation Plan – This appendix identifies risk management strategies for motorized use and provides infrastructure and enforcement considerations, public education plans, monitoring requirements, and, strategic considerations for future travel planning decisions.

Appendix C: Cumulative Actions – This appendix includes a listing of projects within the Fishlake National Forest and the degree to which they are or are not relevant to the cumulative effects analyses.

Appendix D: Issues Not Discussed in Detail - 1) eliminated by project design, 2) presenting minimal risk, 3) outside project scope, or that are not relevant.

Appendix E: Detailed Route Authorization and Designation Changes

Appendix F: *Comparison of select OHV policies for Forest Service, BLM, and State Lands in Utah*

This final environmental impact statement (FEIS) discloses the potential environmental consequences of designating motorized routes and open use areas, and prohibiting cross-country travel by OHVs, when not over snow, on lands administered by the Forest Service on the Fishlake National Forest.

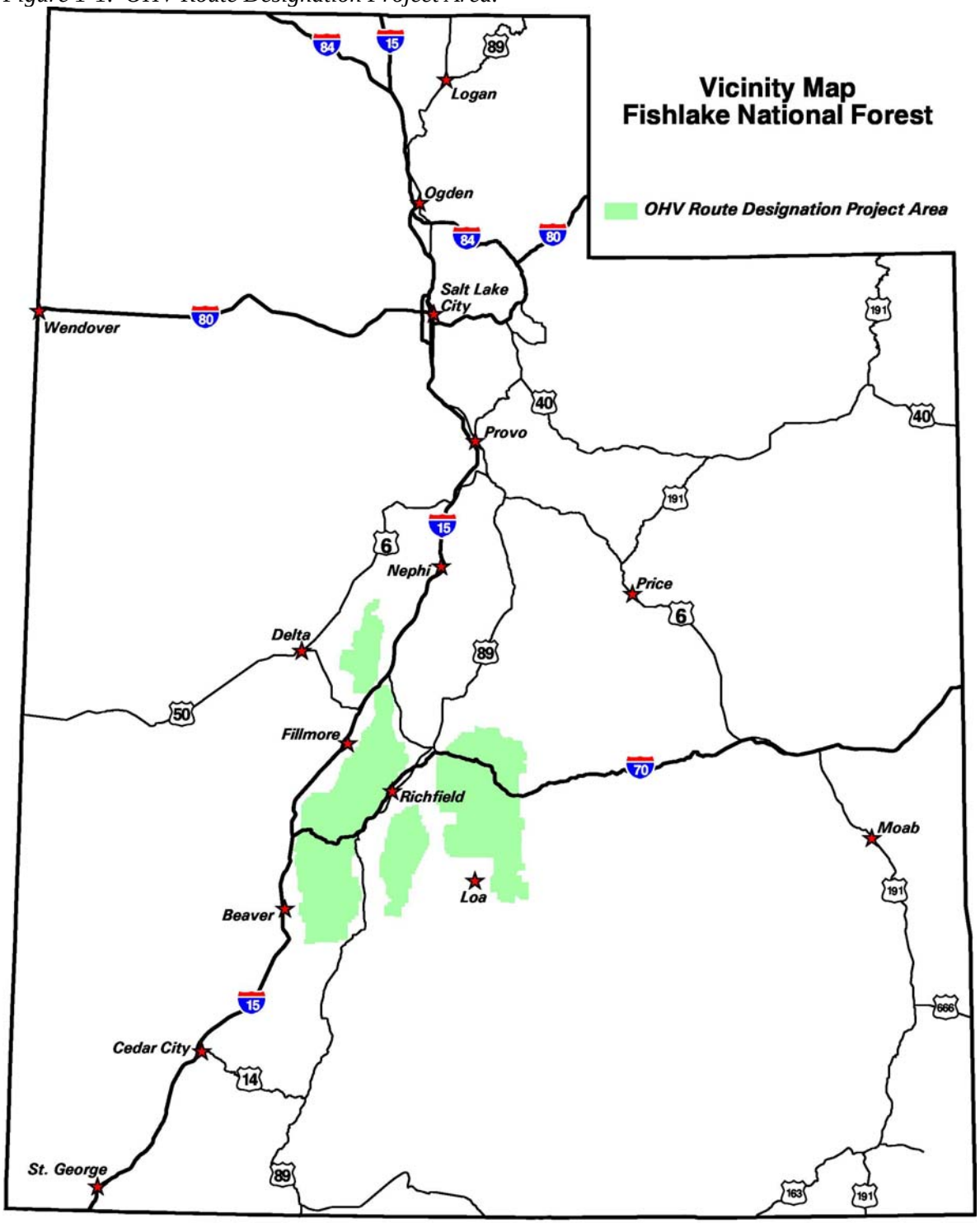
Additional project information and an interactive map that can be used to view and query the alternatives is available on the website at http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml.

Chapter 1. Purpose of and Need for Action

Location of the Analysis Area

The Fishlake National Forest administers over 1.4 million acres of public land in Utah. The analysis area for the Fishlake OHV Route Designation Project is displayed below.

Figure 1-1. OHV Route Designation Project Area.



Existing Condition

There has been rapid growth in off-highway vehicle (OHV) use that was not anticipated when the 1986 Fishlake Forest Plan was written. Combined use on the Paiute and Great Western Trail systems has increased 205 percent since 1995 (Reid 2005). OHV registrations in Utah increased 212 percent from 1998 to 2004 (Hayes 2005). New retail sales of OHVs increased 163 percent between 1995 and 2001 (Motorcycle Industry Council 2002). Most of these vehicles are used on public lands (Fisher et. al. 2001, Motorcycle Industry Council 2001). The existing travel plan allows seasonal or yearlong motorized cross-country travel on over 62 percent of the forest. This is not desirable or sustainable, especially given the existing numbers of users and expected growth. This is also inconsistent with the travel regulations that were finalized on November 2, 2005.

The existing travel plan relies on "open unless signed or mapped closed" enforcement scheme, which is complicated to interpret and difficult to administer. In addition, the lack of consistent travel policies between the Fishlake National Forest and other nearby forests and land management agencies is confusing for the public and inhibits cooperative law enforcement and successful prosecution of offenders.

All of the factors described above have contributed to the current situation where some motorized travel is occurring in areas and on routes where motorized use is prohibited. In some open areas, networks of user-developed routes continue to appear that are creating use conflicts and resource impacts. Problems do not occur equally throughout the analysis area. Some of this use has occurred in riparian areas and on highly erodible slopes. In other areas, use is very light and little or no effects from wheeled motorized cross-country travel are evident. Types of impacts include the introduction and spread of invasive plants, displacement and compaction of soils, impacts to rare plants, rutting of wetlands, disturbance of wildlife and livestock, damage to cultural resources, and impacts to water quality, riparian and fisheries habitats. The majority of motorized impacts are occurring during hunting season and spring antler shed gathering, in play areas next to communities, and around popular dispersed camping areas.

Desired Condition

The Fishlake National Forest goal is to manage the use of OHVs in partnership with other federal and State land management agencies, local governments and communities and interest groups to protect public lands and resources while providing opportunities for the safe use and enjoyment of OHVs on designated roads, trails, and open use areas that comply with the Forest Plan.

To meet Forest Plan desired conditions, the Forest Service, cooperating agencies, and the public need greater certainty about which roads and trails are part of the managed system of motorized and non-motorized routes. Greater certainty is needed to

- improve public understanding and adherence to travel rules, thus reducing the development of user-created routes,
- reduce motorized conflicts with natural and cultural resources (Forest Plan pages IV-3 to IV-6),
- coordinate public access across different land management agencies,
- improve motorized and non-motorized recreation opportunities on the Fishlake National Forest in cooperation with our partners (Forest Plan page IV-3),

- prioritize and budget for road and trail maintenance, including the need to identify and remedy public safety hazards (Forest Plan page IV-5).

The desired condition is to provide a range of motorized recreation opportunities, recognizing their legitimate use while minimizing the current or anticipated effects on wildlife and their habitat, soil, native vegetation, water, fish and other users (Forest Plan pages IV-2 to IV-6). There will be designated routes, both roads and trails that permit motorized use. Unauthorized routes will not increase because adequate recreational activity is available in a well-planned system of trails and roads and because illegal routes are promptly obliterated if created. In some locations, there will be open use areas, such as in Flat Canyon and the Sawdust Pits west of Richfield or the Velvet Ridges east of Loa. Any cross-country travel authorized for administrative use, contracts and permits would weigh the need to meet multiple-use purposes with having minimum resource impacts as outlined in the Forest Plan.

Purpose of and Need for Action

In order to comply with travel management regulations (36 CFR parts 212, 251, and 261, which also incorporate Executive Orders 11644 and 11989) and Forest Plan direction, the Forest Supervisor has determined that there is a need to improve management and enforcement of the motorized travel policy on the forest. Specifically the purpose of and need for the proposed action is to

1. address the immediate need to better manage motorized cross-country travel,

2. create an implementable user friendly motorized travel plan that is simple to understand and is as consistent (seamless) as possible with adjacent public lands,

3. create a travel plan that is inherently easy to enforce to the fullest practical extent,

4. better accommodate current motorized use while addressing concerns related to future growth,

5. reduce the potential for motorized conflicts and impacts to other resource uses and values, and

6. increase user certainty about which roads and trails are part of the managed system of motorized and non-motorized routes.

The purpose of and need for action was developed over the course of 11 months as the forest conducted a pre-NEPA (NFMA) assessment. NFMA analyses included review of public comments from the OHV Event EA; consideration of reports from the OHV, roadless, and dispersed camping Topical Working Groups from the forest plan revision process; and development of a supplemental forest-scale Roads Analysis and a mixed-use safety analysis.

Discussion

The Forest Service recognizes in Federal Codes of Regulations, forest plans, policy, and manual direction that motorized use, including use by OHVs, is a valid recreational activity when properly managed. Managing this use along with other recreation uses and the need to protect natural and cultural resources has become increasingly difficult with increased public demands. Members of the public and other public resource management agencies, and even OHV users, have shared their concerns about unrestricted motorized travel on public lands. In general, there is strong support for limiting travel to designated routes and areas only (OHV project file). The sources of public disagreement generally center on specific routes and area designations and on which particular travel management strategies should be adopted.

The project area comprises almost 1.6 million acres of which over 1.4 million acres are part of the National Forest System lands managed by the Fishlake National Forest - the remainder is private and State land inholdings. Over 909,000 acres of the 1.4 million acres are currently designated as open to motorized, wheeled cross-country travel, either seasonally or yearlong based on the existing travel plan map, see Table 1-1 and Figure 1-2.

Table 1-1. Area summary of OHV restrictions on the existing Fishlake National Forest travel plan (total area is 1,454,380 acres).

Closed Seasonally to Motorized Travel* "A" Restriction	Open to Travel on Designated Routes Only "B" Restriction	Closed to All Motorized Travel Yearlong "C" Restriction	Undesignated/ Unrestricted*
126,530 acres	368,729 acres	176,535 acres	782,585 acres

* category permits wheeled motorized cross-country travel seasonally or all year.

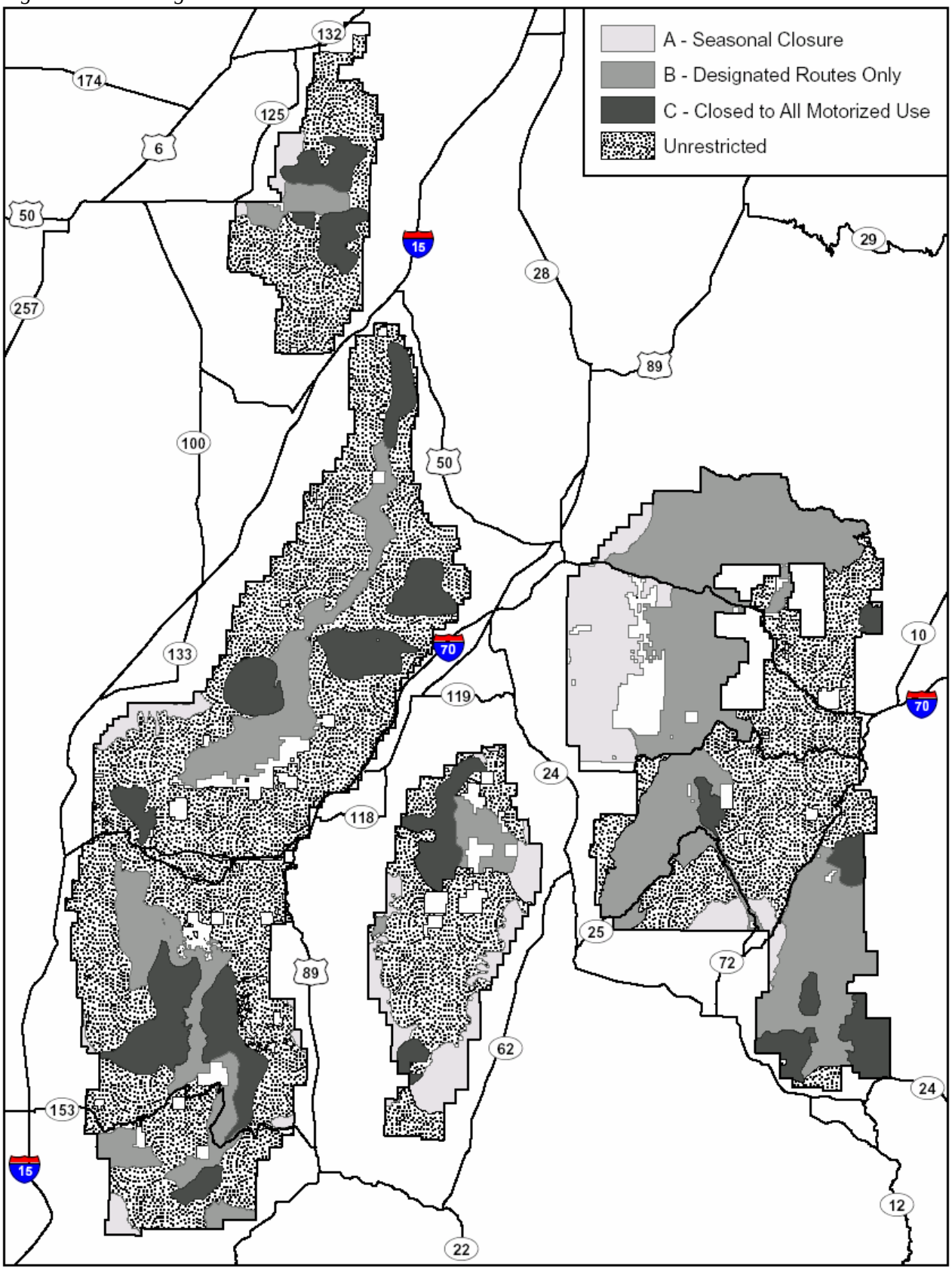
The current combination of the four travel map area designations shown in Table 1-1 and Figure 1-2 lead to six different designations when applied. Official designations for routes include Open Seasonally, Open Yearlong, Street Legal Vehicles Only, and Administrative Use Only. De facto designations include "Undesignated, but Open" and "Undesignated, but Closed". The mileages in each class are summarized in Table 1-2 below.

Table 1-2. Route mileage summary of OHV restrictions on the existing Fishlake National Forest travel plan (total of 3,540.2 miles of motorized routes).

Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
1,859.1	328.6	225.2	29.6	764.3	333.4

The current motorized travel plan has proven confusing for the public and Forest Service personnel alike. Internal dialog, public conversations, and written correspondence reveal that the existing travel plan is frequently misinterpreted. The project file contains numerous examples that illustrate that the public is knowingly and unknowingly using closed routes and areas for motorized travel. Many motorized users are not aware that much of what they consider as the "existing" motorized system has not recently or in some cases ever been legally declared as open to motorized use. It is clear that the current travel map is part of the source of confusion. As an example, in areas that are open seasonally ("A" areas), limited to travel on designated routes only ("B" areas), or closed to all motorized travel ("C" areas), routes that are highlighted in green are open yearlong. Routes shown on the map, but without a green highlight are open seasonally in "A" areas, closed yearlong in "B" and "C" areas, and open yearlong in unrestricted areas. Routes not shown on the map are open in "A" and unrestricted areas and closed in "B" and "C" areas. The current system also creates some discontinuities where a middle portion of a route may be open, but is closed at both ends. The above description is confusing because the current travel map is confusing.

Figure 1-2. Existing Motorized Travel Restriction Areas.



In addition to a complex travel map for the Fishlake National Forest, motorized users have to contend with a myriad of rules that are not consistent between land management agencies. Appendix F shows some selected OHV policies for Forest Service, and a sampling of Bureau of Land Management Field Offices, National Park Service, and State lands in Utah. There is a large amount of variation within and among these different agencies. Route and area designation procedures, motorized cross-country travel allowances and exemptions, and seasonal closures all differ to some degree.

Making the travel plan simpler, seamless to the user and easier to enforce requires greater consistency among the various public land management agencies. This factor helped shape the specifics of the proposed actions including coordination with the BLM, Capitol Reef National Park, State lands, and adjacent national forests. In Utah, both the Forest Service and the BLM are moving towards travel on designated routes and areas, which will greatly simplify the complex rules currently in place.

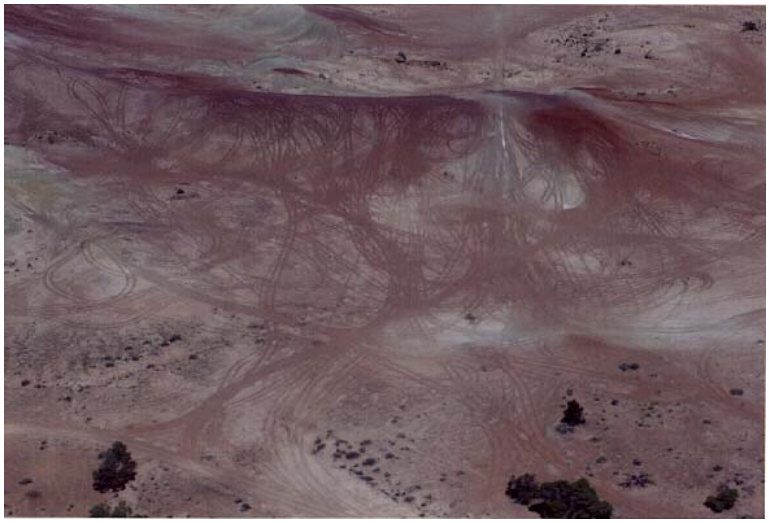
A critical test for the travel plan revision is to avoid creating rules that cannot be enforced since this degrades the legitimacy of the entire plan in the eyes of the public. Lack of public acceptance for the travel plan legitimacy and purpose translates into lack of ownership and lack of adherence to the assigned rules and designations.

Proposed Actions

The proposed actions consist of changes to type or season of motorized use, route types and authorizations, and changes to area designations. The alternatives, including No Action, would add from 0 to 587 miles of unauthorized routes to and would remove from 0 to 73 miles of authorized routes from the forest's existing motorized system. Between 0 to 1,113 miles of unauthorized motorized routes would be obliterated and 0 to 84 miles converted to non-motorized trail. The proposed actions would range from systems of roughly 1,926 to 2,181 miles of road and from 196 to 639 miles of trail for combined totals of 2,122 to 2,820 miles of motorized routes. Only action alternatives explicitly limit motorized travel to designated routes, areas, and seasons of use across the entire forest. The amount of seasonally restricted routes range from 231 miles to 424 miles. In the action alternatives, the ending date for the seasonal closure period for nearly all of these routes would be lengthened from March 31 to April 15 with a start date of January 1. The Paiute and Great Western Trail systems would be retained in its current configuration except under Alternative 4. Motorized travel off designated routes would be prohibited except as specified for open use areas, over-snow vehicles, and access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, and limited Forest Service administrative use. Limited changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges and Research Natural Areas. The proposed alternatives designate 0 to 780 acres in three open use areas west of Richfield, UT (includes the area in the previous photo), and 0 to 193 acres on the Velvet Ridges near Torrey, UT (photo to the right) where motorized cross-country travel would be allowed. The

Flat Canyon on the Fillmore Ranger District is open to cross-country travel in the current travel plan.

alternatives also incorporate an implementation plan that identifies risk management strategies for motorized use and lists infrastructure and enforcement considerations, public education plans, monitoring requirements, and, strategic considerations for future travel planning decisions (see Appendix B for details).



Velvet Ridges on the Fremont River Ranger District is open to cross-country travel in the current travel plan.

Decision Framework

The Forest Supervisor has determined that the project scope as defined by the purpose and need represents the best balance between addressing immediate concerns associated with motorized cross-country travel and longer-term travel management planning issues. Given the purpose and need, the Forest Supervisor will review the tradeoffs and environmental consequences from the proposed action and other alternatives in order to make the following decisions:

What designations and strategies are needed to close the forest to wheeled motorized cross-country travel as quickly and effectively as possible?

What designations and strategies result in a motorized travel plan that is inherently simpler to enforce and that is easy for users to understand and apply?

What designations and strategies are the most consistent with ongoing revisions to motorized travel plans on adjoining National Forests and BLM lands in Utah?

What are the most effective and realistic strategies to reduce or prevent environmental impacts and use conflicts while providing for motorized access needs?

What class of motor vehicle and season of motorized use should be allowed or prohibited on each designated route or area?

Which unauthorized travel ways should be added to the forest transportation atlas of motorized and non-motorized routes and which should be eliminated?

Public Involvement

The Notice of Intent (NOI) was published in the Federal Register on June 7, 2004. The NOI asked for comments on the proposed action by July 30, 2004. Prior to release of the NOI, the Forest Service briefed local governmental officials, motorized advocacy groups, businesses, and environmental groups. The efforts following the NOI included public open houses in Richfield, Fillmore, Beaver, Loa, Junction, Salina and Salt Lake City, Utah. Subsequent to those open houses, comments on the project were reviewed and the proposed action was revised. The forest

developed two additional alternatives based on public comments that also incorporated new route inventory data from the summer of 2004.

The project web site http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml, press release, and postings at some trailheads were used to disseminate information and gather comments. About 198 scoping responses from individuals, advocacy groups, State and other federal agencies were received and analyzed for content (see project file or project web page). Public open houses were held in Richfield, Fillmore, Loa, and Beaver Utah in August of 2005 following release of the DEIS. Twenty-four comments were received between the formal scoping period and the formal DEIS comment period. Fifty comments were received during the formal DEIS comment period and an additional 15 comments arrived after the formal comment period. The response to comments document is located on the project web site listed above.

Scope of the Project and Analysis

The scope of this project is limited to existing roads and trails. Proposals for new route construction are not included because the amount of site-specific information and analysis would be too cumbersome to track at the forest scale. In addition, adding new construction would substantially complicate the range of alternatives needed and would greatly lengthen the time required to complete the NEPA process. This does not fit with the purpose and need to deal with the immediate concerns related to motorized cross-country travel. Other than routes being obliterated, this project does not address changing the maintenance level or condition of existing travel roads and trails. As such, if a road is designated as open to motorized use, it will only be open to vehicle types suitable to the current condition. For example, a high clearance road will not be upgraded or maintained for passenger cars simply because the road has been designated as open yearlong to all vehicles. Similarly, the experience and skill of a rider will determine whether trails can be traveled safely since some require intermediate or advanced skills.

This FEIS is a site-specific document with a focus on route and area designation for motorized use, but that requires a broad geographic scope since the project covers the entire Fishlake National Forest. Cumulative site-specific impacts are discussed at appropriate scales for each resource. Some disclosed effects necessarily represent relative (ordinal) magnitudes of impact rather than absolute levels. In any case, the effects are estimated to provide a basis for comparison and choice among the alternatives. This project will update and replace the current motorized travel plan for summer and winter use. It is not intended to address all aspects of unmanaged recreation or motorized use. Dispersed camping, over-snow vehicle use, optimality of the route system for long-term multiple uses, resource protection, and access needs are addressed to varying degrees depending on site-specific considerations and the context provided by the Purpose of and Need for Action.

The analysis area is limited to National Forest System lands, but the Fishlake NF has coordinated with and will continue to seek consistency with adjoining national forests, Capitol Reef National Park, State lands, and BLM field offices. The forest does not have jurisdiction on all roads and trails that are located on National Forest System lands. The mapped designations for routes under other jurisdiction are provided so that the public can see how the system interconnects, but is not meant to imply the forest has unilaterally determined the designation. The forest coordinated with State, county, and city officials and private landowners to reduce motorized use conflicts where such potential existed. This coordination resulted in changes to some existing designations on routes where the Forest Service does not have jurisdiction.

As of October 1, 2004, the Fishlake National Forest began administering the Fremont River Ranger District, which is a combination of the Teasdale Ranger District from the Dixie National Forest and the Loa Ranger District from the Fishlake. Due to the timing of the transition, the Teasdale portion of the district is not included into the Fishlake OHV Route Designation project area. Consequently, the Dixie National Forest motorized travel planning project will update the

travel plan for Teasdale. The district name was formally changed to the Fremont River Ranger District after the DEIS was released. Any reference to the Fremont River Ranger District in the FEIS excludes the Teasdale portion. This is a change from the DEIS, which referred to the Loa Ranger District.

Over-snow travel by over-snow vehicles is outside the scope of the route designation project except where seasonal closures to all motorized use are necessary to protect the integrity of critical mule deer winter range.

No Forest Plan amendment was triggered by the alternatives analyzed in the DEIS. Route designations in the final preferred alternative require a Forest Plan amendment to implement. The routes require minor boundary changes for semi-primitive management area 3A and will additionally fix existing mapping errors.

The Fishlake National Forest will produce a motor vehicle use map once project requirements specified in the signed Record of Decision for the FEIS are met. The 36 CFR 261.13 prohibitions of motorized cross-country travel outside of designated routes and areas will then take effect. 36 CFR 261.14 prohibitions on winter travel will take effect with the production of the over-snow vehicle use map.

Issues

Only significant issues are discussed in detail in the main body of the FEIS. Significant or "primary" issues represent concerns directly or indirectly caused by or attributable to the existing or proposed actions. Proposed actions and alternatives are developed to address significant issues. Descriptions of and rationale for issues that create minimal risk or that can be eliminated by project design, or that are non-significant can be found in Appendix D. Non-significant issues are identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations explain this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…"

An issue is a concern, dispute, or debate about the environmental effects of an action. Issues are identified through the scoping process, and from formal DEIS public and other agency comments, along with internal review. A summary of the public involvement process and comments can be found in the project file and on the project web site at http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml.

Primary Issues

Forest monitoring and enforcement have revealed that the current travel plan has several fundamental design flaws. In addition to known mapping errors, the flaws include unnecessarily complex rules and inconsistent travel management policy with adjacent lands. This makes the motorized travel plan difficult for the public to understand and adhere to. Thus, the travel plan is difficult to enforce.

Fishlake National Forest System lands are either near or contiguous with the lands managed by the Dixie and Manti-LaSal National Forests, Capitol Reef National Park, State lands, and the Bureau of Land Management (BLM). These organizations believe that it is better customer service to have consistent policies across their boundaries, but currently that consistency does not exist (see Appendix F). This issue is discussed further in Chapter 3.

The rapid growth in OHV uses on the forest necessitates that the current travel plan be updated and replaced with a management scheme that realistically addresses current and future management concerns. A travel plan that is difficult to understand and enforce, is inconsistent with adjoining public lands, and allows unrestricted motorized cross-country travel on over 62 percent of the forest is incompatible with the agency mission to provide public access while protecting natural resources. This is especially true in light of current and anticipated levels of motorized use, and given the requirements of the new travel rule.

Resource protection needs led the forest to the current proposal to limit motorize travel to designated routes and areas only. Therefore, making the travel plan enforceable by making it easy to understand and consistent among public lands, and reducing impacts from motorized cross-country travel are key issues. Cross-country travel is tied to many actual and potential resource issues and impacts, which include the introduction and spread of invasive plants, displacement and compaction of soils, impacts to rare plants, rutting of wetlands, disturbance of wildlife and livestock, damage to cultural resources, and impacts to water quality, riparian and fisheries habitats. As we evaluated the existing travel plan, two resource issues surfaced that broadly influenced the development of the proposed actions. These are the need to protect critical mule deer winter range and Threatened and Endangered plants. However, there are innumerable other site and resource specific concerns addressed by the proposed actions as is documented in the project file.

The above issues are by no means the complete list of topics identified during internal and public scoping processes, but they did help guide development of the alternatives. Most of the public comments received during scoping were from persons who frequently use national forests for one or more purposes. They expressed concerns that their access to the resources was either enhanced or impacted by the use or presence of motorized use. As an example, all parties expressed concern about the potential impacts from future growth in OHV use. However, motorized proponents desire enough riding opportunities to avoid overcrowding, while preservation groups want greater immediate protection of unroaded and undeveloped areas.

The primary issues identified below are the biophysical and social elements that drove the development, design, and analysis of the alternatives. Table 1-3 lists the primary issues, problem statements, and the indicators that are used to assess potential impacts to the resource elements being considered. The forest identified these issues through internal and public scoping. These issues are the most important and relevant resource considerations based on current and expected impacts within the scope of the proposed actions.

Table 1-3. Management considerations and issues.

Management Consideration	Primary Issues	Issue Descriptions and Indicators
Adherence to and Enforcement of Travel Plan	Inherent Travel Plan Enforceability	The existing travel plan has been difficult to enforce in large part because it is difficult to understand. The lines on the map have different meanings depending on whether the route is located in an area closed to all motorized travel, on a seasonally restricted area, on a designated route only area, or undesignated area. The need is to make the travel plan as simple and understandable as possible. Travel rules and methods of route designation vary - in some cases substantially so - across public lands under different jurisdictions (e.g. Fishlake, Dixie, and Manti-LaSal National Forests, Richfield and Fillmore BLM Districts, Capitol Reef National Park, various cities and

Table 1-3. Management considerations and issues.

Management Consideration	Primary Issues	Issue Descriptions and Indicators
		counties, Utah SITLA and Division of Wildlife Resources). This causes confusion for the public and deters cooperative law enforcement and judicial review of travel plans at the State and Federal levels. The need is to have a seamless travel network on public lands. Indicators: ✯ The number of elements and complexity of the travel map legend contrasted against the level of resource protection and reduction in user conflicts afforded by the scheme. ✯ The type, number, and importance of similarities and differences in travel plan rules and map designations among adjoining lands to the Fishlake National Forest.
Critical Mule Deer Winter Range	Habitat Effectiveness and Displacement	Historically big game would be forced down to the valley and foothills by the snow and winter conditions. The animals would follow new vegetative growth back up to higher elevations in the spring as it became available. Currently motorized disturbance, primarily by ATVs, but also over-snow vehicles, are forcing deer and elk out of the green line and back into the snow during a period when animals have low energy reserves. The critical stress period starts approximately in January and gets progressively more severe until spring green-up begins. Mule deer are the primary species of concern because their populations have continued to decline for several years in spite of modifying the hunting season in ways that should normally create a positive population response. The motorized use impacts are occurring on top of and in addition to effects from human development in winter range and fragmentation by major highway systems. Sagebrush die off is another concern in the sagebrush steppe habitat that is particularly important winter range for mule deer. Suitable winter habitat is typically less than 9000 feet in elevation. Antler shed gathering on ATVs is the primary motorized use that is creating impacts to critical winter range. Use of over-snow vehicles for recreation or lion hunting is a secondary concern in some locations where seasonal closures are desired. Indicators: ✯ Open route densities in critical mule deer winter habitat (yearlong and seasonally). ✯ Acres in open use areas and within dispersed camping distance designations in critical mule deer winter habitat. ✯ Acres of critical mule deer winter range open to over-snow travel during the critical use period.

Table 1-3. Management considerations and issues.

Management Consideration	Primary Issues	Issue Descriptions and Indicators
Threatened and Endangered Plant Habitat	Habitat Impacts	The one listed or candidate species that requires greater analysis is Last Chance townsendia. Its occupied habitat occurs in several locations within the distance designation corridors and at times less than one foot from the routes' tracks. The other listed species would not be affected under any of the alternatives. Last Chance townsendia (Townsendia aprica) is a member of the sunflower family and grows to be about 0.5 to 1 inch tall. This species is endemic; its worldwide distribution is limited to portions of Emery, Sevier and Wayne counties in south-central Utah. It is found in pinyon/juniper and salt desert shrub communities on clay-silt soils of the Arapien and Mancos Shale formations in habitats that range in elevation from 6,000 to over 8,000 feet. April thru May is the blooming season (Rodriguez 2006). The recovery plan for Last Chance townsendia does not designate any critical habitat; however, threats to this species include road development and road building (US Fish and Wildlife Service 1993). Indicators: ✯ Acres in open use areas and within dispersed camping distance designations within potential habitat.
Soil Productivity	Motorized Cross-country Travel on Sensitive Soils	Off-route motorized travel can directly cause soil rutting and compaction, and loss of protective cover from ground vegetation and rock armor (desert pavement). This increases erosion potential and alters nutrient cycling. Indirectly, cross-country travel can introduce and spread invasive plants resulting in a loss of vegetative cover and diversity that can lead to higher erosion rates, and a greater need for chemical treatments. Indicators: ✯ Miles of motorized routes on soils highly susceptible to geologic hazards, surface erosion, and puddling and compaction. ✯ Acres in open use areas and within dispersed camping distance designations on sensitive soils.
Wetland and Riparian Area Condition	Amount and Proximity of Roads and Motorized Trails to Riparian Areas and Wetlands Motorized Cross-country Travel within Riparian Areas and Wetlands	Wetland and riparian areas are particularly vulnerable to motorized trespass because human use is concentrated in and near these areas and the terrain and gradient often provide the easiest relative access. Off-route use can modify wetland hydrology by causing headcutting or by altering or concentrating diffuse water flows. Either process induces erosion that can drain the local water table, affecting wetland and riparian condition and function. Rutting and compaction can lead to a loss of organic content of wetland soils from oxidation, which can lead to a loss of productivity and hydrologic function. Wetlands are typically sensitive to changing nutrient levels. Nutrient levels and the water chemistry can be altered by the delivery of sediment and debris from chronic or

Table 1-3. Management considerations and issues.

Management Consideration	Primary Issues	Issue Descriptions and Indicators
		catastrophic erosion from routes and upland sources. Pollutants can also wash off or leak from vehicles at stream crossings. Indicators: ✯ Miles of motorized route located adjacent to (within 50 feet), or within a 300-foot riparian influence zone of stream channels, lake margins, and wetlands. ✯ Motorized route stream crossing frequency. ✯ Acres in open use areas and within dispersed camping distance designations within the riparian influence zone.
Fisheries and Aquatic Organisms and Water Quality	Amount and Proximity of Roads and Motorized Trails to Riparian Areas and Wetlands Motorized Cross-country Travel within Riparian Areas and Wetlands and on Sensitive Soils	Delivery of sediment to streams can fill in fish spawning and rearing habitats, and the spaces between gravels, cobbles, and boulders on the streambed. Fish and the variety of aquatic organisms on which they depend use these habitats. North Horn sediments in particular are prone to accelerated surface and mass erosion once cover is lost. Other soil parent materials are also a concern (see the soils report for further information). Mass erosion from slopes or constructed stream crossings can introduce large volumes of sediment to streams over a short period. Elevated sedimentation can degrade water quality and habitat for fish and other organisms, and can negatively affect channel stability. Indicators: ✯ Miles of motorized route located adjacent to, or within a 300-foot riparian influence zone of, stream channels, lake margins, and wetlands. ✯ Miles of motorized route on sensitive soils. ✯ Motorized route density within the cumulative effects watershed. ✯ Motorized route stream crossing frequency. ✯ Acres in open use areas and within dispersed camping distance designations within the riparian influence zone and within the cumulative effects watersheds.
Unroaded and Undeveloped Lands	Effects to Wilderness Characteristics	Presently there are 50 total miles of existing motorized roads and 482 miles of motorized trails contained within associated undeveloped areas. Additionally, 934,433 acres or 64 percent of the forest is open to cross-country motorized travel. This includes undeveloped areas in which a total of 502,391acres or 54 percent are open to unrestricted motorized travel. Cross-country travel (both legal and not) and motorized use of non-system roads and trails has increased annually causing corresponding reduction in a sense of remoteness and naturalness within undeveloped areas. Authorized and unauthorized motorized use has reduced the manageability of these areas based on past trends. In addition to direct effects, there are indirect effects to undeveloped areas associated with sights and sounds, etc. from activities or development on adjacent lands.

Table 1-3. Management considerations and issues.

Management Consideration	Primary Issues	Issue Descriptions and Indicators
		Indicators: ✯ The key comparison elements for evaluating how the alternatives respond to the issue are miles of road authorized and open use areas, as well as narratively describing associated changes in manageability, natural integrity, natural appearance, opportunities for solitude, opportunities for primitive recreation or challenging experiences, special features, and remoteness.
Motorized and Non-motorized Recreation	Type, Amount, and Characteristics of Route Sytems Provided	Designating routes and areas for motorized use simultaneously affects the balance of motorized and non-motorized recreational uses and opportunities. The types, amount, and characteristics of the route systems provided are a key interest to recreationists who use the Fishlake National Forest as it influences the potential for and quality of their experience. Indicators: ✯ Proportion of the forest within varying distances from motorized routes. ✯ Miles of routes available for motorized and non-motorized uses. ✯ Timing and duration of motorized and non-motorized use. ✯ Percent of inventoried dispersed campsites retaining motorized access. ✯ Qualitative narrative describing how the alternative responds to expressed public concerns.

Issues Not Discussed in Detail

The following issues are not discussed in detail in the main text of the FEIS. These issues have minimal risk or are eliminated by project design and are found in Appendix D. Though not discussed in detail in the FEIS, many of the items below are described in detail in the source reports prepared by the resource specialists, which can be found in the CD-ROM and on the project web site.

Threatened, Endangered, Sensitive, and Management Indicator Species – Animals [other than mule deer]

Migratory Birds

Threatened, Endangered, Sensitive, and Management Indicator Species – Plants [other than Last Chance Townsendia]

Invasive Plants

Vegetation and Fuels Management

Fire Control

Range Management

Research Natural Areas (RNAs)

Microbial contaminant impacts to water quality

Radioactive contaminant impacts to water quality

Decreases in stream base flows

Changes in stream dynamic equilibrium

Air Quality

Heritage Resource Impacts

Socio-economic Impacts

Questions from Scoping

A number of important issues raised during scoping are addressed in detail in the FEIS in Chapters 2 and 3, and in Appendix D. Agencies, advocacy groups, and members of the public often asked similar questions about the scope of the proposal. A brief discussion of each is included below.

How will the route designation affect the existing Paiute and Great Western Trail System?

The Paiute and Great Western are both very popular existing designated trail systems that are retained as is in Alternatives 2, 3, and 5. Modifications to these systems are proposed in Alternative 4 as was suggested by some members of the public and advocacy groups such as Three Forest Coalition, Utah Forest Network, and the Utah Environmental Congress.

Is the forest route inventory complete?

The forest began using global positioning system (GPS) technology to field verify roads and trails in 1999. Though substantially complete by 2003, additional routes have been added from 2004 through 2006 based on additional field inventory and validated contributions from the public and Sevier County. The forest has intensively updated and corrected the transportation atlas in a Geographic Information System (GIS) since 2003. The inventory of authorized and most unauthorized routes is now essentially complete. A thorough inventory is not required by the travel management rules in 36 CFR parts 212 and 261.

Why not update the travel plan during Forest Plan revision?

The Forest Supervisor feels that the challenges presented by rapidly growing OHV use are too immediate to deal with in the lengthy Forest Plan revision process. In addition, Forest Plans are not intended to make site-specific decisions such as those necessary to create a motorized travel plan. The Forest Plan Revision Team and the Motorized Travel Planning teams for the Dixie and the Fishlake National Forests are coordinating very closely to make sure that information is shared and that integration occurs.

Why are the Dixie and Fishlake National Forests conducting separate travel planning efforts while they are involved in a combined Forest Plan revision effort?

The Dixie and the Fishlake National Forests are starting from different situations and in some cases have different issues with regards to motorized travel and OHV management. In addition, each forest has a unique mix of interested publics, local and county governments, and other State and Federal land management agencies with whom to coordinate. The site-specific nature of the actions being considered under travel management planning makes the process too intensive to manage as a dual forest project. However, close coordination between the two teams is considered essential and occurs on a continual basis.

Does the route designation project affect opportunities for non-motorized recreation?

Yes. Both types of recreational opportunities are being addressed in the designation process. Considering desired opportunities for non-motorized recreation is a necessity when identifying where motorized use is allowed.

What is the difference between a travel plan and travel management planning?

Travel management planning constitutes analyses that inform what should be on a travel plan. A travel plan instructs forest managers and users about motorized use restrictions and allowances. Travel management planning can be much broader in scope, including not only the route system and primary uses, but also secondary uses that depend on motorized transportation. The forest has spent a considerable amount of time and resources assessing travel management planning issues so that we can develop an effective strategy for managing motorized cross-country travel. However, all concerns with uses that rely on or interact with motorized access cannot be solved through one project. The forest has identified several additional travel planning efforts that are needed. Because of the required site-specificity, the forest must carefully direct the scope of the project in order to keep the project manageable and timely so that we can deal with the immediate needs to restrict motorized cross-country travel and define the appropriate routes available for use. Due to the complexity and need for integration, some broader travel management planning issues are being dealt with through our ongoing Forest Plan revision process. Others that require more localized assessments will be dealt with in other site-specific projects.

What NEPA was done for the current route system?

The National Environmental Policy Act (NEPA) that mandates disclosure of actions and effects from federal decisions was passed in 1969. Most roads and trails on the Fishlake National Forest substantially predate 1969. Roads and trails constructed by the Forest Service after 1969 have required some level of NEPA, and construction of new roads has entailed a Roads Analysis Process since July 12, 2001. Most unauthorized routes developed by users since 1969 have not been specifically analyzed under NEPA. However, route and motorized use impacts were evaluated in an environmental assessment prepared for the first travel plan on the Fishlake National Forest in 1976. The existence, use, and maintenance of motorized road and trail systems was also an assumed condition in the Final Environmental Impact Statement prepared for the Forest Plan, which evaluated the potential impacts of authorized allocations and land uses in 1986. Similarly, subsequent NEPA documents for a variety of project types analyze transportation and motorized cumulative impacts where applicable. One forest-scale example is the environmental assessment done to authorize the Fillmore and Rocky Mountain Jamborees. However, there are also many types of sub-watershed scale actions such as vegetation management, special uses, or recreation projects that requires a cumulative assessment of motorized routes and use. This is one of the ways motorized route and area impacts are discovered and addressed over time. The Fishlake OHV Route Designation EIS will provide the necessary NEPA documentation for routes that are added to the authorized system and provides an updated same time assessment of the cumulative impacts for the forest transportation system.

How will the decision affect the status of user-created roads and trails?

User-created roads and trails (routes not included on the travel atlas or unauthorized) are a subset of the existing roads and trails found on the ground and are not part of the permanent authorized transportation network. Legally, the Forest Service cannot recognize nor maintain unauthorized routes. Therefore, it is proposed to either designate these travelways or eliminate them. Currently there are about 1,239 miles of inventoried roads and motorized trails that are not officially part of the forest travel system. The total is roughly 1,367 miles

of unauthorized routes if non-motorized trails are included. These routes may have been constructed for a specific short-time purpose and were never properly closed or were reopened by users. Some are the result of traffic going off-route repeatedly forming a user created road or trail. Several unauthorized routes have been used and managed, because they were thought to be, authorized routes for many years, but for whatever reason were never officially added to the travel atlas and entered into the database that makes them part of the authorized system. Unauthorized routes mapped before completion of the route designation project will be evaluated directly in the EIS. Disposition of routes known to exist prior to the decision date, but that are added to the inventory after completion of the EIS will be assessed using a screening process described in the FEIS during the implementation period. The analysis for this project will provide a one-time assessment of unauthorized routes that will result in either the inclusion or elimination of a given route from the forest travel network. After the decision date, any new unauthorized travelways will be eliminated and closed to public use. Future road and trail proposals for new construction will undergo NEPA analysis and disclosure.

Won't the dispersed camping designation create a sacrifice area on hundreds of thousands of acres when tallied across the forest?

No. The distance designation allowing cross-country travel for dispersed camping "does not authorize creation of new campsites or travel ways." [see project requirements in Chapter 2 of the FEIS]. In addition, the distance designations will be removed from the motor vehicle use map in subsequent years as dispersed campsite inventories are completed and routes are designated to desired locations.

Will I be able to travel cross-country to retrieve legally tagged game using my OHV?

No. Based on the new travel rule, the Regional Forester, in consultation with Forest Supervisors of Utah and Idaho, have determined that game retrieval will not be allowed on any National Forest lands in Region 4. Legally tagged game may be retrieved using non-motorized means only. Some of the most notable off road impacts on the Fishlake National Forest occur during hunting season, primarily from scouting and stalking game on ATVs but also from retrieving game. There is no consistent, logical or enforceable means to assure that a given cross-country exemption for game retrieval will not result in an undesirable user conflict with other hunters and recreationists or that can dependably avoid resource impacts. This policy is consistent with current and planned restrictions on the BLM, and other public lands in Utah.

Will I be able to hunt for antler sheds using my OHV?

No. Antler shed gathering areas may be accessed from open designated routes provided the route is not gated closed or seasonally restricted. However, OHVs may not be used off-route to search for sheds. This use typically occurs in the spring when snow cover is patchy, soils are moist, and when mule deer and elk are using critical winter ranges. Some antler shed hunters cause substantial off-route impacts because they use OHVs to grid slopes on closely spaced transects. There is no consistent, logical or enforceable means to assure that a given cross-country exemption for antler shed hunting can avoid undesirable user conflicts or resource impacts. Also, this use directly conflicts with the need to protect critical mule deer winter range habitat. This policy is consistent with current restrictions on other forests and public lands in Utah including big game habitat managed by the Utah Division of Wildlife. Before the new travel rule, there was no incentive or logical reason for the Fishlake National Forest to be the only public lands in Utah with such an exemption. With the travel rule in place, the Forest Supervisor no longer has the authority to do so in any case.

Why aren't over-snow vehicles included in this proposal?

Over-snow vehicle use on the Fishlake National Forest is not nearly as pervasive as other OHV use and is not creating known use conflicts or resource impacts in most cases. Over-snow vehicles are usually driven on a layer of snow so the timing, types, and magnitudes of environmental effects (i.e. erosion, sedimentation, weed spread) are different than those of motorized wheeled vehicles, which come into direct contact with vegetation and the ground.

The new travel rule separates summer and winter use maps, while the current Fishlake travel plan does not. This makes some changes to winter use inevitable. A consequence of separating the summer and winter use maps is that current area restrictions do not carry forth with the same meaning. The forest does not want to fully revise winter use restrictions until Forest Plan revision is completed so that areas with special designations can be integrated into the winter use map. The forest is committed to finalizing the winter motorized travel plan after the Forest Plan revision is complete. For now, limited restrictions on over-snow vehicle access are included in the proposed actions where needed to protect critical mule deer winter ranges. Fully addressing over-snow vehicle use in this proposal would complicate and lengthen the EIS process significantly and would divert time and resources from more pressing issues related to the motorized travel plan.

What is the definition of motorized wheeled cross-country travel?

In the current travel plan: Cross-country travel occurs when motorized users leave *existing* roads and trails in unrestricted areas, or when travel occurs off *designated* routes in closed and restricted areas. The DEIS answer to this question presented several examples that illustrate the difficulty of defining what is a legitimate "existing" route.

After the forest has designated open routes: Cross-country travel occurs any time motorized users travel off an open *designated* route. The motor vehicle use map that accompanies the travel plan will explicitly specify route and area designations. Use of "existing", but undesignated travel ways is purposefully considered cross-country travel by this definition.

How will route designation affect people with disabilities?

Per the Rehabilitation Act of 1973, an individual with a disability will not, solely by reason of his or her disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity conducted by the Forest Service. All users, including those with disabilities are afforded the same motorized access opportunities and are subject to the same rules and restrictions. Restrictions on motor vehicle use that are applied consistently to everyone are not discriminatory. Motorized wheelchairs as defined in the Rehabilitation Act are not considered OHVs and therefore are not restricted by any of the alternatives.

Relationship to Other Plans, Decision Documents and Regulatory Authority

Direction and authority for the proposal come from the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ). NFMA, NEPA, and CEQ provide general land management and environmental analysis direction. Federal Codes of Regulation at 36 CFR 212 and 261 have given the Forest Service the authority to manage OHV use and provides specific regulations for the agencies based on EOs 11644 and 11989. The agency maintains other discretionary authorities such as the ability to issue emergency closure orders that allow enforcement or modification of the motorized travel plan or that regulate use and occupancy of National Forest System lands.

Decisions to Be Made

The Fishlake Forest Supervisor has evaluated the proposed alternatives. The selected alternative actions and rationale is documented in the Record of Decision. Through this analysis she is determining what site-specific route and area designations to use in order to affect a forest-wide closure to motorized cross-country travel that best meets the Purpose of and Need for the project. She is also identifying implementation and monitoring requirements.

Chapter 2. Description of the Alternatives

Introduction

This chapter presents the alternatives for managing motorized access on National Forest system lands administered by the Fishlake National Forest and is presented in seven sections:

Development of Alternatives: The origin of each of the alternatives studied in the FEIS.

Management Requirements Common to All Alternatives: Rules and definitions that apply to all of the alternatives, including No Action.

Management Requirements Common to All Action Alternatives: Rules, definitions, and requirements that only apply to action alternatives 2, 3, 4, and 5.

Alternatives Considered in Detail: Provides detailed descriptions of the proposed alternatives, including No Action.

Comparison of Alternatives: Contrasts differences among the alternatives in terms of response to primary issues and provides summaries of environmental effects by alternative.

Selection of the Preferred Alternative: Provides the rationale that identifies Alternative 5 as the preferred alternative.

Alternatives Eliminated from Detailed Study: Describes alternatives that were considered and provides rationale for not analyzing them in detail.

Development of Alternatives

The forest began a pre-NEPA [NFMA] assessment in August of 2003 to define management, social, and resource issues and desired conditions relevant to the existing travel plan. This resulted in development of the Purpose of and Need for Action that describes the scope of issues being addressed. This allowed the forest to clarify a purpose for undertaking further analyses as well as refining the need for prompt action. The pre-NEPA assessment included verifying and updating the GIS database for route locations, designations, and status. Records from this process are included in the project file and are incorporated by reference.

The Forest Supervisor, District Rangers and their staff, and forest resource specialists actively participated in the pre-NEPA efforts to establish the existing and desired conditions, to identify management issues and opportunities, and to develop the proposed action and alternatives. A draft supplement to the existing Dixie and Fishlake National Forests Roads Analysis and a mixed-use safety hazard assessment were also prepared for this project. These documents inform the needs for change that led to the proposed action as well as the Final EIS. In accordance with the findings from the pre-NEPA assessment, a proposed action was developed and released to the public on June 15, 2004.

The following sources of public comments informed the pre-NEPA process and are incorporated by reference:

- Public comments received for the 2001 OHV Event Environmental Assessment for the Rocky Mountain and Fillmore Jamborees. The assessment covered all of the Fishlake and portions of the Dixie and Manti-LaSal National Forests as well as Richfield BLM.

- ✯ OHV and travel management comments received to date by mail or at public meetings for Forest Plan revision efforts.

- ✯ Meeting notes and final presentations and reports from the Forest Plan revision Topical Working Groups (TWiGs) for OHVs, dispersed camping, and undeveloped area suitability. These records are included in the OHV project file and are incorporated by reference.

The proposed route designations are assigned to existing roads and trails. The forest used multiple criteria to determine which routes to authorize and which to remove from the travel system as the proposed action was developed. Rather than apply criteria mechanically in a GIS or in a matrix, we relied on the collective knowledge of district personnel and forest specialists to integrate the criteria into their route-by-route decisions. Applying criteria mechanically such as "no routes within 100 feet from streams or no routes in roadless areas" results in illogical discontinuous travel networks and fails to evaluate and integrate tradeoffs between competing resource and management needs. That approach is also expressly limited by the resolution and accuracy of the GIS data used and suffers from the fact that continuous data has to be split into categories in order to be represented spatially. A Microsoft Access database was used to capture the particular collection of reasons a given route was changed from existing conditions and is located in the project file. The criteria used over numerous iterations to develop the action alternatives are as follows:

- ✯ Factoring the need for the route with the ability to implement and enforce a given designation or closure
- ✯ Minimizing known use conflicts
- ✯ Providing consistent access to adjoining BLM, National Park, State, county, city, and private lands
- ✯ Minimizing use conflicts on lands adjacent to National Forest System lands
- ✯ Considering compatibility of motorized use near populated areas
- ✯ Minimizing conflicts among different classes of motorized use
- ✯ Providing access to existing dispersed camping sites
- ✯ Providing loop route riding opportunities
- ✯ Providing for access to scenic overlooks
- ✯ Providing a balanced mix of motorized and non-motorized recreation opportunities
- ✯ Providing for active mineral exploration activities and mines
- ✯ Providing access to private lands
- ✯ Providing access to utilities and powerline corridors
- ✯ Providing access to communication sites
- ✯ Providing access to water sources and improvements
- ✯ Reducing the obligations for route maintenance and administration responsibilities
- ✯ Promotion of public safety
- ✯ Consistency with forest recreation and travel management objectives
- ✯ Minimizing damage to soil, watershed, riparian areas and wetlands, vegetation (Threatened and Endangered plants in particular), and other resources
- ✯ Minimizing wildlife harassment and significant habitat disruption (critical mule deer winter range in particular)
- ✯ Protection of National Forest resources
- ✯ Not designating open motorized routes in the existing "C" closure areas from the existing travel plan (Alternative 2 only)
- ✯ Avoiding designations that would require changes to semi-primitive non-motorized areas identified in the Forest Plan

The above criteria were used to make decisions on the fate of unauthorized roads and trails. However, the criteria also led to changes to authorized Forest Roads and Trails as is evident in each action alternative. The need to meet legal requirements for environmental protection played a major role in route and area designation decisions even though many other criteria were addressed. This is evident in site-specific route and area designation decisions, project mitigations, and in the list of primary issues analyzed.

Public comments from scoping, additional route and resource inventories from the 2004 and 2005 field season, and continued application of the criteria led to the creation of Alternative 3, which modifies the proposals in Alternative 2.

After reviewing Alternatives 2 and 3, the Forest Leadership Team felt that an additional alternative was needed to capture a range of other issues raised by some groups and individuals. Other issues included increasing non-motorized recreation opportunities, not adding any routes that are currently unauthorized, increasing protection of unroaded and undeveloped areas, and not allowing any open use areas. This led to the development of Alternative 4, which was built by applying the following criteria against the updated draft roadless area inventory being developed for Forest Plan Revision:

- Retain only authorized roads in inventoried undeveloped (roadless) areas and allow no motorized trails in roadless except for the main stems of the Paiute and Great Western Trails. The side trails on these systems within roadless would be closed.
- Do not add any unauthorized route in or out of roadless unless needed to maintain motorized access to private lands, and uses authorized under special use permit such as utilities, powerline corridors, and culinary water sources.
- For routes being closed by the two preceding criteria, convert the motorized route to a non-motorized trail if it forms part of a logical system or travels to a notable location. Otherwise, obliterate the route.
- Use Alternative 3 route designations for existing authorized routes outside of the inventoried roadless areas.
- Allow no motorized open use areas.

The final preferred alternative, Alternative 5, has been formalized between draft and final to capture modifications to Alternative 3 and to incorporate desired attributes from the other alternatives. The changes are the result of a substantial amount of additional internal review and consideration of public comments. These reviews also led to inclusion and disposition of additional routes to the GIS inventory.

Considering the broader context of the entire transportation system was necessary to make route-by-route designations that provide both desired access and resource protection. District and forest personnel have spent hundreds to thousands of hours in an effort to make the travel plan as comprehensive and integrated and as error free as possible. Only alternatives within the scope of the purpose and need or that respond to significant issues have been evaluated in detail.

Alternative 1 – No Action is required by NEPA regulations and provides a baseline to compare the changes that the action alternatives would generate. This alternative represents a continuation of existing management under the current motorized travel plan.

Alternative 2 – The Proposed Action was formulated to address the significant issues, and purpose and need identified in Chapter 1. The needs are to 1) eliminate unrestricted motorized cross-country travel, 2) to create an inherently simpler and enforceable travel plan that better accommodates current OHV use and addresses future growth, and 3) reduce the potential for

motorized conflicts and impacts to other resource uses and values. Alternative 2 is the proposed action that was released with the Notice of Intent. By default, all routes inventoried during or after the summer 2004 are proposed for obliteration in Alternative 2 because the alternative was released before the inventory was completed.

Alternative 3 – The Modified Proposed Action changes specific route and area designations in Alternative 2 to respond to public comments and internal reviews, and to account for the additional route inventory from 2004. This alternative represents incremental progress towards a preferred alternative. There are substantial differences in content between Alternatives 2 and 3 that are not readily evident through mileage comparisons. Mileages are similar for both alternatives, but many route designations are different. This is in part due to having motorized access additions compensated by deletions. However, careful evaluation and comparison between the two alternatives reveals the imprint from the route-specific public comments that the forest received.

Alternative 4 – The Non-Motorized Emphasis alternative combines suggestions from public comments and advocacy groups including Utah Forest Network, Three Forests Coalition, and the Utah Environmental Congress. This alternative emphasizes protection of wilderness characteristics and biological and physical resources.

Alternative 5 – The Final Preferred Alternative started out by modifying Alternative 3 to respond to public comments received after the availability of the DEIS was published in the Federal Register on August 5, 2005. Changes also reflect additional internal review by district and forest staff and resource specialists, including the additional routes. Features from the other action alternatives and from public proposals have been blended into this alternative. There are important differences of content between Alternative 5 and the other alternatives that are not fully readily visible from simple mileage comparisons.

All existing routes and areas on the forest that are open or closed to motorized travel were specifically considered during the development of the proposed action and alternatives. **However, each action alternative only includes those items that result in changes in the authorization or designation of a route or area relative to the existing condition**. Adding an unauthorized route to the travel atlas, closing an open Forest Road or Trail, or changing management from a road to a trail or vise versa constitutes a change that is presented in the action alternatives. Adding a route in areas previously closed to motorized use or closing a route in open areas, regardless of whether or not it is authorized, are other examples of changes that are included in the action alternatives as well. Several routes are depicted incorrectly on the current travel map, which show up as "changes" in the proposed action even though it is really reflecting the need to fix known errors. The districts had identified the errors and provided the needed corrections to the mapping service that produced the 1997 map. Unfortunately, the corrections were not incorporated.

The proposed actions partially or totally resolve the issues associated with the Purpose of and Need for Action, including the following:

- ✯ addressing the immediate need to better manage motorized cross-country travel,
  - by explicitly designating appropriate seasons of use and vehicle types for open routes, and through judicious use of designated open use areas
  - by closing the forest to motorized cross-country travel including for the purposes of game retrieval and antler shed hunting

	- by addressing dispersed camping impacts such as "baby-sitting syndrome", travel between sites, and creation of new sites and access routes
	- by making it known and unambiguous through the motor vehicle use map, enforcement and education that the development of user-created routes is not acceptable
✯ creating an implementable user-friendly motorized travel plan that is simpler to understand and is as consistent (seamless) as possible with adjacent public lands,	- by following the requirements of the national travel rule, which will provide greater consistency among all National Forests
	- by separating summer and over-snow vehicle use maps and using only explicit route and area designations
	- by choosing dispersed camping distance designations that are as consistent as possible with other land management agencies adjacent to the forest and in the State of Utah
	- by cooperating with other agencies and land owners to make designations at National Forest boundaries consistent with management on adjacent lands and private inholdings
✯ creating a travel plan that is inherently easy to enforce to the fullest practical extent,	- by making the travel plan simpler and more user friendly as described above
	- by considering site-specific enforcement issues while assigning designations to routes and areas
	- by using a motor vehicle use map for enforcement rather than on the ground signage that can be manipulated
	- by using physical barriers and obliterating unneeded routes to make more obvious which routes are open and which are closed
✯ better accommodating current OHV use while addressing concerns related to future growth,	- by creating an explicit inventory of roads and trails with explicit motorized authorizations
	- by halting unmanaged growth of the motorized route network and eliminating unrestricted cross-country travel
	- by factoring current and anticipated use patterns and preferences into route and area designation decisions at a site-specific level
	- by incorporating site-specific public comments into route and area specific decisions

✯ reducing the potential for motorized conflicts and impacts to other resource uses and values,	- by closing the forest to unrestricted motorized cross-country travel - by factoring resource specific environmental concerns into route and area designations at the site-specific level including potential and occupied habitat for Last Chance Townsendia and big game winter range - through site-specific mitigations and restoration including use of adaptive management, and implementation of physical barriers and route obliteration - through increased emphasis on public education and enforcement - by creating a known quantity in terms of what is the legitimate system of roads and motorized trails that can be properly monitored and maintained
✯ increasing user certainty about which roads and trails are part of the managed system of motorized and non-motorized routes.	- by providing explicit route and area designations on a motor vehicle use map that is based on a complete and updated travel atlas - by increasing public education and awareness of the new travel plan - by eliminating motorized use of non-motorized trails

Consistent with the travel rule, which incorporates Executive Order 11644, the deciding official has considered the general and specific criteria at 36 CFR 212.55 while designating routes and areas for motorized use.

General Criteria:	Examples of actions taken:
Effects on National Forest System natural and cultural resources, public safety, provision of recreational opportunities, access needs, conflicts among uses of National Forest System lands, the need for maintenance and administration of roads, trails, and areas that would arise if the uses under consideration are designated; and the availability of resources for that maintenance and administration.	- Supplementing the forest-wide Roads Analysis for the Fishlake National Forest and conducting a mixed-use safety analysis. - Soliciting and incorporating comments from the public, local and State governments, and other land management agencies in the proposed actions. - Conducting analyses of existing and anticipated environmental impacts related to the existing and proposed motorized travel plans and documenting the findings in this FEIS.

Specific Criteria:

Effects on the following, with the objective of minimizing:	Examples:
(1) Damage to soil, watershed, vegetation, and other forest resources;	- Closing the forest to motorized cross-country travel. - Factoring site-specific resource protection needs into route and area designations, which include obliteration.
(2) Harassment of wildlife and significant disruption of wildlife habitats;	- Updating seasonal route and area use restrictions to account for current big game needs and use patterns.
(3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands;	- Incorporating public comments and local knowledge of conflicts into route and area designation decisions. - Separating motorized and non-motorized use. - Coordinating directly with neighboring Division of Wildlife, BLM, and Capitol Reef National Park land managers to assure consistency and to avoid conflicts.
(4) Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands.	- Separating mixed-use where needed for public safety or to meet management objectives. - Incorporating public comments and local knowledge of conflicts into route and area designation decisions.
(5) Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound, emissions, and other factors.	- Incorporating comments from city and county governments into route and area designations. - Maintaining community linkages provided by the Paiute and Great Western Trails.
(6) Speed, volume, composition, and distribution of traffic on roads; and compatibility of vehicle class with road geometry and road surfacing.	- Conducting a Mixed-use Safety Analysis that incorporates current information and lessons learned from past accidents on specific routes. - Specifying necessary mitigation on routes where mixed-use is allowed.
(7) Rights of access; valid existing rights; and the rights of use of National Forest System roads and National Forest System trails under § 212.6(b). (e) Wilderness areas and primitive areas.	- Assuring that access to private land inholdings and special uses are maintained. - Considering management objectives on adjoining lands when making use designations on National Forest System lands. - Avoiding the encouragement of use where public right-of-ways do not exist and asserting public rights that do.

A consideration applicable to all of the above criteria is that the forest will continue to use adaptive management to improve management strategies and to address unanticipated undesirable consequences. The alternatives are discussed further under the section, Alternatives Considered in Detail.

Management Requirements Common to All Alternatives

The following management guidance is common to all alternatives and will continue regardless of which alternative is selected.

The following vehicles and uses are exempted from the prohibitions to motorized cross-country travel by 36 CFR part 212.51:

a. Aircraft;
b. Watercraft;
c. Over-snow vehicles [Note: Limited restrictions of over-snow vehicles are included in the proposed actions consistent with (§212.81)]
d. Limited administrative use by the Forest Service;
e. Use of any fire, military, emergency, or law enforcement vehicle for emergency purposes;
f. Authorized use of any combat or combat support vehicle for national defense purposes;
g. Law enforcement response to violations of law, including pursuit; and
h. Motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations.

The Forest Service will continue to use infrastructure and resource inventories, forest monitoring, landscape analysis and watershed assessments, or activity plans for geographical areas to identify needed adjustments to the transportation facilities and uses. Future site-specific planning could identify opportunities to address access or resource protection needs. This includes construction of new routes and redesigning, moving, or obliterating existing routes. The Forest Service will continue to monitor impacts from road and trail facilities and route use and will prioritize and address resource issues on an ongoing basis. This is standard procedure.

The Forest Supervisor may continue to issue travel management orders pursuant to part 261, subpart B, and impose temporary, emergency closures based on a determination of considerable adverse effects pursuant to §212.52(b)(2). This includes considerable adverse impacts to soil, vegetation, wildlife, wildlife habitat, cultural resources, Threatened or Endangered species, other authorized uses, or other resources. The agency can maintain this closure until the effects are mitigated or eliminated and measures are implemented to prevent future recurrence. The proposed actions do not in any way limit this existing authority

The route designation process would use existing designations if No Action is chosen, which would be difficult to implement because only routes in restricted areas are explicitly designated currently. The forest would also have to go through a process to designate vehicle types by route.

We will consult with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act. The act requires consultation to ensure that any site-specific plan (1) is not likely to jeopardize continued existence of any species listed or proposed to be listed, or (2) does not destroy or adversely modify critical habitat. Access standards in effect for existing recovery plans will be followed. In addition, the authorized officer retains authority to immediately close areas, roads, or trails if motorized use is causing or will cause considerable adverse environmental effects to species listed or proposed to be listed.

The following definitions apply to all alternatives:

Road: A motor vehicle route over 50 inches wide, unless identified and managed as a trail. A road may be authorized, unauthorized, or temporary.

Trail: A route 50 inches or less in width, or a route over 50 inches wide that is identified and managed as a trail. A trail may be authorized, unauthorized, or temporary.

Off-Highway Vehicles (OHVs): Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. Vehicle types include but are not limited to sport utility vehicles, jeeps, ATVs, minibikes, amphibious vehicles, over-snow vehicles, off-highway motorcycles, go-carts, motorized trail bikes, and dune buggies. Wheelchairs that are designed solely for use by a mobility-impaired person for travel are not included in this definition. *Most issues associated with over-snow vehicles are outside the scope of this project. However, exceptions are noted and addressed where necessary.*

Over-snow vehicle: A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow.

Management Requirements Common to All Action Alternatives

The following management guidance applies only to Alternatives 2, 3, 4, and 5.

Motor Vehicle Use Map Definitions

All action alternatives for the travel plan use the following definitions, which require that motorized travel by a given vehicle class occur only on designated routes and areas during designated times. The motor vehicle use map is the legal instrument used to enforce the motorized travel allowances and restrictions. Ultimately, the use map will be created using information from the INFRA (infrastructure) database. The proposed travel plan will use the following route and area designations:

1. Open Yearlong – Roads are open to all vehicles year round including roads that traverse areas closed to over-snow travel. Most trails are restricted to vehicles less than 50-inches in width year round. A limited number of trails are designated open to all vehicles. In either case, all trails with this designation are open even if the route traverse areas closed to over-snow travel.

2. Open Seasonally – Roads are open to all vehicles from April 16th to December 31st and are closed from January 1st to April 15th. Most trails are open to vehicles less than 50 inches in width from April 16th to December 31st and are closed from January 1 to April 15th, unless otherwise indicated. A limited number of trails with this designation are open to all vehicles, when outside the seasonal closure period. Some routes have unique closure dates. The Horseflat Canyon trail on the Fillmore District is open to vehicles less than 50 inches in width from June 1st to September 30th and is closed the remainder of the year. The paved road up Monroe Canyon, Forest Road 123 over the Tushar Mountains, the portion of the Great Western Trail over UM Yugo Saddle, and Forest Road 206 are seasonally gated closed for public safety and to prevent resource damage. Core closure dates for road 123 will be December 1 to July 20th and Yogo Pass will be closed from December 1 to June 20th at a minimum. The seasonal restriction dates on these routes will vary year-to-year depending on ice, snow and route conditions. The Monroe Canyon road is under city jurisdiction so they determine closure dates on that route.

3. Street Legal Only – Roads are only open to licensed street legal vehicles as defined by the State of Utah. These roads are open to motorized travel by all vehicles over adequate snow in the winter if the route is not plowed open, groomed for over-snow vehicles, or otherwise closed.

4. Administrative Use Only – Routes are open for administrative use only. Most of these roads and trails provide access to silvicultural treatment areas and administrative sites or special-use authorizations such as mining operations, canals, hydropower sites, utilities, powerline corridors, and culinary water sources. Most of these routes will not be displayed on the motor vehicle use map and may or may not be closed with a gate or barrier. In either case, the routes are not intended to provide public access.

5. Special Designations – Forest Road 100 on the Fillmore District will have a special designation that allows motorized travel by street legal vehicles and OHVs greater than 50 inches in width. The special designation is proposed to create a safe and legal means for side-by-side OHVs to access National Forest System lands directly out of Fillmore Utah.

6. Non-motorized Trails – Open to travel by foot, horses, and mountain bikes unless signed otherwise. Closed to all motorized vehicles at all times, except by over-snow vehicles over adequate snow outside of over-snow closure areas.

7. Dispersed Camping – The limited use of motor vehicles within 150 feet [Alternatives 3, 4, and 5 or 300 feet for Alternative 2] of most roads and motorized trails would be allowed solely for the purposes of dispersed camping. The following text will be added to the motor vehicle use map to clarify the intent of the distance designations. "Where allowed on this map, motor vehicles may travel up to 150' *[or 300' for Alternative 2]* from designated routes for travel to an existing dispersed campsite along an existing track. Travel within the corridor for any other purpose is prohibited. Existing campsites can be distinguished by evidence of rock fire rings, old tent sites, and tracks from earlier vehicle access. This access does not authorize creation of new campsites or travel ways. Motorized travel between multiple dispersed campsites, establishment of motorized play areas, racetracks, or travel across wet meadows or riparian areas is prohibited."

8. Parking – Parking at a safe distance alongside designated routes is permitted if wet meadows, stream corridors / riparian areas, and undisturbed areas are avoided. Closed gates should not be blocked.

9. Open Use Area – Designated area where cross-country travel by motorized vehicles is allowed yearlong with no restrictions on type of vehicle. Motorized cross-country travel in the absence of adequate snow is only allowed within designated open-use areas.

10. Adequate Snow – Sufficient depth, density, and continuity of snow *to prevent direct disturbance of ground cover when using an over-snow vehicle to travel cross-country*. This definition recognizes that "adequate snow" can be provided by a variety of situations depending on factors such as current snow conditions, time of year, local climate, aspect, elevation, and vegetation types.

11. Seasonal Winter Area Closure – Cross-country travel over snow by any motorized vehicle, including over-snow vehicles is prohibited between January 1 and April 15th. All vehicle classes consistent with road or trail use allowances are permitted on routes designated as Open Yearlong. No motorized use is permitted in Research Natural Areas. Travel by over-snow vehicles over adequate snow is permissible outside seasonal and all winter over-snow closure areas. Fish Lake, Mill Meadow, and Forsyth Reservoir may be

traversed by ATVs when the surface ice has sufficient depth, density, and continuity to safely support winter use.

12. All Winter Area Closure – Cross-country travel over snow by any motorized vehicle, including over-snow vehicles is prohibited at all times. All vehicle classes consistent with road or trail use allowances are permitted on routes designated as Open Yearlong. No motorized use is permitted in Research Natural Areas. Travel by over-snow vehicles over adequate snow is permissible outside seasonal and all winter over-snow closure areas.

13. With the exception of over-snow vehicles on adequate snow outside of seasonal and all winter over-snow closure areas, motorized cross-country travel by OHVs for scouting, hunting, game retrieval, and antler shed gathering is prohibited.

Adaptive Management

The action alternatives include an implementation plan outlined in Appendix B. The implementation plan includes recommendations from the forest scale Roads Analysis supplement, and describes monitoring requirements. The implementation plan provides recommendations that promote adaptive management of the transportation system and motorized travel plan.

About 84 percent of existing inventoried dispersed campsites have legal access under the current motorized travel plan although seven percent of that total are in unrestricted areas farther than 300 feet from open roads. Alternatives 2, 3, 4, and 5 would initially allow motorized access to 77, 69, 53, and 82 percent, respectively, of the inventoried campsites. The forest will inventory roughly 20 percent per year of routes that use distance designations for dispersed camping. Distance designations will be removed from routes that do not provide desirable existing dispersed camping opportunities. Most dispersed camping corridors will be removed once access routes to campsites are inventoried, properly assessed, and designated on a motor vehicle use map. The forest will inventory and designate existing routes to some existing undeveloped campsites that are further than 150 feet (Alternatives 3, 4 and 5) or 300 feet (Alternative 2) from open motorized routes provided other resource issues are not a concern. See Appendix B for further details on how this will occur.

The inventory of routes includes some travelways where user created two tracks are only visible as compressed vegetation rather than as dirt ruts or graded prisms. Except where these routes provide access to desired dispersed campsites, it is not the intent of this project to designate these travel ways as system routes. Substantial effort has been made not to include these as open in the proposed alternatives, but the forest route inventory is not perfect. User created routes that are only defined by compressed vegetation will usually be removed from the inventory if discovered during project implementation, even if designated as open in the final EIS.

Route designations that cannot be effectively enforced and where mitigations cannot provide required resource protections over time will be obliterated.

Protection of Rare Plants and Habitat

The forest will monitor areas where individuals of Last Chance townsendia are known to occur near motorized routes and the results shared with the U.S. Fish and Wildlife Service annually. If individual Last Chance townsendia plants become adversely affected, the forest will coordinate with the Service and make appropriate adjustments.

Relocate routes that have individuals of Last Chance townsendia growing in proximity of the routes' tracks (see specialist report and Appendix B).

Prohibit motorized access to dispersed camping areas where occupied or potential for Last Chance townsendia and other rare plant habitats occur. These recommendations are established on a case-by-case basis. Routes where this prohibition is needed are specified in the proposed actions.

Do not permit fuel wood gathering in areas of occupied or potential habitat for Last Chance townsendia in accordance with recovery plan (US Fish and Wildlife Service 1993).

Mitigate possible impacts to rare plants or their habitats for populations that are discovered after this plan is approved and implemented in accordance with the Last Chance townsendia recovery plan (US Fish and Wildlife Service 1993) or other recovery plans that may be written.

National Policy on Cultural Resources and Road and Trail Designations

Section 106 of the National Historic Preservation Act (NHPA) and the Advisory Council on Historic Preservation's (ACHP) implementing regulations, *Protection of Historic Properties* (36 CFR Part 800) require that federal agencies take into account the effect of their undertakings on historic properties and that agencies provide the ACHP (through the State Historic Preservation Officer, SHPO, and the Tribal Preservation Officer, THPO) with an opportunity to comment on those undertakings. The following categories of proposals shall be considered "undertakings" with the potential to affect historic properties, triggering evaluation under Section 106 of NHPA, 36 CFR Part 800:

- Construction of a new road or trail [none is occurring in this project]
- Obliteration of an existing road or trail
- Authorization of motor vehicle use on a route currently closed to vehicles
- Formal recognition of a user-developed (unauthorized) route as a designated route open to motor vehicles

These undertakings will be surveyed and our report will be submitted to the USHPO for review consistent with the programmatic agreement between the Fishlake National Forest and the State Historic Preservation Office (Agreement 06-MU-11040800-030). Heritage resources found eligible for inclusion on the National Register of Historic Places will have impacts generated by motorized vehicle travel mitigated. Mitigation, in consultation with the USHPO, can include a variety of options including avoidance, protection (e.g., barriers, interpretation), excavation or a Historic American Engineering Building Survey (HAEBS). In addition, a certain number of sites will be monitored on an annual basis to determine possible resource damage. Avoidance, protection, and interpretation will be employed to make sure the forest meets its commitment under Section 106 of the NHPA. A route will not be added to the motor vehicle use map or obliterated unless the determination of effect including mitigation is "no adverse effect".

The Area of Potential Effect (APE) for a designated road, trail or open use area shall include corridors or zones adjacent to the road, trail or area that the forest determines to be subject to direct or indirect effects due to local environmental factors or the proximity of particularly sensitive resources. This will include road, trail, or area surfaces, passing or parking areas, and campsites or other features established as part of the road or trail. It shall also include additional affected areas or properties if the designation would facilitate increased access to those historic properties.

Protection of Historic Properties

Boulders, other natural barriers, and fencing, should be employed where ATVs continue to re-enter historic properties. In all cases, where historic properties are visible from the designated road, trail or area, the site must be signed as a protected historic site (USDA 27-7).

Road and Motorized Trail Obliteration

The Fishlake OHV Route Designation Project EIS will make the decision to permanently close specific routes using active or passive restoration techniques. There are some locations where active restoration, such as use of a Dixie harrow, may necessitate additional documentation or surveys before implementing. The scope of subsequent NEPA documentation will determine how to close the given route not whether to close the route after the decision is made for the Fishlake OHV Route Designation EIS. All prescriptions for route obliteration will include installation of self-maintaining cross drainage and removal of structured stream crossings, assuring that natural channel dimensions and gradient are restored. Routes subject to natural or induced slope instability will be recontoured. All obliterations will use signage, barriers, or recontouring of slope contours to prevent motorized use of the obliterated route. All obliterations will use signage, barriers, and/or recontouring of slope contours to prevent motorized use of the obliterated route. All obliteration in the rare plant study area will be coordinated with the forest rare and invasive plants coordinator and the forest botanist. Types of active restoration techniques to be used include (1) Dixie harrow treatments in grass and sage brush vegetation types, (2) installation of barriers and waterbars, or (3) use of excavators to implement partial or full recontouring as appropriate to given site conditions. The detailed design criteria for obliteration are located in Appendix B.

Each action alternative includes the installation of new barriers to eliminate or restrict motorized travel. Potential types of barriers include use of large rock and logs, designed steel and cement structures, and pole fences. These items will be used individually or in combination as needed.

Conversion of Motorized Routes to Non-motorized Trails

Any road or trail to be converted to non-motorized use will be stabilized prior to closing the route to motorized use. This includes installation of self maintaining drainage, stabilizing unstable cut-and-fill slopes, and removing structured stream crossings as described Appendix B.

Hazardous Materials

Equipment used for road and trail maintenance, obliteration and barrier installations will be inspected daily to ensure there are no leaks. When discovered, leaks will be promptly repaired. Any changing of hoses, parts, or refueling by heavy equipment will be conducted at least 300 feet away from streams, tributaries, and wetlands. Petroleum and chemical products storage containers with capacities of more than 200 gallons, stationary or mobile, will be stored far enough away to prevent leakage from reaching live water, a minimum of 300 feet. Dikes, berms, or embankments will be constructed to contain the volume of petroleum and chemical products stored within the tanks. Diked areas will be sufficiently impervious and of adequate capacity to contain spilled petroleum and chemical products. In the event that any leakage or spillage enters any live water, the operator will immediately notify the Forest Service. The storage site will be determined during the pre-operational meeting. This measure is intended to minimize the potential for hazardous material spills, and infiltration into the soil or delivery to streams if a spill occurs.

All waste oil and lubricants will be collected and transported to proper disposal facilities off public lands. In case of unauthorized release of hazardous materials, and petroleum products, the responsible party must:

a) Stop spills,
b) Contain the material,
c) Notify the authorities listed in the petroleum and chemical products spill protection plan, and
d) Collect, remove and dispose of the spilled material in a suitable location off National Forest System lands.

Invasive Plants and Aquatic Nuisance Species

Machinery used for obliteration or to install large signs, gates, and barriers will be washed and inspected before being hauled to the project area. This aids equipment inspections and helps prevent new infestations of invasive species. If the equipment works in weed-infested areas or waters with aquatic nuisance species, it will be washed in a suitable designated location prior to moving to the next site. Treatment of equipment that has been used in whirling disease positive water bodies will follow existing guidelines that have been established by the forest. These requirements will be coordinated with the forest invasive plants coordinator and fisheries biologist. Routes proposed for obliteration within 1 mile of inventoried invasive plant locations are noted in the fishlake_travel_plan_changes.mdb Microsoft Access database, which is located in the project file.

Monitor roads and trails systematically with the focus of early detection and rapid response. Increase the level of monitoring for invasive plants that may become established at dispersed use sites. Use the highest level of monitoring for invasive plants at high-use campsites and trailheads.

Increase the level of monitoring in the open use areas and the major routes leading to these areas. It is anticipated that these areas will have proportionately more visitors. Increased use translates to increased risk for the introduction of seed from invasive plant species.

Educate and strongly recommend to the public that all OHVs be washed and free of any weed seed before coming onto the forest. This is especially critical for vehicles coming in from outside the seven counties that envelop the forest [Beaver, Juab, Millard, Piute, Sanpete, Sevier, and Wayne], because new species can be introduced to the forest.

Route Specific Requirements

Numerous route and area specific implementation requirements are recorded from the route-by-route evaluations. This information can be found in the Access database that contains the criteria and rationale used for the route designations and is located in the project file.

Alternatives Considered in Detail

This section describes the No Action Alternative and four other alternatives for management of motorized use on the Fishlake National Forest. All action alternatives comply with the National Forest Management Act (NFMA) of 1976, and are subject to compliance with all valid statutes on NFS lands. Impacts to resources are considered through the National Environmental Policy Act of 1969.

Alternative 1, No Action

This alternative would continue current direction and is used as the baseline condition for comparing with the other alternatives. The Forest Service would continue to manage motorized use under existing direction and regulations. This alternative responds to a number of concerns we heard from the public comments, such as the proposed action being too restrictive, and effects on the ground not warranting any change from current management.

Over 909,000 acres currently open seasonally or yearlong to motorized, wheeled cross-country travel would remain open. Site-specific planning and enforcement of OHV regulations would occur at current levels. Roughly 44 percent of all non-motorized trails on the forest would continue to be open to motorized users except where signed closed with a barrier. The motorized network of unauthorized routes would continue to grow.

The current travel plan partly responds to those who desire an "open unless signed or mapped closed" policy. The "current" 1997 Forest Recreation Map uses the following designations:

1) "A" Area Restriction: All motorized vehicles prohibited January 1 – March 31, except travel permitted on roads designated on this map. Open (no restrictions) April 1 – December 31.

2) "B" Area Restriction: All motorized vehicles restricted yearlong to routes as shown on this map except over-snow machines operating on adequate snow.

3) "C" Area Restriction: National Forest areas closed yearlong to all motorized vehicles.

4) Open to ALL VEHICLES - In "A", "B" and "C" restricted areas, routes are colored with a solid or dashed green highlight for roads and trails respectively. In unrestricted areas, open routes are displayed without a highlight or not displayed at all. "A" restricted areas are treated as unrestricted outside of the January 1 to March 31st seasonal closure period.

5) Street Legal Only – ROADS open to licensed vehicles and operators ONLY. (The most common reason – safety hazards associated with unlicensed vehicles and operators).

6) Administrative Use Only – Roads open to administrative use only.

7) Non-motorized trails – Implicitly open to motorized use in unrestricted areas, unless signed or closed with a barrier. These routes are closed to all motorized use in "B" and "C" area restrictions.

8) Motorized Cross-country Travel Exemptions in Restricted Areas:
   a. Entry and exit from temporary campsites within 300 feet of designated roads.
   b. Gathering firewood, by permit, within 300 feet of designated roads.
   c. Persons with a permit or contract specifically authorizing the otherwise prohibited act.
   d. Any Federal, State, or local officer, or member of an organized search and rescue or firefighting force in the performance of an official act.
   e. Forest Service administration personnel in the performance of official duties.

NOTE: The Paiute ATV trail map supplements and updates the 1997 recreation map. The main and side-trails are considered open to ALL VEHICLES on roads and open to vehicles with less than 50-inch wheel widths on trails even if shown as closed or restricted on the 1997 map.

There are numerous ways to summarize the proposed changes associated with each alternative. Several tables are presented to help the reader understand and appreciate the breadth and

complexity of what is being proposed. Tables 2-1 through 2-6 summarize the existing conditions and changes that would be expected under current management. Tables that show detailed designation and authorization changes for Alternatives 2, 3, 4, and 5 are located in Appendix E.

Table 2-1 provides acreage summaries for each of the area restrictions used by the current motorized travel plan. Figure 2-1 shows current winter use closure areas based on the existing area restrictions.

Table 2-1. Alternative 1 - Area summary of current motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres).

District	Closed Seasonally to Motorized Travel* "A" Restriction	Open to Travel on Designated Routes Only "B" Restriction	Closed to All Motorized Travel Yearlong "C" Restriction	Undesignated/ Unrestricted*
Fillmore	13,458 acres	59,139 acres	72,865 acres	325,924 acres
Beaver	6,391 acres	56,479 acres	48,038 acres	186,536 acres
Richfield	95,255 acres	143,235 acres	22,785 acres	161,112 acres
Fremont River	11,426 acres	109,878 acres	32,847 acres	109,012 acres
FOREST TOTAL	126,530 acres	368,730 acres	176,535 acres	782,585 acres

* category permits wheeled motorized cross-country travel seasonally or all year.

The three travel map area designations and the undesignated/unrestricted category shown in Table 2-1 result in six different "designations" when applied to the routes. Official designations for routes include Open Seasonally, Open Yearlong, Street Legal Vehicles Only, and Administrative Use Only. De facto designations are Undesignated Open and Undesignated Closed. The mileages in each class are summarized in Table 2-2. Figure 2-2 displays a key for 3 map extents that display the routes open to motorized travel in the current and proposed travel plans. The maps for the current travel plan are shown in Figures 2-3, 2-4, and 2-5. These maps do not show use designations, or appropriate vehicle types or seasons of use. However, more information is available on the color maps included on the CD-ROM that accompanies the FEIS. Alternatively, the detailed color maps can be viewed interactively on the map server at http://maps.fs.fed.us/tm_jsp/r4/fishlake/Map.jsp. Careful review of these maps is necessary to appreciate the complexity and breadth of the proposed action alternatives.

Figure 2-1. Current winter use closures based on existing motorized use area restrictions.

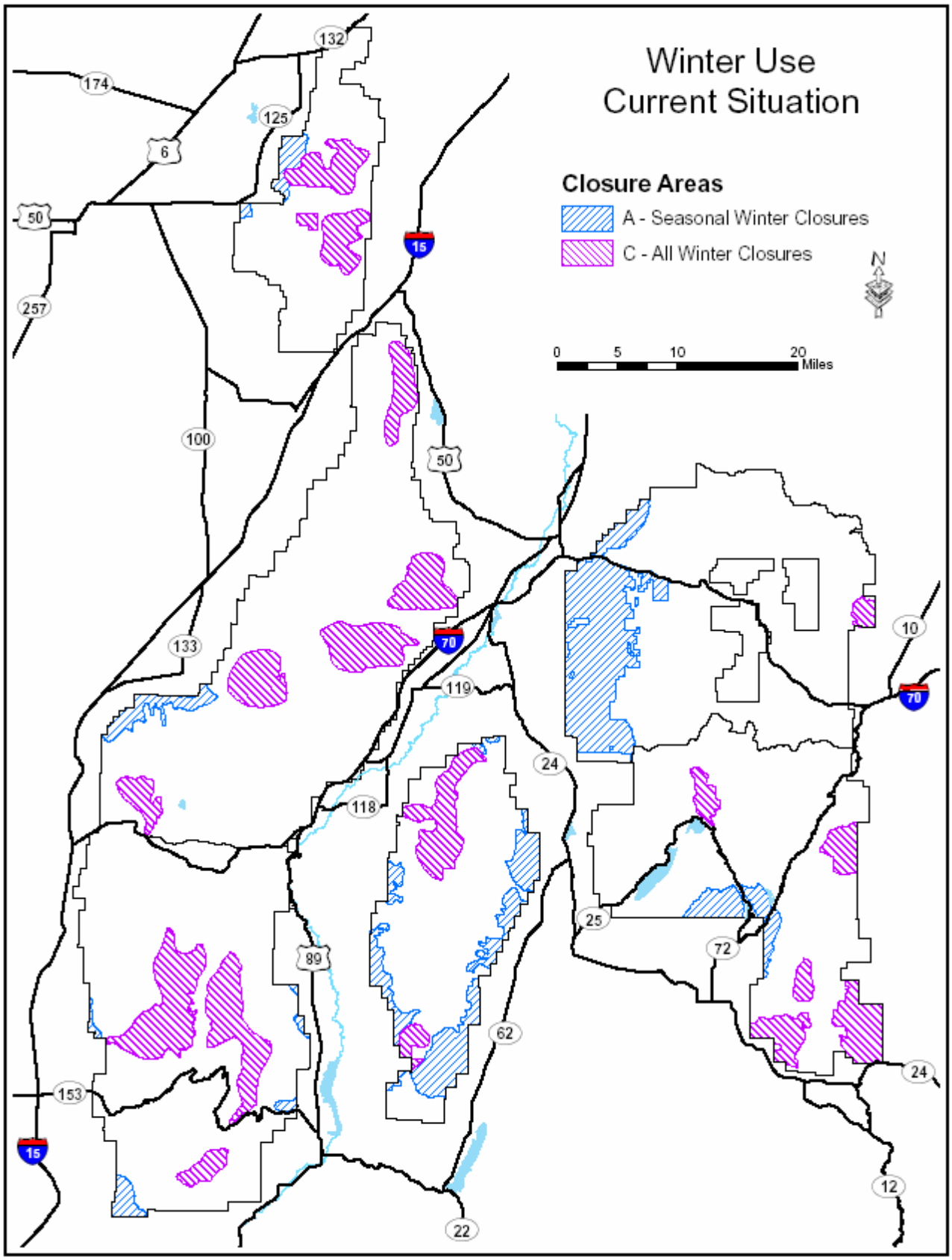


Figure 2-2. Key for the maps that display motorized route networks for the alternatives.

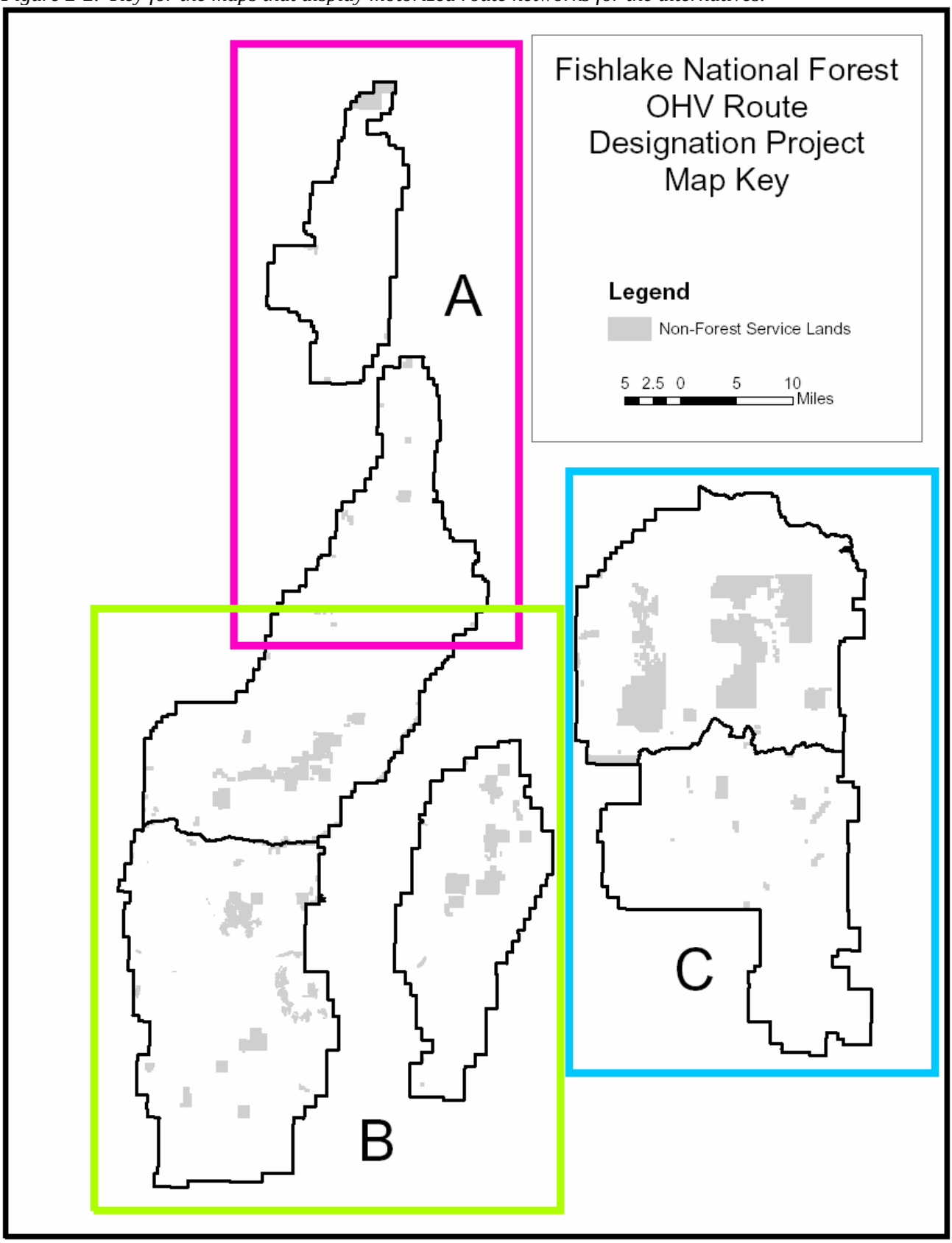


Figure 2-3. Map A – open motorized routes in the existing motorized travel plan.

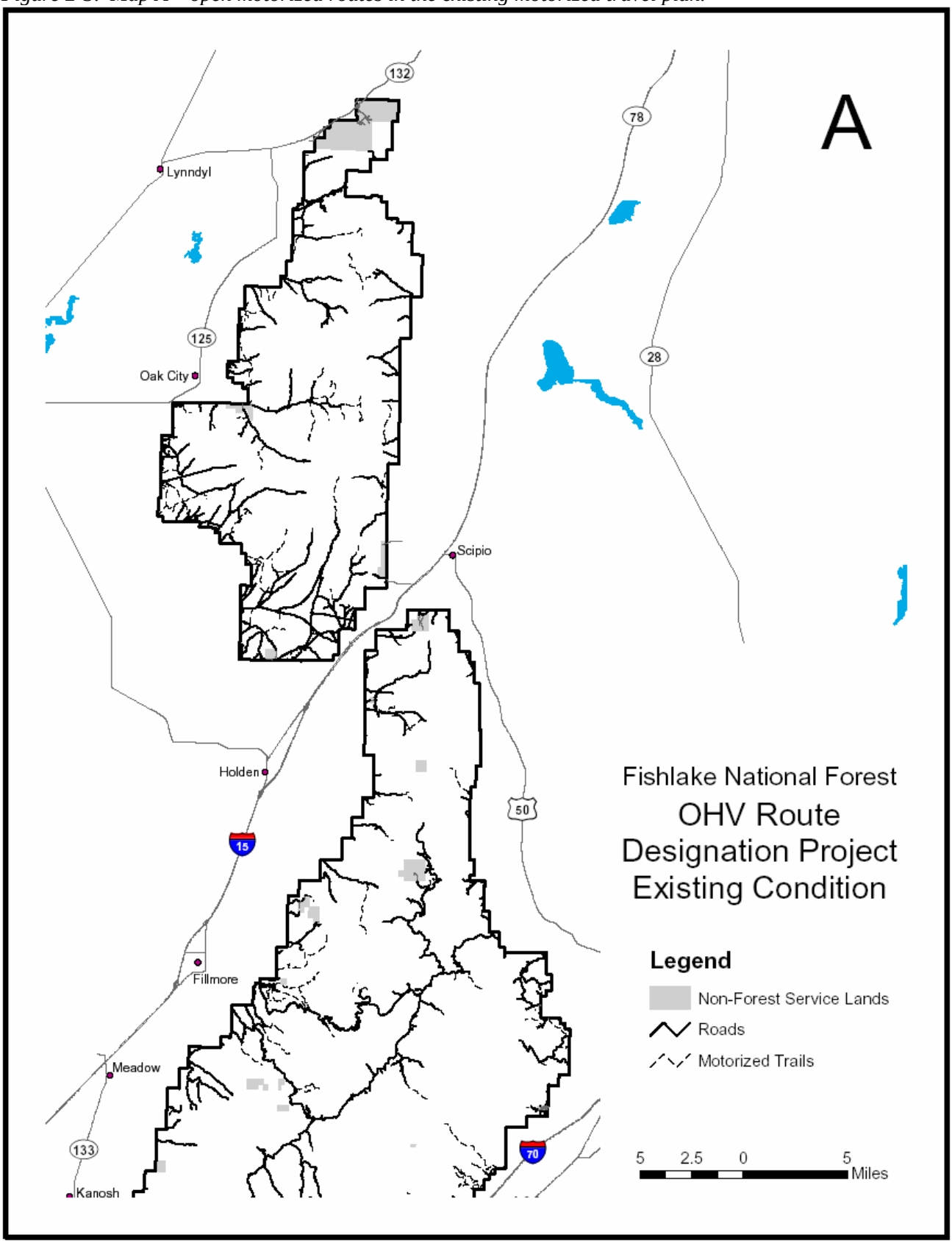


Figure 2-4. Map B – open motorized routes in the existing motorized travel plan.

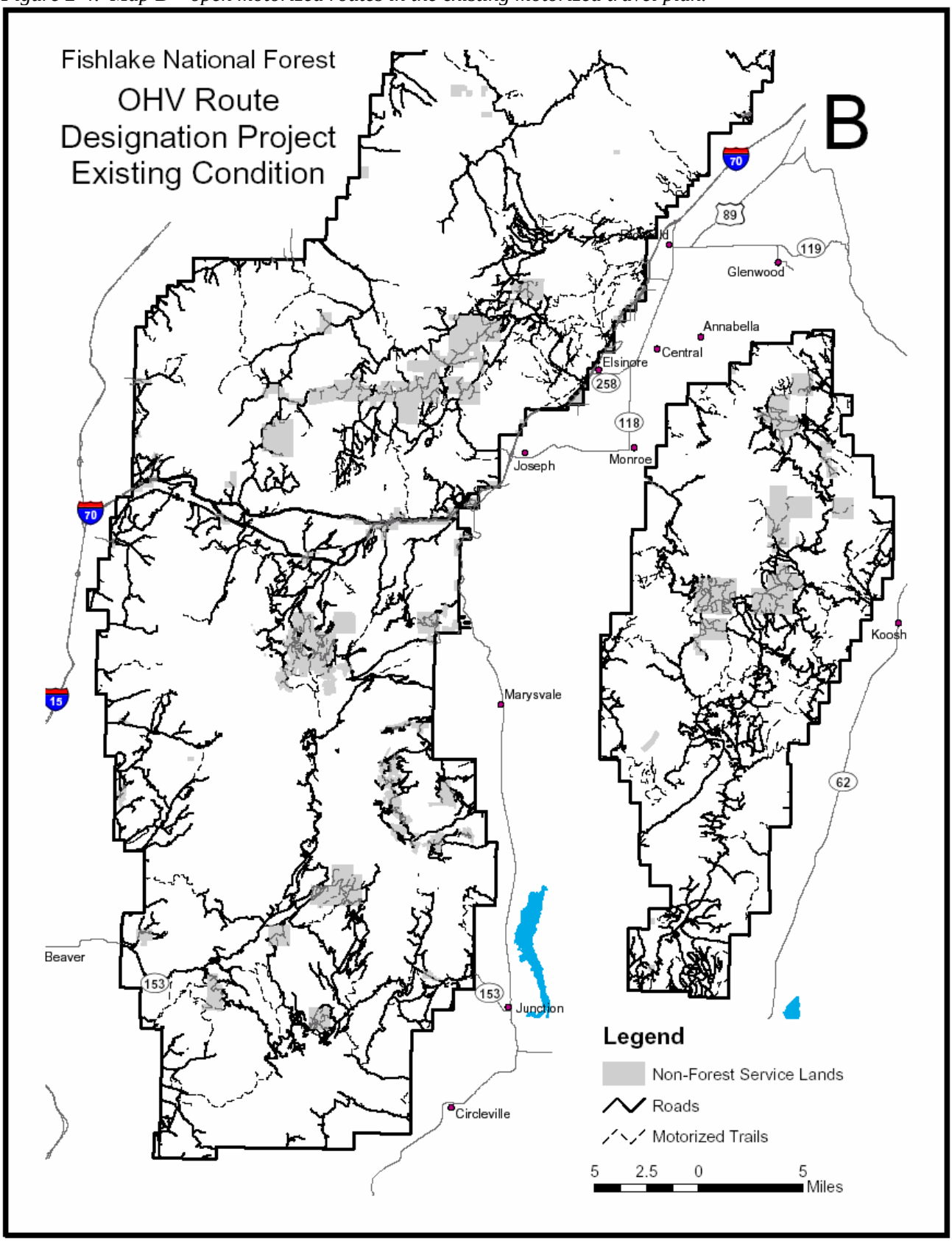


Figure 2-5. Map C – open motorized routes in the existing motorized travel plan.

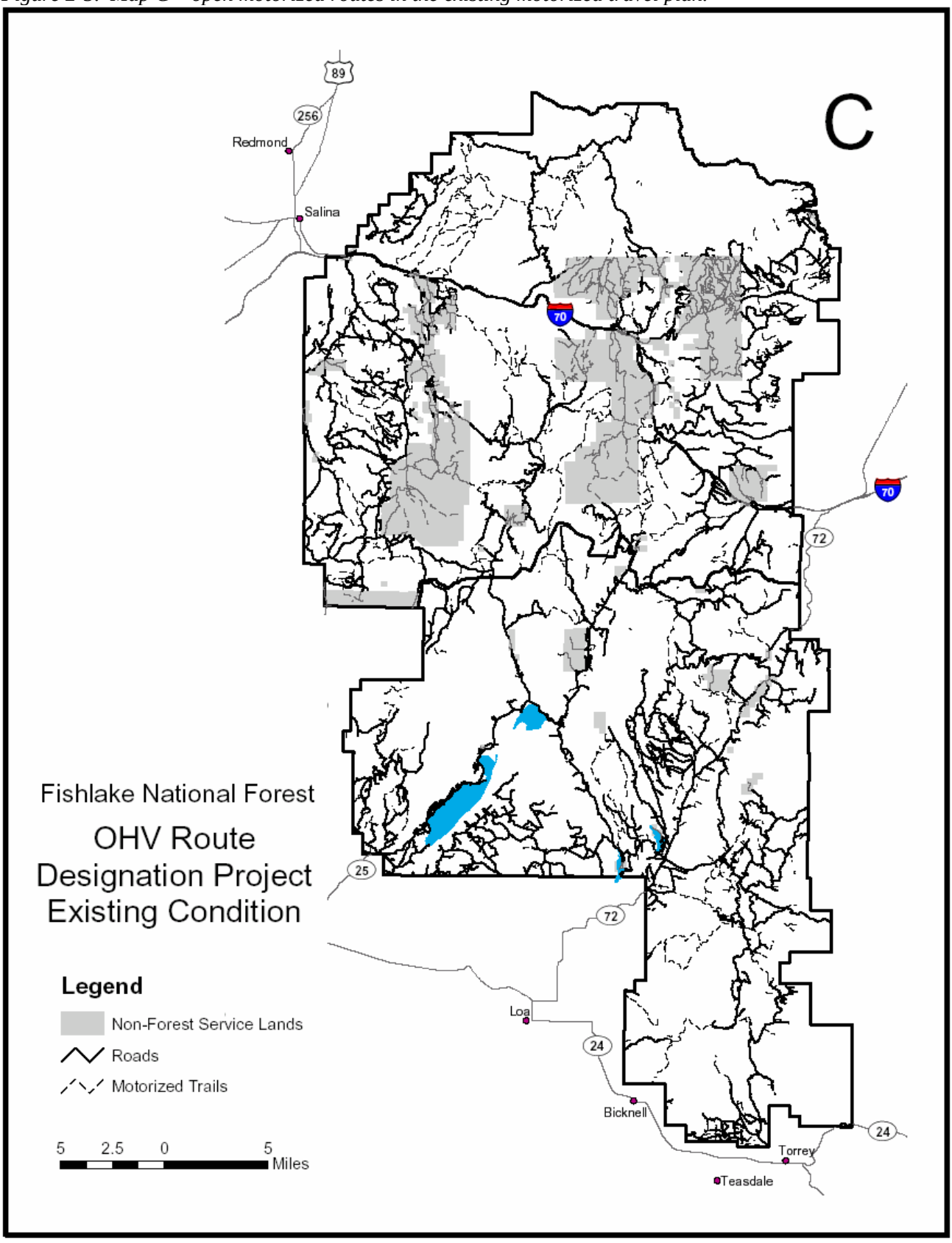


Table 2-2. Alternative 1 – Motorized route mileage summary for the current travel plan (grand total of all motorized routes in table = 3,540.2 miles).

District	Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
Fillmore	556.7	30.6	22.9	0.0	249.6	45.2
Beaver	394.6	34.1	69.2	10.3	113.0	54.6
Richfield	592.5	231.4	65.4	13.9	264.7	123.2
Fremont River	315.3	32.5	67.7	5.4	137.0	110.4
FOREST TOTAL	1,859.1	328.6	225.2	29.6	764.3	333.4

Proposed changes to a route's status relative to the existing travel plan come in a few flavors. The first strictly relates to whether or not a given road or trail is tracked in the travel atlas and the infrastructure database (INFRA) as an authorized route. Only roads and trails that are part of the travel atlas can have motorized use designations on a motor vehicle use map. At the same time, it is necessary to determine whether routes are managed as a road, a trail, or as non-motorized trails. This part of the designation is critical because it determines suitable uses and appropriate maintenance levels. The distinction between Forest Trail and Forest Road is important because the latter influences boundary delineations for undeveloped areas in the roadless inventory. Table 2-3 shows that there are no changes in route designations in either case for Alternative 1. Finally, use designations specify the type and seasonality of use allowed on motorized routes.

Table 2-3. Alternative 1 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	**Forest Motorized Trail**	**Forest Non-motorized Trail**	**Obliterate**
Forest Road		0	0	0
Forest Motorized Trail	0		0	0
Forest Non-motorized Trail	0	0		0
Unauthorized Road	0	0	0	0
Unauthorized Motorized Trail	0	0	0	0
Unauthorized Non-motorized Trail	0	0	0	0

Changes in route designation, type and authorization can occur individually or in combination. Table 2-4 breaks out these changes for roads and trails on the forest.

Table 2-4. Alternative 1 - Forest route mileage summary of proposed use designation and authorization changes.

Route Type	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
Forest Roads*	0	0	0	1,971.5
Forest Motorized Trails	0	0	0	330.3
Forest Non-motorized Trails	0	0	0	891.9
Unauthorized Roads	0	0	0	554.4
Unauthorized Motorized Trails	0	0	0	684.1
Unauthorized Non-motorized Trails	0	0	0	128.1
Forest Totals	**0**	**0**	**0**	**4,560.3**

* State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

The forest has many existing physical barriers that are designed to prevent or restrict motorized use on roads and trails. Table 2-5 shows that no new barriers are proposed in Alternative 1.

Table 2-5. Alternative 1 - Number of new travel barriers by use restriction and type.

Use Restriction	Closure Type	Number
Closure to All Motorized Use	Barrier	0
Closure to Motorized Vehicles > 50 inches in width	Barrier	0
Seasonal Closure to All Motorized Use	Gate	0
Administrative Use Only	Gate	0

Alternative 2, Proposed Action

This alternative responds to the Purpose of and Need for Action identified in Chapter 1. It responds to public requests for improved management of OHV use on the Fishlake National Forest, especially with regards to closing the forest to motorized cross-country travel. This alternative was released with the publication of the Notice of Intent (NOI). Public comments received during the NOI scoping period are directed at this alternative.

Alternative 2 adds 450 miles of unauthorized routes to and removes 47 miles of authorized routes from the forest's existing motorized system. About 775 miles of unauthorized motorized routes would be obliterated, and 18 miles converted to non-motorized trail. This would result in a system of roughly 2,139 miles of road and 552 miles of trail, for a combined total of 2,691miles of motorized routes. Of the latter total, 2,634 of these miles would be open to the public. The amount of seasonally restricted routes would increase from 329 miles to 390 miles. The ending date for the seasonal closure period that starts on January 1st would be lengthened from March 31 to April 15th. The existing configuration of the Paiute and Great Western Trail systems would be retained. Motorized travel off designated routes would be prohibited, except as specified for open use areas, over-snow vehicles, and access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, and Forest Service administrative use. Some changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges. Alternative 2 designates 780 acres in three open use areas west of Richfield, UT and 193 acres at Velvet Ridges above Torrey, UT where motorized cross-country travel would be permitted. These areas are open to motorized cross-country travel in the current travel plan.

The most frequent change proposed in the action alternatives is to route use designations. All of the action alternatives rely on the explicit designation of routes and open use areas to show what is open to motorized travel. As a result, area restrictions will not be necessary on the summer motor vehicle use map. Area designations will still be needed to depict restrictions on over-snow travel. By contrast, area restrictions are the primary means for designating routes in the current travel plan. This creates implied, rather than explicit route designations in unrestricted areas. Table 2-6 provides a summary of the area restrictions associated with Alternative 2.

Table 2-6. Alternative 2 - Area summary of proposed motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres for [2] and [4]).

District	Seasonal Winter Closure[1]	Travel on Designated Routes Only[2]	All Winter Closure[3]	Open Use Area[4]
Fillmore	0 acres	470,607 acres	21,352 acres	780 acres
Beaver	0 acres	297,444 acres	14,886 acres	0 acres
Richfield	0 acres	422,386 acres	15,277 acres	0 acres
Fremont River	0 acres	262,970 acres	18,125 acres	193 acres
FOREST TOTAL	0 acres	1,453,407 acres	69,641 acres	973 acres

Table 2-6. Alternative 2 - Area summary of proposed motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres for [2] and [4]).

District	Seasonal Winter Closure[1]	Travel on Designated Routes Only[2]	All Winter Closure[3]	Open Use Area[4]

[1] this area designation is the same as the "A" area restriction on the current travel plan, but only appears on the over-snow vehicle use map in Alternative 2.
[2] this is the same as the "B" areas on the current travel plan, and will not need to be shown on the summer motor vehicle use map because except for open use areas, the entire forest will be restricted to designated routes only.
[3] this is similar to the "C" restrictions on the current travel plan, but would only appear on the over-snow vehicle use map.
[4] this is the same as the unrestricted areas on the current travel plan, except that it is officially designated in the action alternatives and would be shown on the motor vehicle use map.

Figure 2-6 displays winter closure areas that would result from the proposed area restrictions. Figures 2-7, 2-8, and 2-9 display routes that would be open to motorized travel under Alternative 2. Figure 2-10 displays the open use areas from Alternative 1 that would be left open in Alternative 2. Detailed maps are included on the CD-ROM that accompanies the FEIS. They can be reviewed interactively on the map server link from the project web page.

Figure 2-6. Alternative 2 - winter use closures resulting from proposed area restrictions.

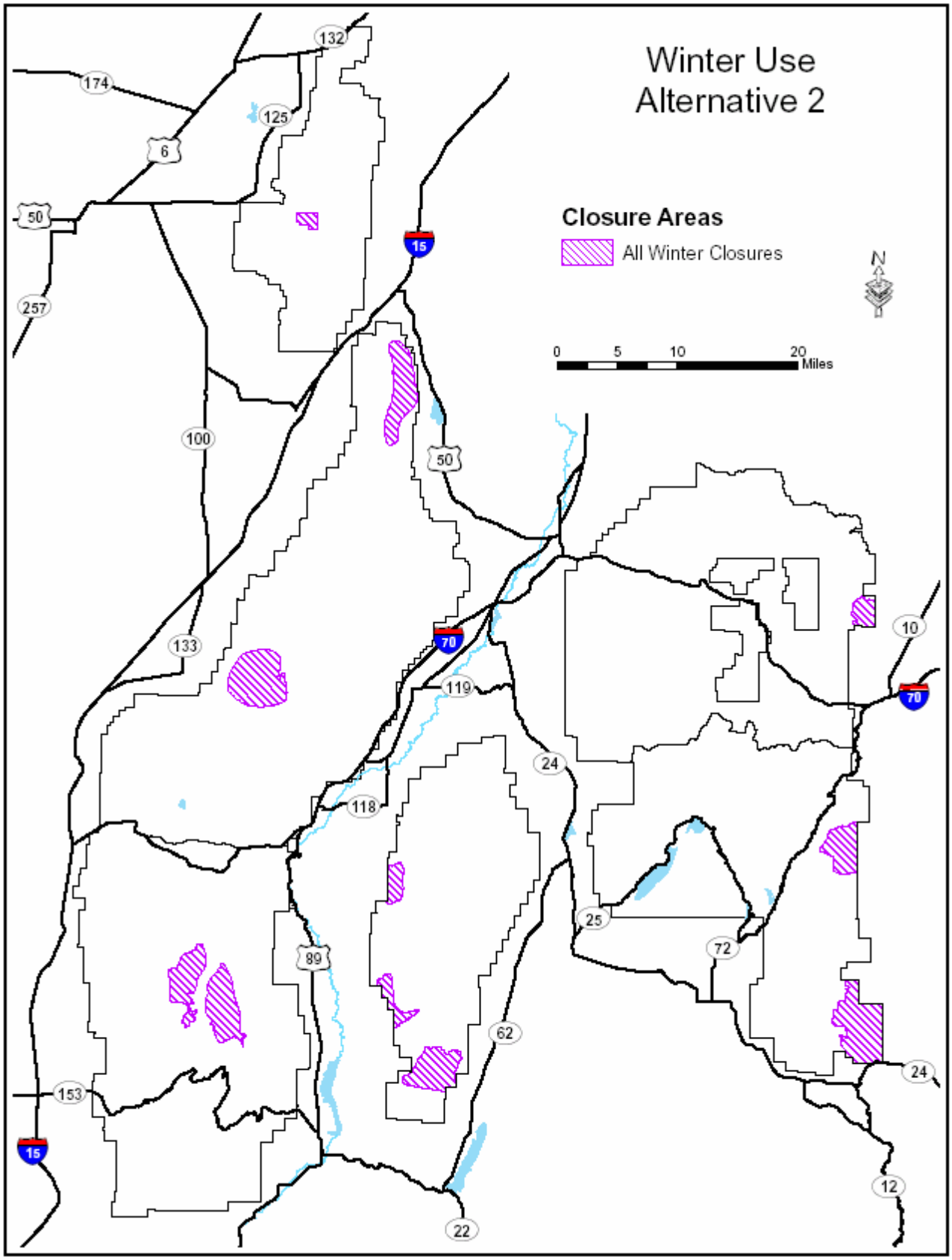


Figure 2-7. Alternative 2, Map A – designated motorized routes.

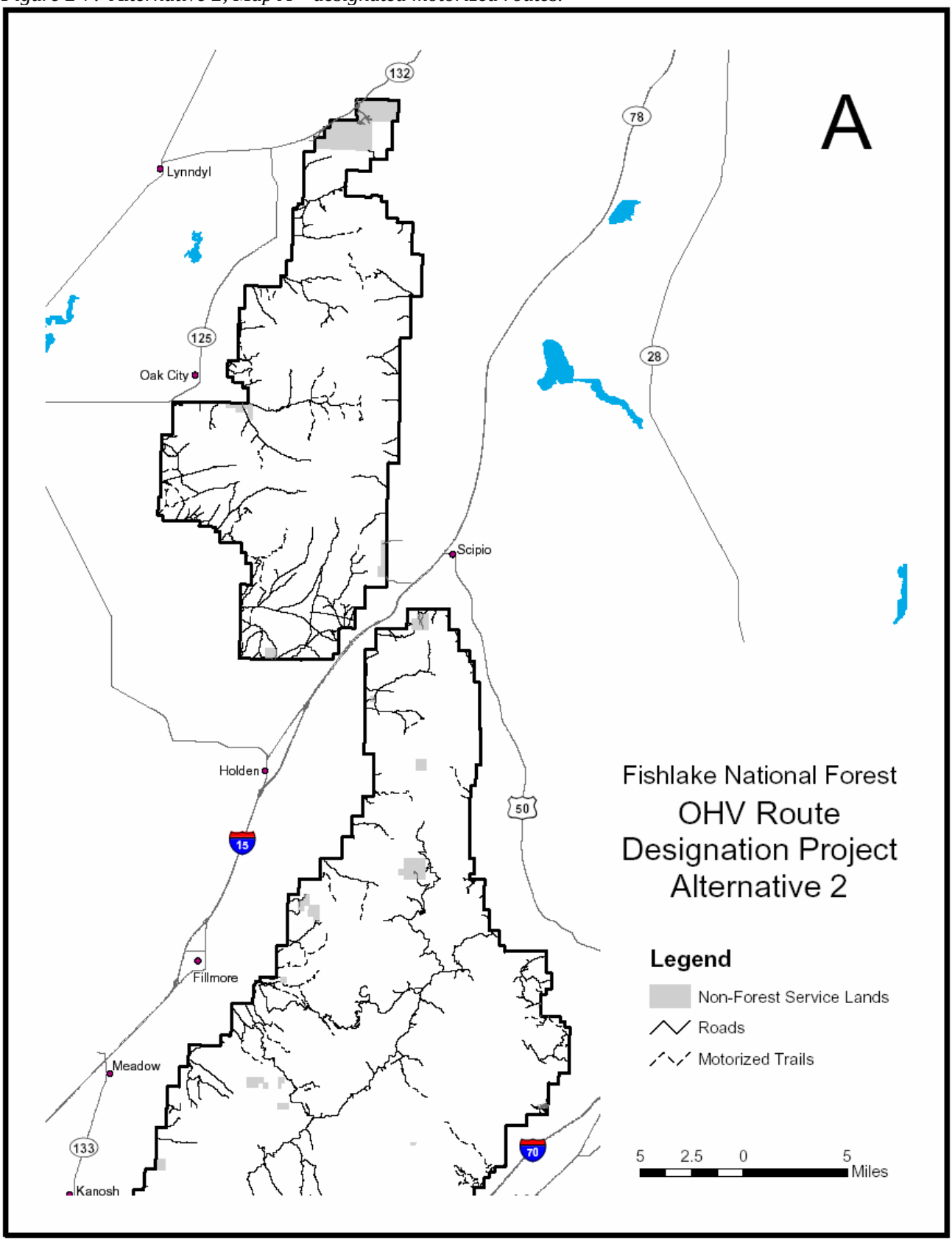


Figure 2-8. Alternative 2, Map B – designated motorized routes.

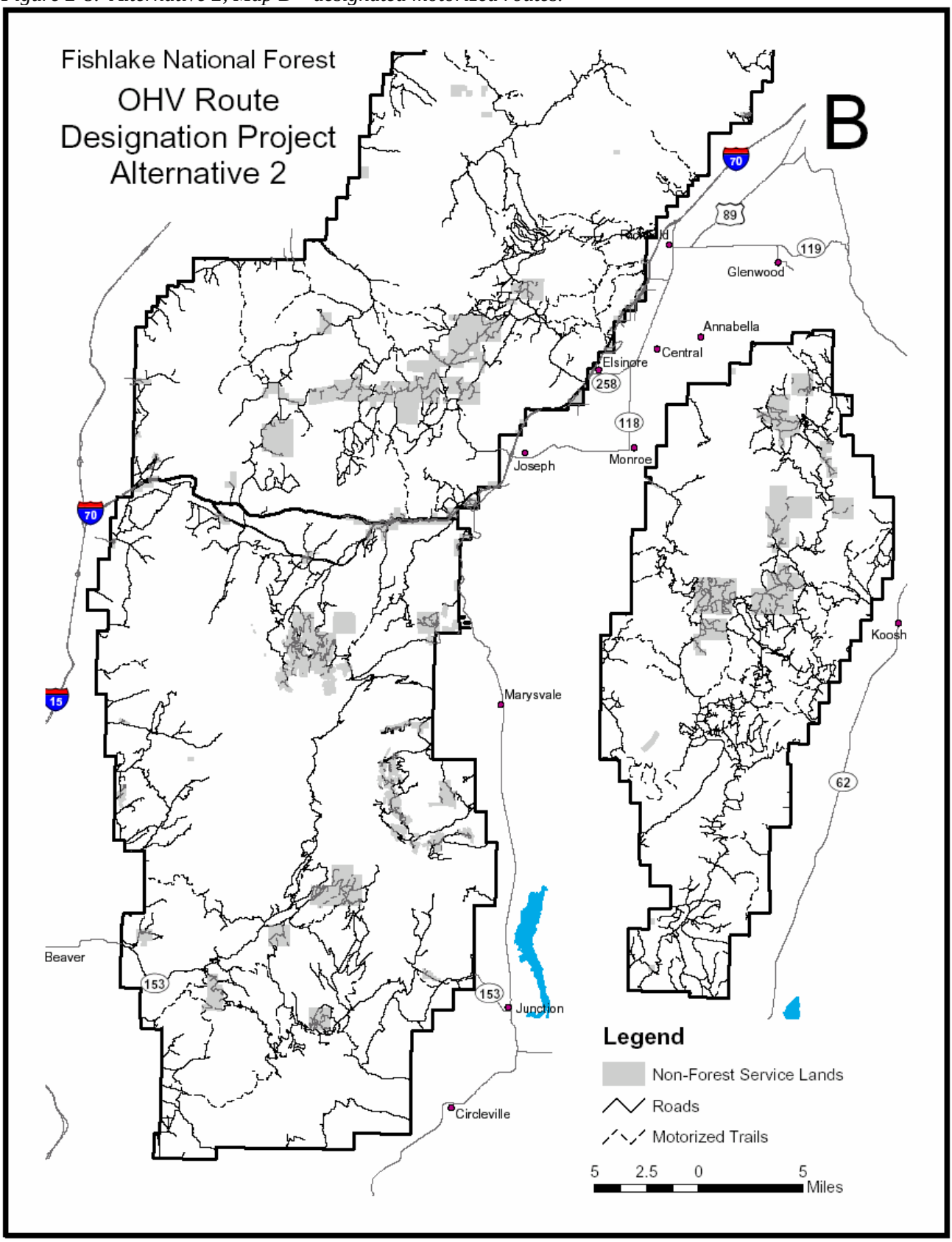


Figure 2-9. Alternative 2, Map C – designated motorized routes.

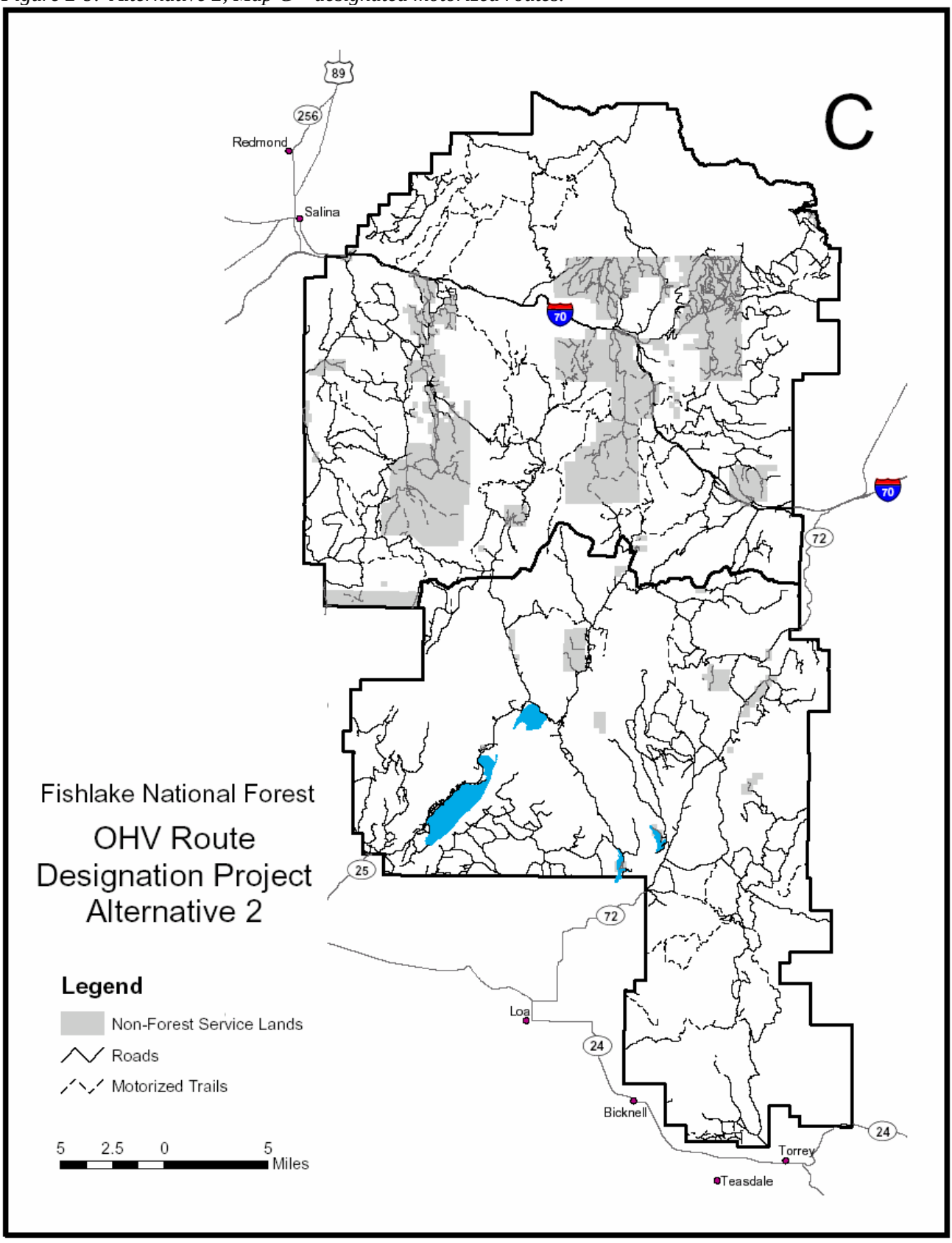


Figure 2-10. Alternative 2 - designated open use areas.

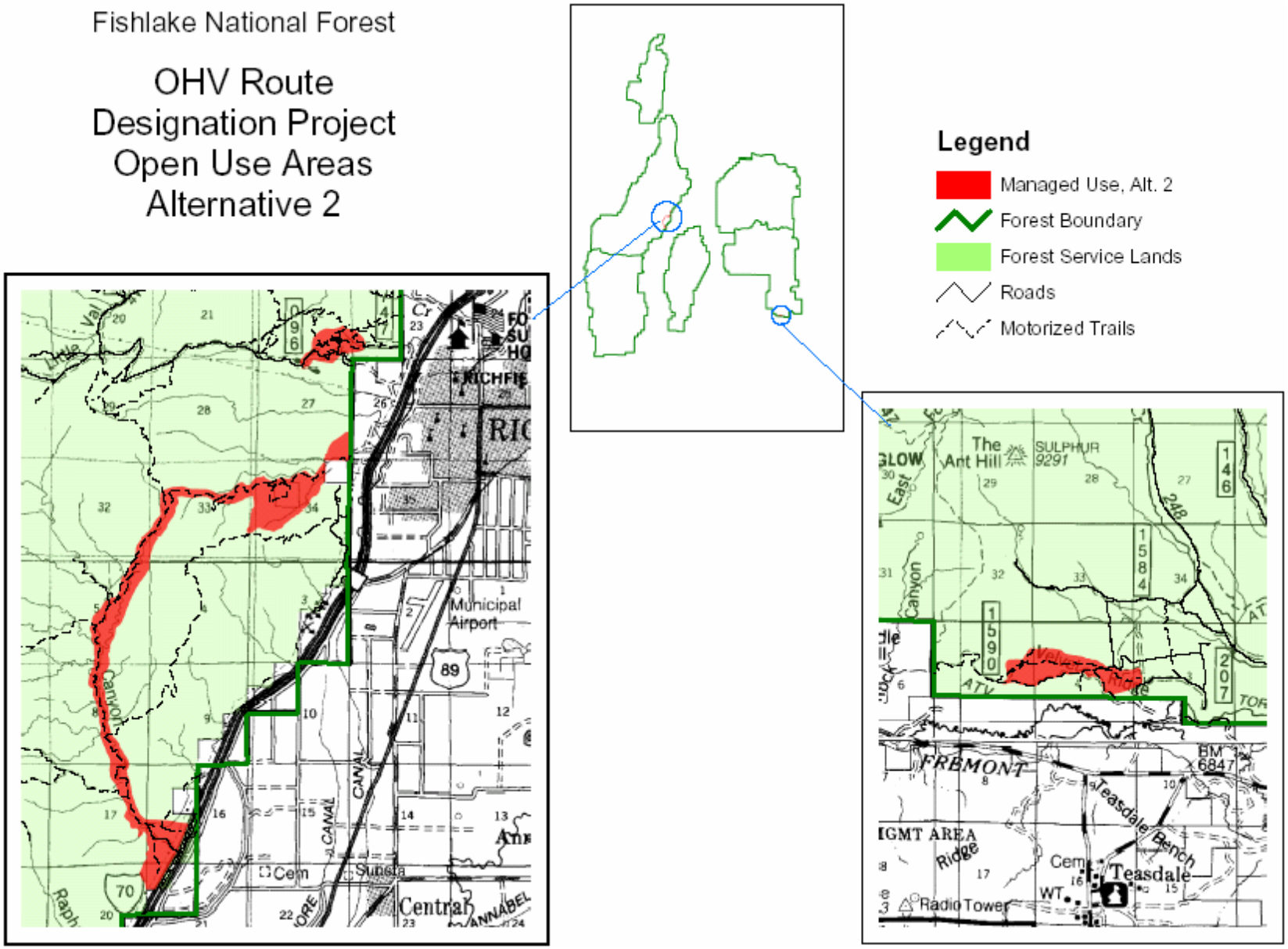


Table 2-7 shows the mileages for motorized route designations that would result from implementing Alternative 2. The data are displayed by ranger district. The action alternatives either create explicit designated routes or result in the route being obliterated.

Table 2-7. Alternative 2 – Motorized route mileage summary (grand total of all motorized designations = 2,690.5 miles).

District	Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
Fillmore	718.9	17.6	24.9	0.4	0	0
Beaver	347.0	26.4	119.3	18.5	0	0
Richfield	644.5	242.8	65.4	18.2	0	0
Fremont River	264.4	103.3	59.9	19.0	0	0
FOREST TOTAL	1,974.8	390.1	269.5	56.1	0	0

Table 2-8 shows the types of changes that yield the mileages shown in Table 2-7. Tables that show detailed route status changes for Alternatives 2 are located in Appendix E.

Table 2-8. Alternative 2 – Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
Open Yearlong	**Open Seasonally**	145.6	24.7
	Street Legal Only	39.8	0
	Administrative Use Only	4.7	0
	Non-motorized	8.6	9.3
	Obliterated	29.3	0.4
Open Seasonally	**Open Yearlong**	55.6	8.5
	Street Legal Only	0	0
	Administrative Use Only	1.0	0
	Non-motorized	0	0
	Obliterated	62.9	63.4
Street Legal Only	**Open Yearlong**	12.1	0
	Open Seasonally	0	0
	Administrative Use Only	1.1	0
	Non-motorized	0.3	0
	Obliterated	0	0
Administrative Use Only	**Open Yearlong**	0	0

Table 2-8. Alternative 2 – Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
	Open Seasonally	0	0
	Street Legal Only	0	0
	Non-motorized	0	0
	Obliterated	0	0
Undesignated Open	**Open Yearlong**	128.0	93.1
	Open Seasonally	23.0	29.7
	Street Legal Only	8.7	0.3
	Non-motorized	1.6	7.9
	Obliterated	181.4	288.5
Undesignated Closed	**Open Yearlong**	46.1	31.3
	Open Seasonally	8.8	16.6
	Street Legal Only	9.0	0
	Non-motorized	3.4	7.4
	Obliterated	70.6	125.6
Non-motorized	**Open Yearlong**	0	3.2
	Open Seasonally	0	4.5
	Street Legal Only	0	0
	Administrative Use Only	0	3.0
	Obliterated	0	24.6

Table 2-9 displays the changes to route types associated with Alternative 2. Road and trail mileages are presented for the forest.

Table 2-9. Alternative 2 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	**Forest Motorized Trail**	**Forest Non-motorized Trail**	**Obliterate**
Forest Road		21.6	10.8	45.6
Forest Motorized Trail	1.3		9.3	1.0
Forest Non-motorized Trail	0	5.6		0.1
Unauthorized Road	243.7	9.0	3.1	298.5
Unauthorized Motorized Trail	0.3	191.6	15.3	476.9

Table 2-9. Alternative 2 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	Forest Motorized Trail	Forest Non-motorized Trail	Obliterate
Unauthorized Non-motorized Trail	0	5.2	98.4	24.5

Table 2-10 breaks out the individual and combined changes in use designation and authorization that are proposed to the existing travel plan for Alternative 2. Road and trail mileages are summarized for the forest. Note that a majority of the existing route designations and authorizations are not changing from current conditions, and thus are not included in this alternative.

Table 2-10. Alternative 2 - Forest route mileage summary of proposed use designation and authorization changes.

Route Type	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
Forest Roads*	277.5	18.8	59.2	1,616.0
Forest Motorized Trails	48.9	0	2.3	279.1
Forest Non-motorized Trails	5.6	0	0.1	886.2
Unauthorized Roads	298.9	34.7	220.8	0
Unauthorized Motorized Trails	178.3	25.6	480.2	0
Unauthorized Non-motorized Trails	24.5	98.4	5.2	0
Forest Totals	**833.7**	**177.5**	**767.8**	**2,781.3**

* State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

A critical part of making the motorized travel plan easier to enforce is making clear what is open and what is closed. Route obliteration and installation of new barriers are an important part of the strategy. Table 2-11 shows the number of new barriers that would be constructed in Alternative 2. The map showing the location of these barriers is included on the CD-ROM maps and on the interactive map server linked to the project web page. The new barriers add to existing physical barriers that are already used to prevent or restrict motorized use on roads and trails on some routes. Most barriers would be used to prevent motorized users from driving on non-motorized

trails. However, some would be designed to prevent full sized vehicles from driving onto motorized trails. The forest needs gates to assure compliance on some of the seasonal closures, and to control access to administrative sites or permitted special uses where public access is not needed or desired.

Table 2-11. Alternative 2 - Number of new travel barriers by use restriction and type.

Use Restriction	Closure Type	Number
Closure to All Motorized Use	Barrier	163
Closure to Motorized Vehicles > 50 inches wide	Barrier	1
Seasonal Closure to All Motorized Use	Gate	17
Administrative Use Only	Gate	22

Alternative 3, Modified Proposed Action

The Modified Proposed Action changes specific route and area designations in Alternative 2 to respond to public comments, internal reviews, and to account for the additional route inventory from 2004. This alternative represents incremental progress towards a preferred alternative and is another iteration of applying the criteria described in the Development of Alternatives. Alternative 3 corrects errors in Alternative 2 that were discovered after release of the proposed action, including those identified by the public. There are substantial differences in content between Alternatives 2 and 3 that are not readily evident in the mileage comparisons, which are similar for both alternatives. This is due in part to having different, but offsetting additions and deletions to motorized access in each alternative. Careful evaluation and comparison between the alternatives reveals the imprint from the route-specific public comments that the forest received. The ATV access provided to the south end of Fish Lake in Alternative 3, but prohibited in Alternative 2 is but one example of many. To make this change work, we must 1) enforce day use-only restrictions on the south end of Fish Lake, and 2) build fences to prevent motorized travel to the lakeshore and across wet meadows, which is occurring presently. Similar implementation requirements for this and other routes are tracked in the fishlake_travel_plan_changes.mdb Microsoft Access database, which is located in the project file.

Alternative 3 adds 465 miles of unauthorized routes to and would remove 50 miles of authorized routes from the forest's existing motorized system. About 756 miles of unauthorized motorized routes would be obliterated and 24 miles converted to non-motorized trail. This action would result in a system of roughly 2,132 miles of road and 582 miles of trail for a combined total of 2,714 miles of motorized routes. Of the latter total, 2,667 of these miles would be open to the public. The amount of seasonally restricted routes would increase from 329 miles to 381 miles. The ending date for the seasonal closure period that starts on January 1st would be lengthened from March 31 to April 15th. The existing configuration of the Paiute and Great Western Trail systems would be retained. Motorized travel off designated routes would be prohibited except for open use areas, over-snow vehicles, or as specified for access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, and Forest Service administrative use. Some changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges. The preferred alternative designates 780 acres in three open use areas west of Richfield, and 189 acres at Velvet Ridges above Torrey, where motorized cross-country travel would still be permitted. Alternative 3 proposes changes to the open use area boundary at Velvet Ridges to reduce potential for impacting sensitive plants and to make the boundary more manageable. These areas are all open to motorized cross-country travel in the in the current travel plan.

Table 2-12 provides a summary of the area restrictions associated with Alternative 3. Figure 2-11 displays winter closure areas that would result from the proposed area restrictions. Figures 2-12, 2-13, and 2-14 display routes that would be open to motorized travel under Alternative 3. Figure 2-15 displays the open use areas from Alternative 1 that would be left open in Alternative 3. Detailed maps are included on the CD-ROM that accompanies the FEIS. They can be reviewed interactively on the map server link from the project web page.

Table 2-12. Alternative 3 - Area summary of proposed motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres for [2] and [4]).

District	Seasonal Winter Closure[1]	Travel on Designated Routes Only[2]	All Winter Closure[3]	Open Use Area[4]
Fillmore	0 acres	470,607 acres	1,204 acres	780 acres
Beaver	0 acres	297,444 acres	3,022 acres	0 acres
Richfield	0 acres	422,386 acres	15,277 acres	0 acres
Fremont River	0 acres	262,974 acres	0 acres	189 acres
FOREST TOTAL	0 acres	1,453,411 acres	19,503 acres	969 acres

[1] this area designation is the same as the "A" area restriction on the current travel plan, but only appears on the over-snow vehicle use map in Alternative 3.
[2] this is the same as the "B" areas on the current travel plan, and will not need to be shown on the summer motor vehicle use map because except for open use areas, the entire forest will be restricted to designated routes only.
[3] this is similar to the "C" restrictions on the current travel plan, but would only appear on the over-snow vehicle use map.
[4] this is the same as the unrestricted areas on the current travel plan, except that it is officially designated in the action alternatives and would be shown on the motor vehicle use map.

Table 2-13 shows the mileages for motorized route designations that would result from implementing Alternative 3. The data are displayed by ranger district.

Figure 2-11. Alternative 3 - winter use closures resulting from proposed area restrictions.

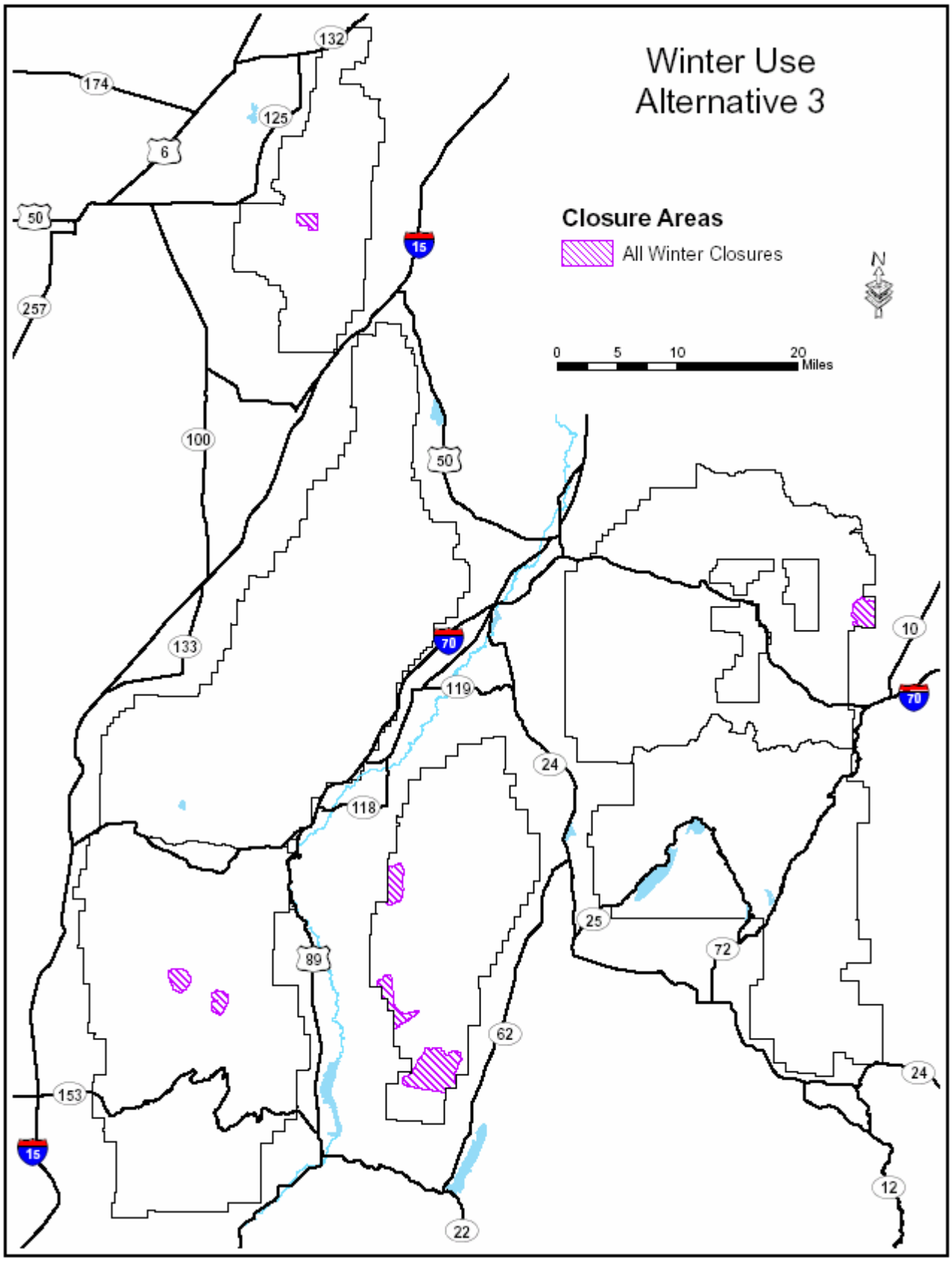


Figure 2-12. Alternative 3, Map A – designated motorized routes.

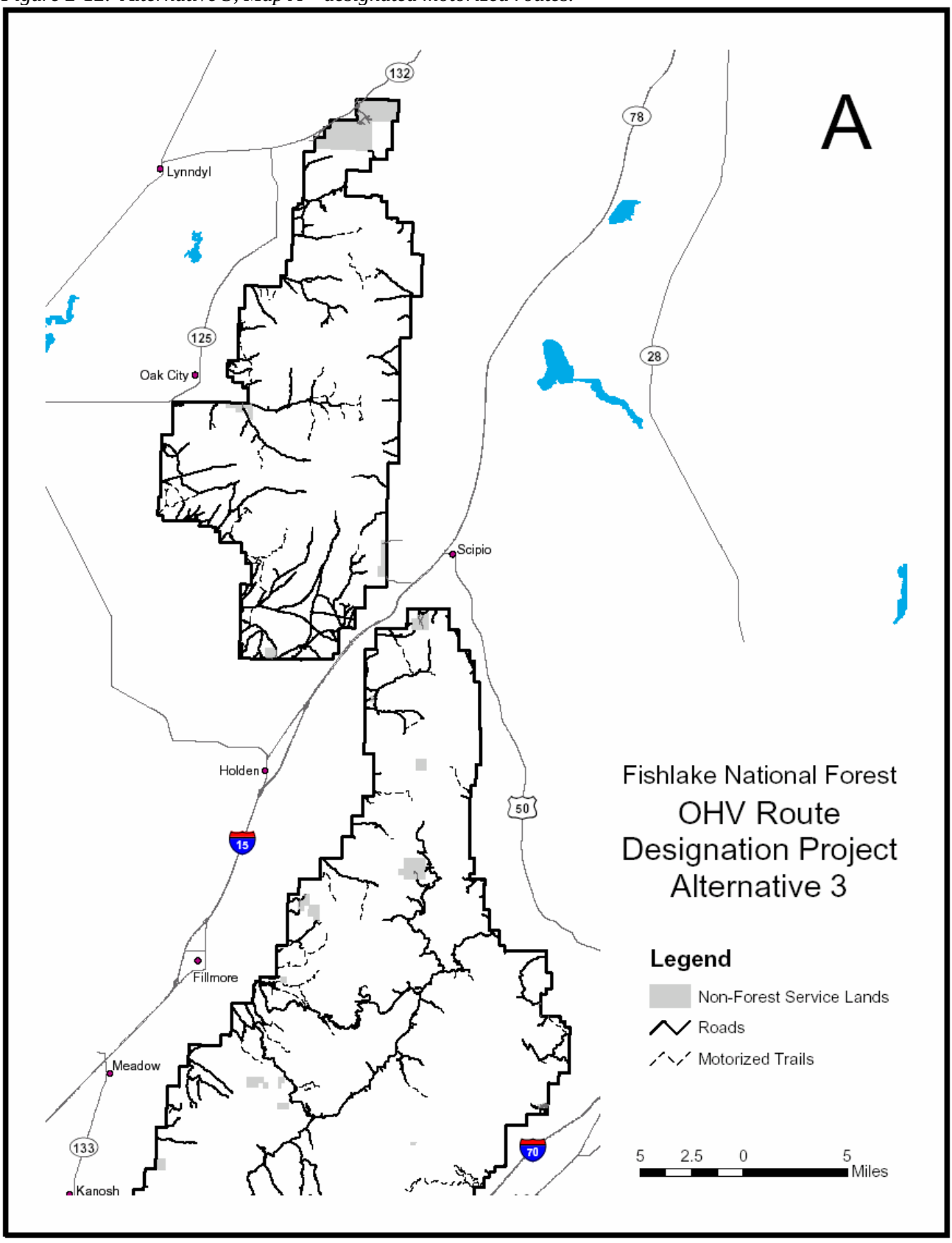


Figure 2-13. Alternative 3, Map B – designated motorized routes.

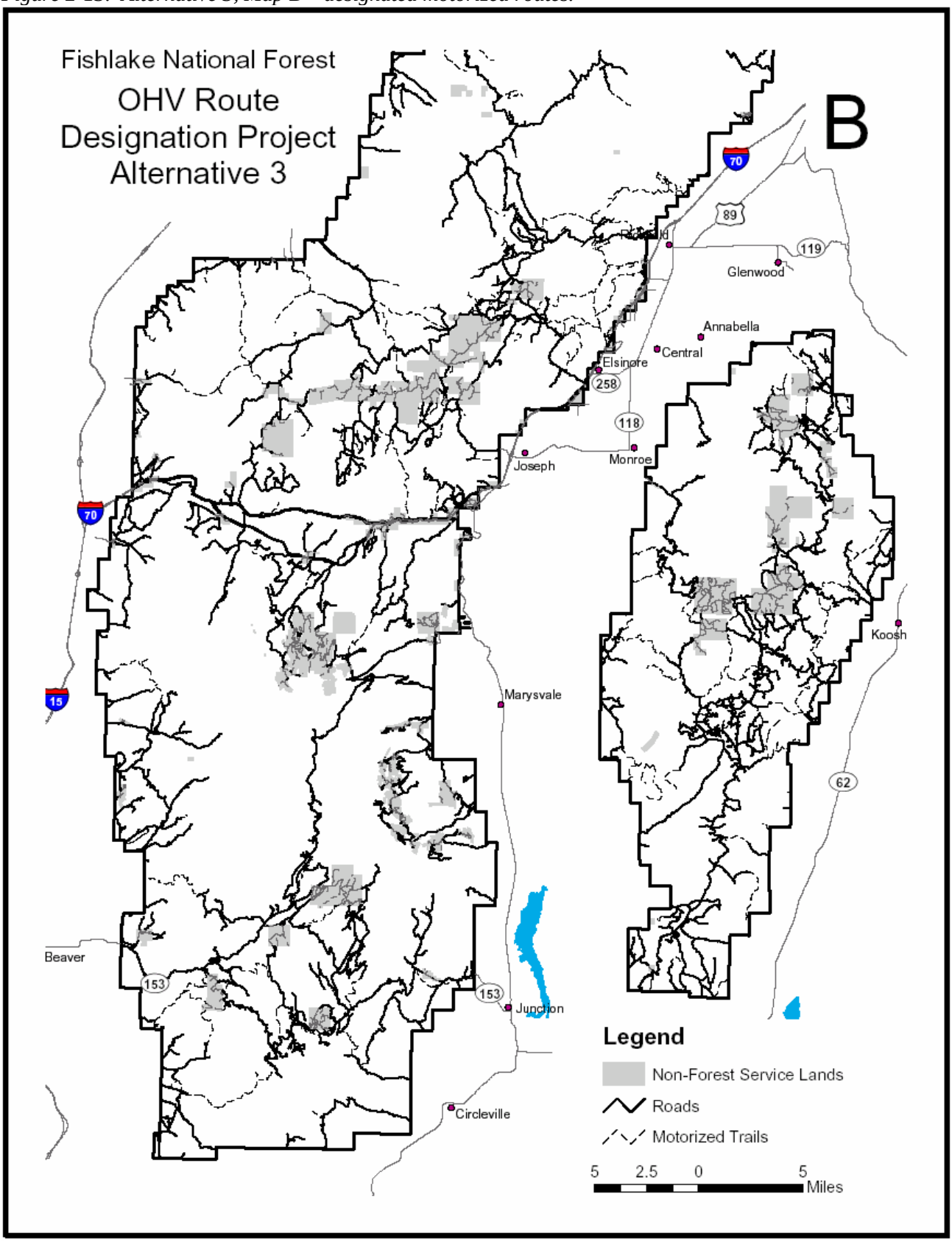


Figure 2-14. Alternative 3, Map C – designated motorized routes.

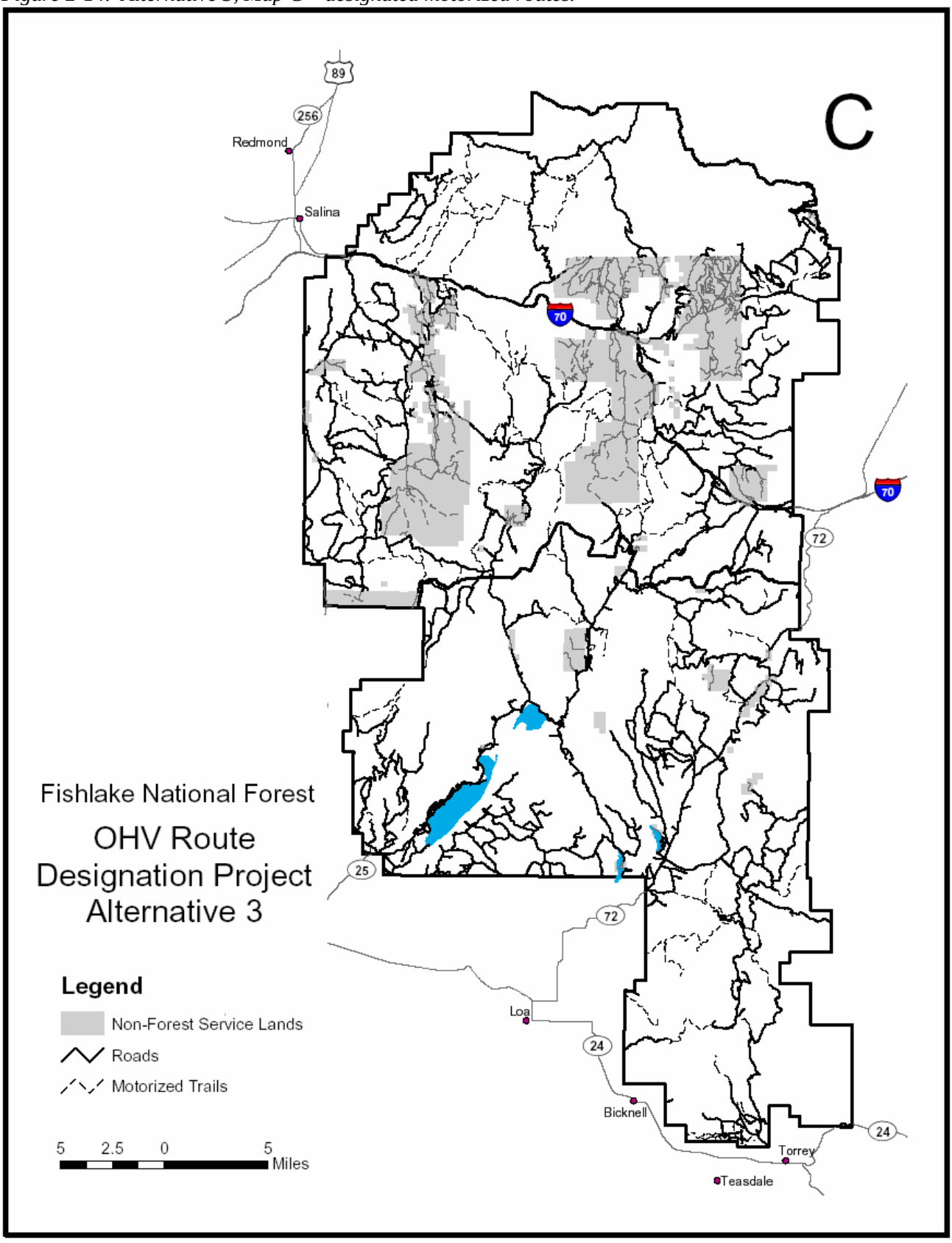


Figure 2-15. Alternative 3 - designated open use areas.

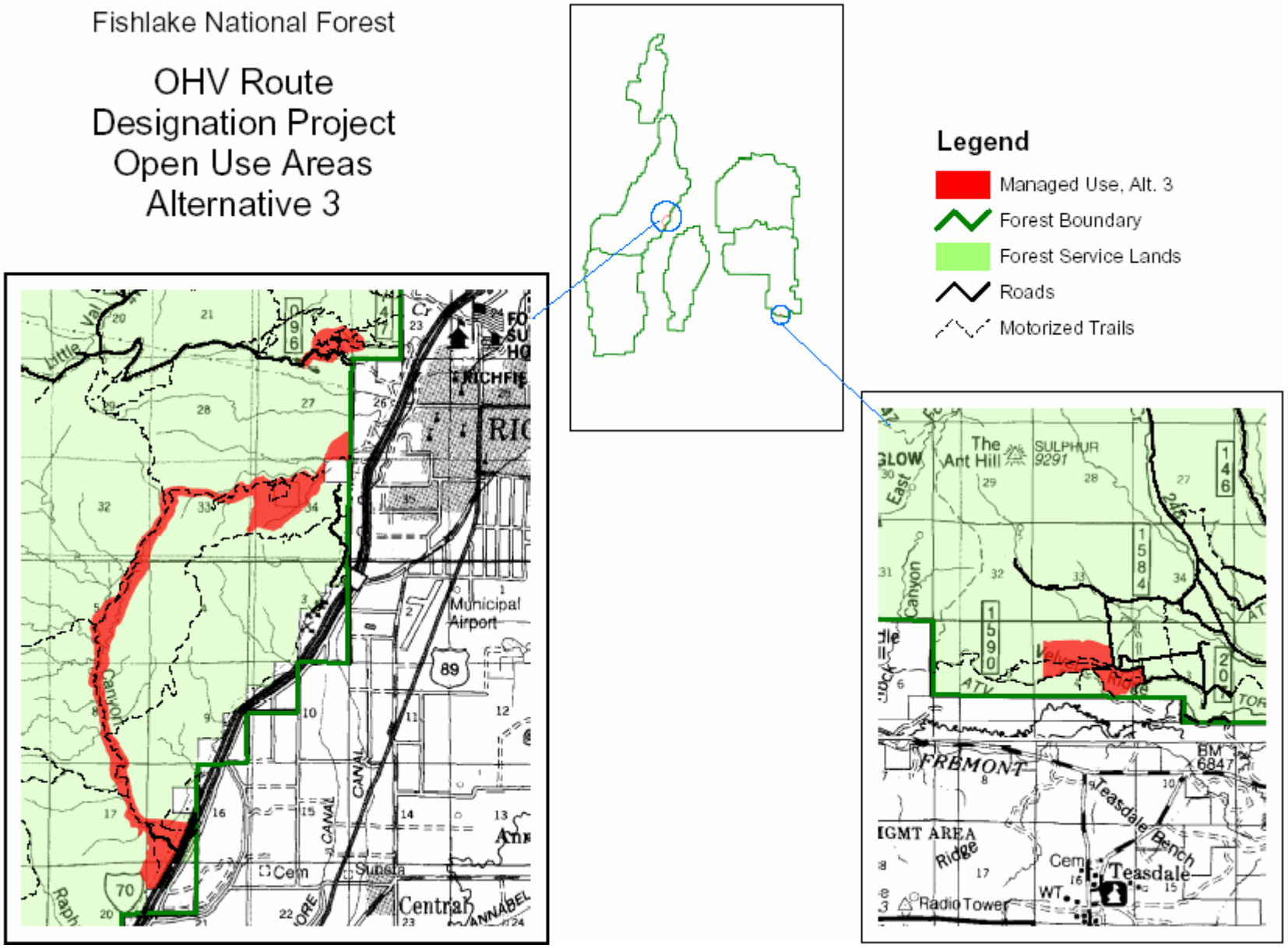


Table 2-13. Alternative 3 - Motorized route mileage summary (grand total of all motorized designations = 2,714.3 miles).

District	Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
Fillmore	712.9	17.6	24.9	1.6	0	0
Beaver	349.7	29.4	121.6	19.2	0	0
Richfield	655.3	212.9	65.4	15.7	0	0
Fremont River	299.6	120.8	56.7	11.2	0	0
FOREST TOTAL	2,017.4	380.6	268.6	47.7	0	0

Table 2-14 shows the types of changes to use designations that would create the mileages shown in Table 2-13. Tables that show detailed designation and classification changes for Alternatives 3 are located in Appendix E.

Table 2-14. Alternative 3 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
Open Yearlong	**Open Seasonally**	135.8	15.2
	Street Legal Only	40.6	0
	Administrative Use Only	6.2	0
	Non-motorized	9.9	14.7
	Obliterated	32.1	0.4
Open Seasonally	**Open Yearlong**	54.7	8.1
	Street Legal Only	0	0
	Administrative Use Only	0.8	0
	Non-motorized	0.2	0.2
	Obliterated	64.1	65.2
Street Legal Only	**Open Yearlong**	12.1	0
	Open Seasonally	0	0
	Administrative Use Only	1.1	0
	Non-motorized	0.3	0
	Obliterated	0	0
Administrative Use Only	**Open Yearlong**	0	0
	Open Seasonally	0	0
	Street Legal Only	0	0

Table 2-14. Alternative 3 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
	Non-motorized	0	0
	Obliterated	1.0	0
Undesignated Open	**Open Yearlong**	114.8	102.4
	Open Seasonally	29.0	30.3
	Street Legal Only	8.5	0
	Non-motorized	1.6	10.6
	Obliterated	190.2	275.1
Undesignated Closed	**Open Yearlong**	62.6	35.2
	Open Seasonally	10.5	19.3
	Street Legal Only	7.5	0.2
	Non-motorized	4.2	9.8
	Obliterated	61.6	116.4
Non-motorized	**Open Yearlong**	0	23.4
	Open Seasonally	0	5.3
	Street Legal Only	0	0
	Administrative Use Only	0	3.0
	Obliterated	0	27.1

Table 2-15 displays the changes to route types associated with Alternative 3. Road and trail mileages are presented for the forest.

Table 2-15. Alternative 3 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	**Forest Motorized Trail**	**Forest Non-motorized Trail**	**Obliterate**
Forest Road		21.0	13.2	48.8
Forest Motorized Trail	1.3		14.6	1.0
Forest Non-motorized Trail	0	25.0		6.0
Unauthorized Road	241.3	9.8	3.1	300.2
Unauthorized Motorized Trail	1.4	206.0	20.6	456.0
Unauthorized Non-motorized Trail	0	6.7	100.3	21.1

Table 2-16 breaks out the individual and combined changes in use designation and authorization that are proposed to the existing travel plan for Alternative 3. Road and trail mileages are summarized for the forest. Note that a majority of the existing route designations and authorizations are not changing from current conditions, and thus are not included in this alternative.

Table 2-16. Alternative 3 - Forest route mileage summary of proposed use designation and authorization changes.

Route Type	Change in Designation Only	Change in Authorization Only	Change in Designation and Authorization	No Changes
Forest Roads*	270.3	19.1	63.9	1,618.1
Forest Motorized Trails	44.8	0	2.3	283.2
Forest Non-motorized Trails	25.0	0	6.0	860.9
Unauthorized Roads	300.6	34.3	219.5	0
Unauthorized Motorized Trails	459.4	23.9	200.8	0
Unauthorized Non-motorized Trails	21.1	100.3	6.7	0
Forest Totals	**1,121.2**	**177.6**	**499.2**	**2,762.2**

* State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

Table 2-17 shows the number of new barriers that would be constructed in Alternative 3. A map showing the location of these barriers is included on the CD-ROM maps and on the interactive map server linked to the project web page.

Table 2-17. Alternative 3 - Number of new travel barriers by use restriction and type.

Use Restriction	Closure Type	Number
Closure to All Motorized Use	Barrier	173
Closure to Motorized Vehicles > 50 inches wide	Barrier	3
Seasonal Closure to All Motorized Use	Gate	20
Administrative Use Only	Gate	23

Alternative 4, Non-motorized Emphasis Alternative

The Non-motorized Emphasis alternative combines suggestions from public comments and advocacy groups such as Utah Forest Network, Three Forests Coalition, and the Utah Environmental Congress, to add greater emphasis to protection of wilderness characteristics and biological and physical resources.

Alternative 4 adds 44 miles of unauthorized routes to and would remove 61 miles of authorized routes from the forest's existing motorized system. About 1,113 miles of unauthorized motorized routes would be obliterated and 84 miles converted to non-motorized trail. This action would result in a system of roughly 1,926 miles of road and 196 miles of trail for a combined total of 2,122 miles of motorized routes. Of the latter total, 2,066 of these miles would be open to the public. The amount of seasonally restricted routes would decrease from 329 miles to 231 miles due to obliteration of routes in winter range. The ending date for the seasonal closure period that starts on January 1st would be lengthened from March 31 to April 15th. Removing side-trails that are located in the current inventory of unroaded and undeveloped areas would modify the existing configuration of the Paiute and Great Western Trail systems. Motorized travel off designated routes would be prohibited except for open use areas, over-snow vehicles, or as specified for access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, and Forest Service administrative use. Some changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges. Alternative 4 would have no open use areas where motorized cross-country travel would be permitted.

Table 2-18 provides a summary of the area restrictions associated with Alternative 4. Figure 2-16 displays winter closure areas that would result from the proposed area restrictions. Figures 2-17, 2-18, and 2-19 display routes that would be open to motorized travel under Alternative 4. Detailed maps are included on the CD-ROM that accompanies the FEIS. They can be viewed interactively on the map server link from the project web page.

Table 2-18. Alternative 4 - Area summary of proposed motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres for [2] and [4]).

District	Seasonal Winter Closure[1]	Travel on Designated Routes Only[2]	All Winter Closure[3]	Open Use Area[4]
Fillmore	0 acres	471,387 acres	1,204 acres	0 acres
Beaver	0 acres	297,444 acres	3,022 acres	0 acres
Richfield	0 acres	422,386 acres	15,277 acres	0 acres
Fremont River	0 acres	263,163 acres	0 acres	0 acres
FOREST TOTAL	0 acres	1,454,380 acres	19,503 acres	0 acres

[1] this area designation is the same as the "A" area restriction on the current travel plan, but only appears on the over-snow vehicle use map in Alternative 4.
[2] this is the same as the "B" areas on the current travel plan, and will not need to be shown on the summer motor vehicle use map because except for open use areas, the entire forest will be restricted to designated routes only.
[3] this is similar to the "C" restrictions on the current travel plan, but would only appear on the over-snow vehicle use map.
[4] this is the same as the unrestricted areas on the current travel plan, except that it is officially designated in the action alternatives and would be shown on the motor vehicle use map.

Figure 2-16. Alternative 4 - winter use closures resulting from proposed area restrictions.

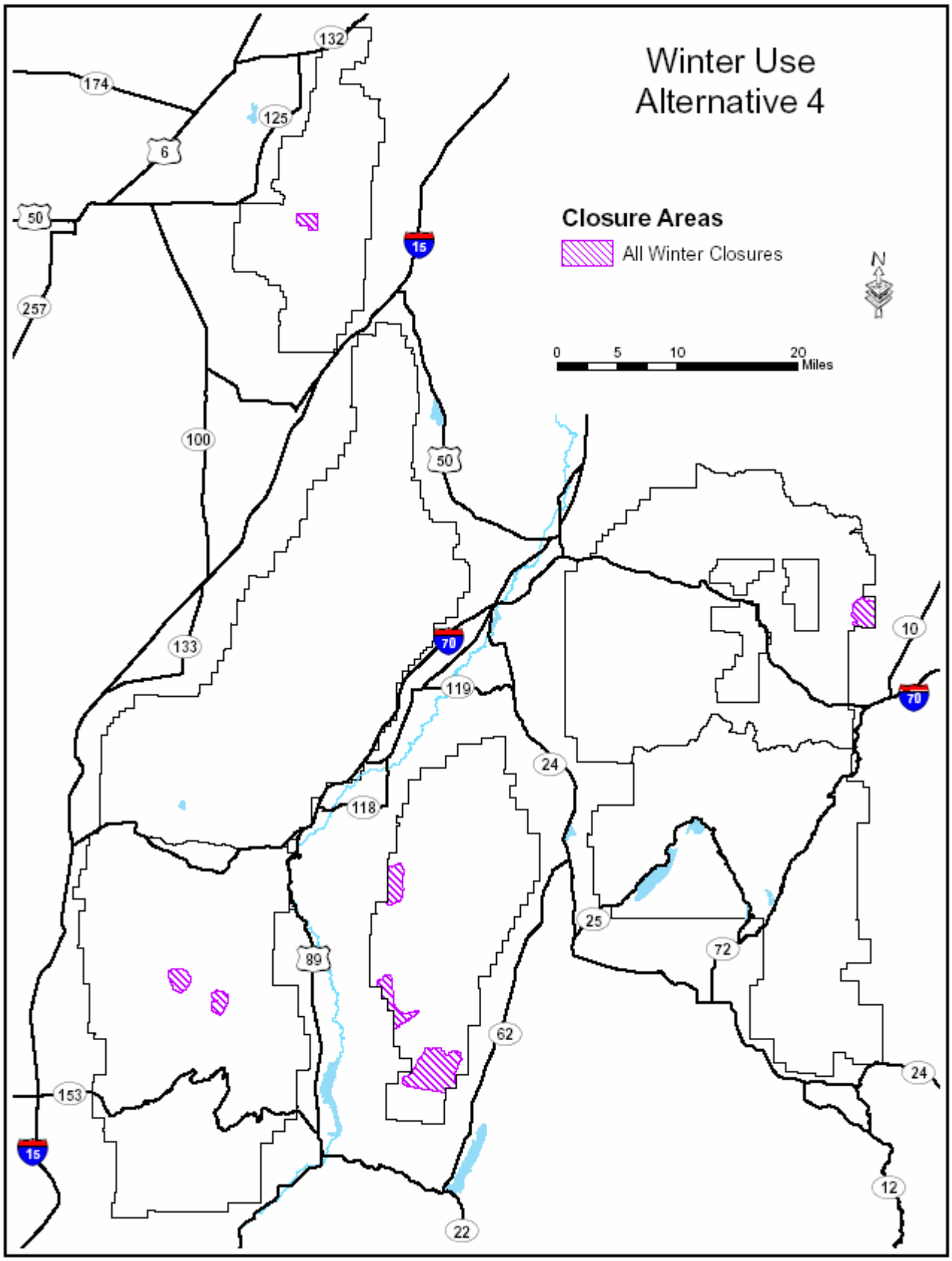


Figure 2-17. Alternative 4, Map A – designated motorized routes.

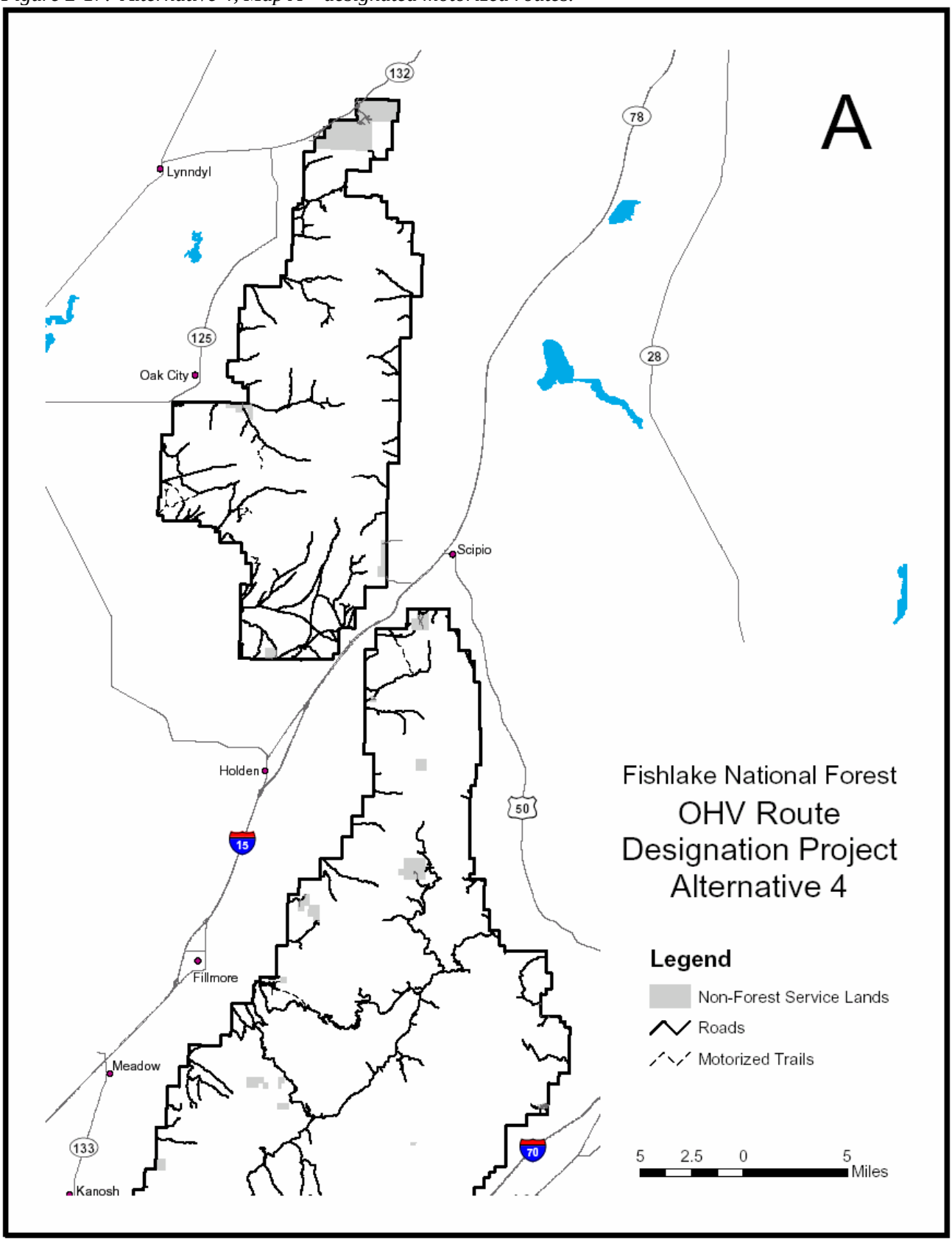


Figure 2-18. Alternative 4, Map B – designated motorized routes.

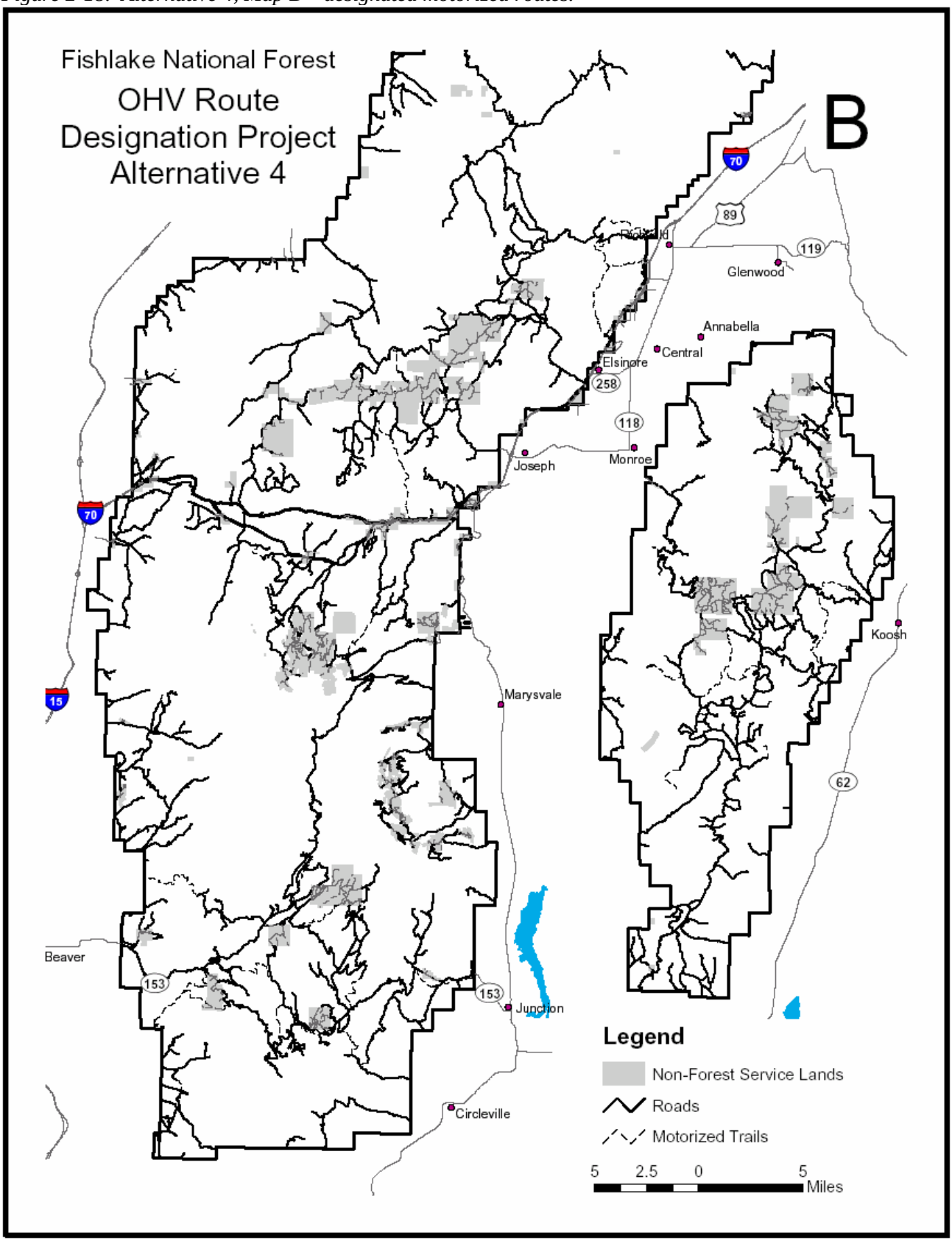


Figure 2-19. Alternative 4, Map C – designated motorized routes.

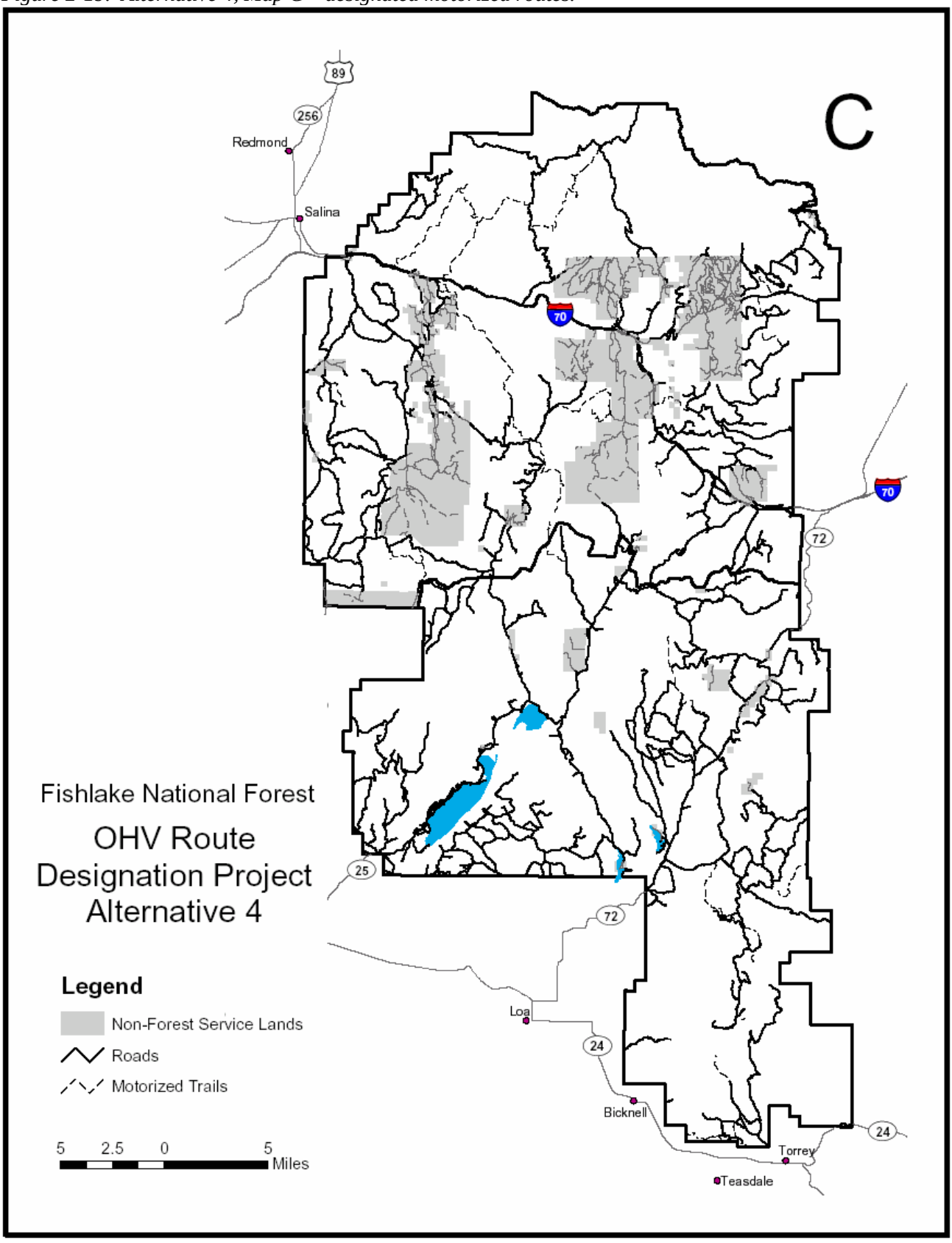


Table 2-19 shows the mileages for motorized route designations that would result from implementing Alternative 4. The data are displayed by ranger district.

Table 2-19. Alternative 4 - Motorized route mileage summary (grand total of all motorized designations = 2,122.3 miles).

District	Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
Fillmore	506.2	6.3	23.6	5.2	0	0
Beaver	311.7	27.6	113.0	21.1	0	0
Richfield	518.0	113.3	65.4	14.4	0	0
Fremont River	241.3	83.3	56.3	15.4	0	0
FOREST TOTAL	1,577.3	230.6	258.3	56.1	0	0

Table 2-20 shows the types of changes that yield the mileages shown in Table 2-19. Tables that show detailed route status changes for Alternatives 4 are located in Appendix E.

Table 2-20. Alternative 4 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
Open Yearlong	**Open Seasonally**	135.8	6.7
	Street Legal Only	40.6	0
	Administrative Use Only	6.6	1.7
	Non-motorized	9.9	132.7
	Obliterated	35.1	5.9
Open Seasonally	**Open Yearlong**	44.1	0
	Street Legal Only	0	0
	Administrative Use Only	0.6	0
	Non-motorized	2.9	16.2
	Obliterated	97.1	88.6
Street Legal Only	**Open Yearlong**	12.1	0
	Open Seasonally	0	0
	Administrative Use Only	1.1	0
	Non-motorized	0.3	0
	Obliterated	0	0

Table 2-20. Alternative 4 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
Administrative Use Only	**Open Yearlong**	0	0
	Open Seasonally	0	0
	Street Legal Only	0	0
	Non-motorized	0	0
	Obliterated	1.0	0
Undesignated Open	**Open Yearlong**	6.1	0.8
	Open Seasonally	2.9	2.1
	Street Legal Only	1.3	0
	Non-motorized	10.5	39.6
	Obliterated	319.4	375.8
Undesignated Closed	**Open Yearlong**	27.5	0.5
	Open Seasonally	4.0	0.0
	Street Legal Only	4.4	0.2
	Non-motorized	6.3	30.9
	Obliterated	102.2	148.6
Non-motorized	**Open Yearlong**	0	2.0
	Open Seasonally	0	0
	Street Legal Only	0	0
	Administrative Use Only	0	3.0
	Obliterated	0	29.8

Table 2-21 displays the changes to route types associated with Alternative 4. Road and trail mileages are presented for the forest.

Table 2-21. Alternative 4 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	**Forest Motorized Trail**	**Forest Non-motorized Trail**	**Obliterate**
Forest Road		15.6	13.2	51.8
Forest Motorized Trail	1.3		152.3	9.3
Forest Non-motorized Trail	0	3.1		6.0
Unauthorized Road	33.9	0.8	16.8	503.0
Unauthorized Motorized Trail	0.2	7.1	67.2	609.6

Table 2-21. Alternative 4 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	Forest Motorized Trail	Forest Non-motorized Trail	Obliterate
Unauthorized Non-motorized Trail	0	1.9	102.4	23.8

Table 2-22 breaks out the individual and combined changes in use designation and authorization that are proposed to the existing travel plan for Alternative 4. The numbers are summarized by route type for the forest. Note that a majority of the existing route designations and authorizations are not changing from current conditions, and thus are not included in this alternative.

Table 2-22. Alternative 4 - Forest route mileage summary of proposed use designation and authorization changes.

Route Type	Change in Designation Only	Change in Authorization Only	Change in Designation and Authorization	No Changes
Forest Roads*	270.7	13.7	67.0	1,620.2
Forest Motorized Trails	149.1	0	22.1	158.9
Forest Non-motorized Trails	3.1	0	6.0	882.8
Unauthorized Roads	503.4	9.4	41.6	0
Unauthorized Motorized Trails	609.6	0	74.5	0
Unauthorized Non-motorized Trails	23.8	102.4	1.9	0
Forest Totals	**1,559.7**	**125.5**	**213.1**	**2,661.9**

* State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

Table 2-23 shows the number of new barriers that would be constructed in Alternative 4. A map showing the location of these barriers is included on the CD-ROM maps and on the interactive map server linked to the project web page.

Table 2-23. Alternative 4 - Number of new travel barriers by use restriction and type.

Use Restriction	Closure Type	Number
Closure to All Motorized Use	Barrier	237
Closure to Motorized Vehicles > 50 inches wide	Barrier	0
Seasonal Closure to All Motorized Use	Gate	13
Administrative Use Only	Gate	32

Alternative 5, Final Preferred Alternative

The Final Preferred Alternative blends elements from each of the other action alternatives in response to route and area specific concerns identified by the public and through internal reviews. This alternative also accounts for the additional route inventory incorporated in 2005 and 2006 and represents the culmination of applying the criteria described in the Development of Alternatives. Alternative 5 fixes errors in Alternative 2, 3, and 4 that were discovered after release of the DEIS, including those identified by the public. There are substantial differences in content between Alternative 5 and the other action alternatives that are not readily evident in the mileage comparisons. This is due in part to having different, but offsetting additions and deletions to motorized access in each alternative. Careful evaluation and comparison between the alternatives reveals the imprint from the route-specific public comments that the forest received. Implementation requirements are tracked in the fishlake_travel_plan_changes.mdb Microsoft Access database, which is located in the project file.

Alternative 5 adds 587 miles of unauthorized routes to and would remove 73 miles of authorized routes from the forest's existing motorized system. About 635 miles of unauthorized motorized routes would be obliterated and 23 miles converted to non-motorized trail. This action would result in a system of roughly 2,181 miles of road and 639 miles of trail for a combined total of 2,820 miles of motorized routes. Of the latter total, 2,742 of these miles would be open to the public. The amount of seasonally restricted routes would increase from 329 miles to 424 miles. The ending date for the seasonal closure period that starts on January 1st would be lengthened from March 31 to April 15th. The existing configuration of the Paiute and Great Western Trail systems would be retained. Motorized travel off designated routes would be prohibited except for open use areas, over-snow vehicles, or as specified for access to dispersed camping, firewood gathering, emergency fire suppression, search and rescue, law enforcement, military operations, and Forest Service administrative use. Some changes in area restrictions for winter travel by over-snow vehicles are proposed to protect critical mule deer winter ranges, but areas currently closed to all motorized travel are otherwise left unaltered. The preferred alternative designates 690 acres in two open use areas west of Richfield, UT and 189 acres at Velvet Ridges above Torrey, UT where motorized cross-country travel would be permitted. Like Alternative 3, Alternative 5 proposes changes to the open use area boundary at Velvet Ridges to reduce potential for impacting sensitive plants and to make the boundary more manageable. Contrary to Alternatives 2 and 3, the most northern open use area on the Fillmore district would be dropped in Alternative 5. This would be done to protect cryptobiotic soils in the area, and for public safety. The open use areas remaining are open to motorized cross-country travel in the current travel plan.

Table 2-24 provides a summary of the area restrictions associated with Alternative 5. Figure 2-20 displays winter closure areas that would result from the proposed area restrictions. Figures 2-21, 2-22, and 2-23 display routes that would be open to motorized travel under Alternative 5. Figure 2-24 displays the open use areas from Alternative 1 that would be left open in Alternative 5.

Detailed maps are included on the CD-ROM that accompanies the FEIS. They can be viewed interactively on the map server link from the project web page.

Table 2-24. Alternative 5 - Area summary of proposed motorized travel plan restrictions on the Fishlake National Forest (total of 1,454,380 acres for [2] and [4]).

District	Seasonal Winter Closure[1]	Travel on Designated Routes Only[2]	All Winter Closure[3]	Open Use Area[4]
Fillmore	23,308 acres	470,697 acres	68,111acres	690 acres
Beaver	20,987 acres	297,444 acres	48,038 acres	0 acres
Richfield	30,264 acres	422,387 acres	22,436 acres	0 acres
Fremont River	61,911 acres	262,974 acres	18,882 acres	189 acres
FOREST TOTAL	136,470 acres	1,453,501 acres	157,467 acres	879 acres

[1] this area designation is the same as the "A" area restriction on the current travel plan, but only appears on the over-snow vehicle use map in Alternative 5.
[2] this is the same as the "B" areas on the current travel plan, and will not need to be shown on the summer motor vehicle use map because except for open use areas, the entire forest will be restricted to designated routes only.
[3] this is similar to the "C" restrictions on the current travel plan, but would only appear on the over-snow vehicle use map.
[4] this is the same as the unrestricted areas on the current travel plan, except that it is officially designated in the action alternatives and would be shown on the motor vehicle use map.

Table 2-25 shows the mileages for motorized route designations that would result from implementing Alternative 5. The data are displayed by ranger district.

Figure 2-20. Alternative 5 - winter use closures resulting from proposed area restrictions.

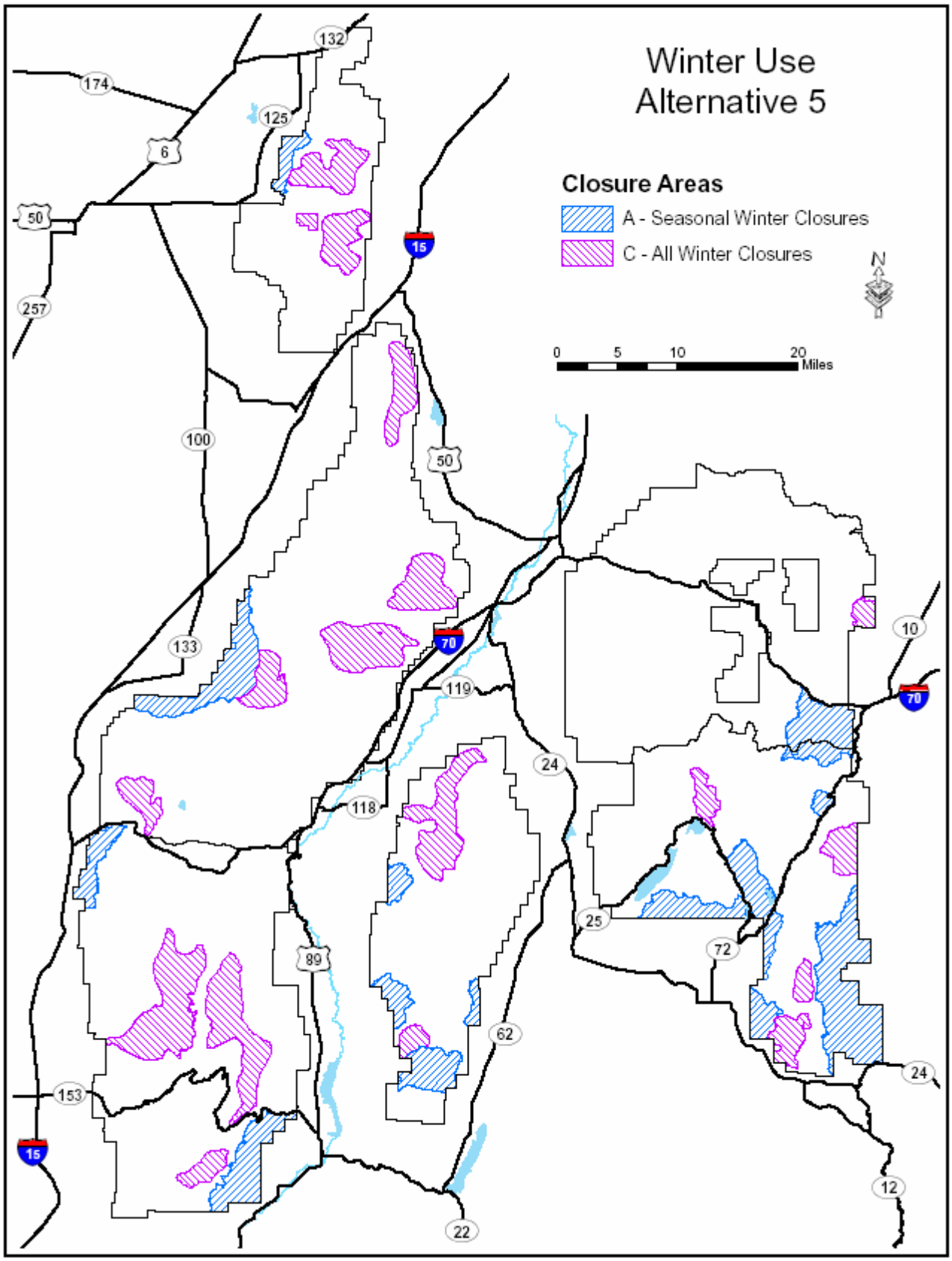


Figure 2-21. Alternative 5, Map A – designated motorized routes.

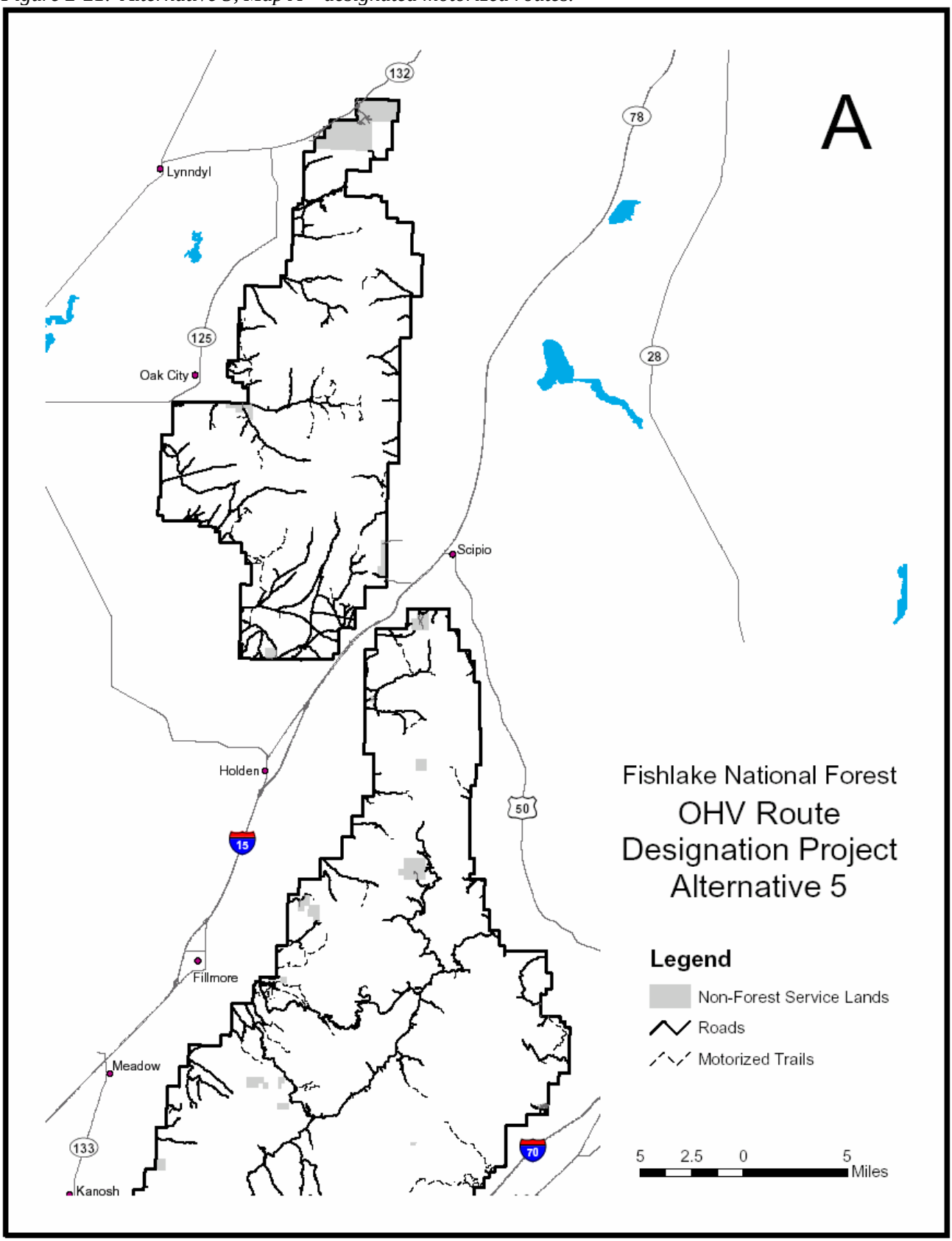


Figure 2-22. Alternative 5, Map B – designated motorized routes.

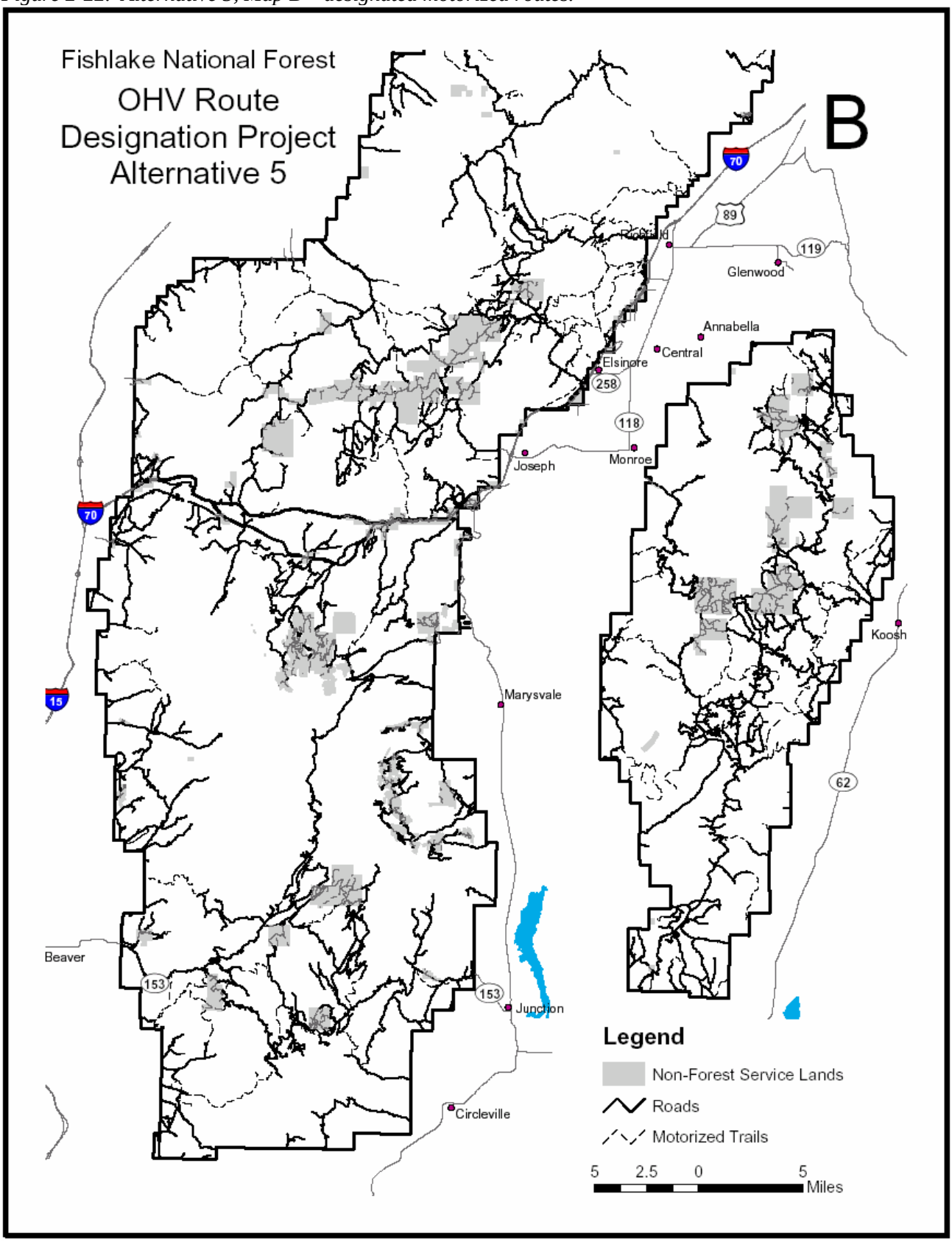


Figure 2-23. Alternative 5, Map C – designated motorized routes.

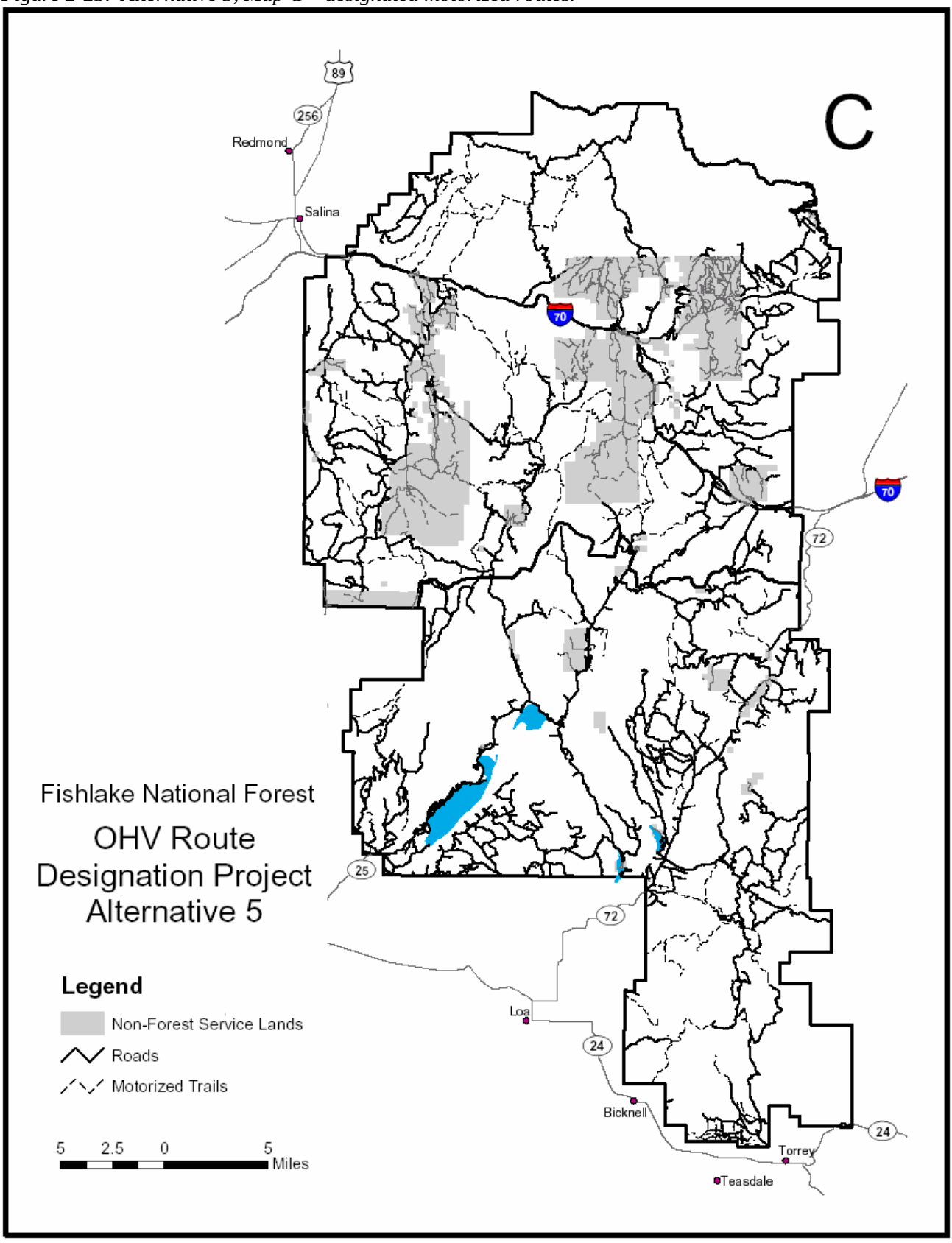


Figure 2-24. Alternative 5 - designated open use areas.

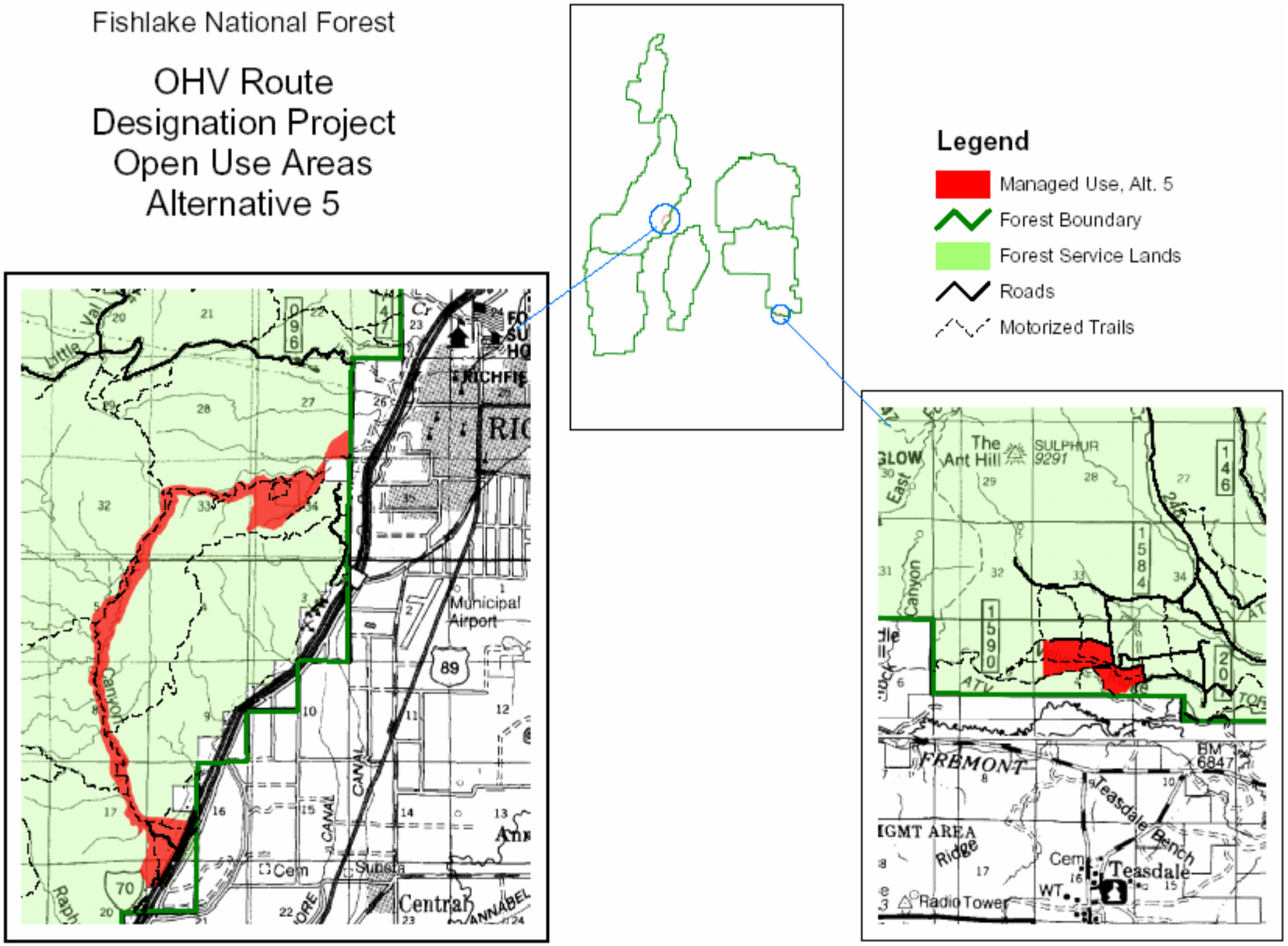


Table 2-25. Alternative 5 - Motorized route mileage summary (grand total of all motorized designations = 2,820.2 miles).

District	Open Yearlong	Open Seasonally	Street Legal Vehicles Only	Administrative Use Only	Undesignated Open	Undesignated Closed
Fillmore	710.5	17.6	25.2	0.5	0	0
Beaver	371.1	29.5	106.8	38.7	0	0
Richfield	651.8	232.8	71.8	16.6	0	0
Fremont River	321.1	143.6	59.9	22.6	0	0
FOREST TOTAL	2,054.5	423.6	263.7	78.4	0	0

Table 2-26 shows the types of changes that yield the mileages shown in Table 2-25. Tables that show detailed route status changes for Alternatives 5 are located in Appendix E.

Table 2-26. Alternative 5 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
Open Yearlong	**Open Seasonally**	144.4	17.7
	Street Legal Only	35.9	0
	Administrative Use Only	8.2	0
	Non-motorized	7.6	11.2
	Obliterated	48.3	7.7
Open Seasonally	**Open Yearlong**	54.3	6.8
	Street Legal Only	0	0
	Administrative Use Only	0.8	0.6
	Non-motorized	0.2	0.2
	Obliterated	54.8	63.2
Street Legal Only	**Open Yearlong**	12.3	0
	Open Seasonally	0.4	0
	Administrative Use Only	1.1	0
	Non-motorized	0.3	0
	Obliterated	0	0
Administrative Use Only	**Open Yearlong**	0	0
	Open Seasonally	0	0
	Street Legal Only	0	0
	Non-motorized	0	0

Table 2-26. Alternative 5 - Road and trail miles for the Fishlake National Forest where use designations would be changed.

FROM	TO	Roads	Trails
	Obliterated	1.4	0
Undesignated Open	**Open Yearlong**	147.2	111.6
	Open Seasonally	43.3	38.9
	Street Legal Only	7.7	0
	Non-motorized	2.4	11.5
	Obliterated	134.4	250.6
Undesignated Closed	**Open Yearlong**	74.9	43.4
	Open Seasonally	8.2	0
	Street Legal Only	8.9	0
	Non-motorized	5.4	7.3
	Obliterated	39.6	108.1
Non-motorized	**Open Yearlong**	0	26.1
	Open Seasonally	0	5.2
	Street Legal Only	0	0
	Administrative Use Only	0	3.0
	Obliterated	0	29.8

Table 2-27 displays the changes to route types associated with Alternative 5. Road and trail mileages are presented for the forest.

Table 2-27. Alternative 5 - Road and trail miles for the Fishlake National Forest where route type authorization would be changed.

FROM	TO			
	Forest Road	**Forest Motorized Trail**	**Forest Non-motorized Trail**	**Obliterate**
Forest Road		41.5	11.8	63.3
Forest Motorized Trail	1.6		11.2	9.4
Forest Non-motorized Trail	0	27.6		8.2
Unauthorized Road	322.3	12.8	4.2	215.2
Unauthorized Motorized Trail	2.6	242.3	19.0	420.2
Unauthorized Non-motorized Trail	0.1	6.5	99.8	21.6

Table 2-28 breaks out the individual and combined changes in use designation and authorization that are proposed to the existing travel plan under Alternative 5. Road and trail mileages are presented for the forest. Note that most of the existing route designations and authorizations are not changing from current conditions, and thus are not included in this alternative.

Table 2-28. Alternative 5 - Forest route mileage summary of proposed use designation and authorization changes.

Route Type	Change in Designation Only	Change in Authorization Only	Change in Designation and Authorization	No Changes
Forest Roads*	273.4	39.5	77.1	1,581.5
Forest Motorized Trails	42.9	0	11.0	276.4
Forest Non-motorized Trails	27.6	0	8.2	856.1
Unauthorized Roads	215.5	39.5	299.4	0
Unauthorized Motorized Trails	422.1	26.7	235.3	0
Unauthorized Non-motorized Trails	21.6	99.8	6.7	0
Forest Totals	**1,003.1**	**205.5**	**637.7**	**2,714.0**

* State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

Table 2-29 shows that number of new barriers that would be constructed in Alternative 5. A map showing the location of these barriers is included on the CD-ROM maps and on the interactive map server linked to the project web page.

Table 2-29. Alternative 5 - Number of new travel barriers by use restriction and type.

Use Restriction	Closure Type	Number
Closure to All Motorized Use	Barrier	175
Closure to Motorized Vehicles > 50 inches wide	Barrier	3
Seasonal Closure to All Motorized Use	Gate	20
Administrative Use Only	Gate	21

Comparison of Alternatives

Tables 2-30 through 2-33 compare the proposed changes among alternatives. Table 2-35 contains a summary of the main components of each alternative. Table 2-36 reviews the environmental consequences described in Chapter 3 for each of the alternatives. See Chapter 3 for specific information about the effects of each alternative. More specific route status changes are described in Appendix E.

Table 2-30 displays a summary of the proposed changes and resulting area designations for each alternative. This table reveals that substantial changes to area designations are being proposed in the action alternatives.

Table 2-30. Comparison of Alternatives – Area designation acreage summaries.

Area Designations		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Open Use Areas[1]	change	0	- 908,142	-908,146	-909,115	-908,236
	result	909,115	973	969	0	879
Designated Routes Only	change	0	+ 1,084,677	+ 1,084,681	+ 1,085,650	+ 1,084,771
	result	368,730	1,453,407	1,453,411	1,454,380	1,453,501
Seasonal Winter Closure[2]	change	0	-126,530	-126,530	-126,530	+ 9,940
	result	126,530	0	0	0	136,470
All Winter Closure[2]	change	0	- 106,894	-157,032	-157,032	- 19,068
	result	176,535	69,641	19,503	19,503	157,467

[1]includes Alternative 1 "A" area designations that are unrestricted from April 1 to December 31, but does not include distance designations for dispersed camping for any alternative.
[2]technically these classes have more acreage if you include restricted areas, which do not get adequate snow for over-snow vehicle use, or where terrain limits motorized winter use.

Table 2-31 displays a summary of the proposed changes and resulting route designations for each alternative. The table shows substantial changes in route designations are occurring as well. However, proportionally much less differs relative to the alteration of area designations shown in Table 2-30.

Table 2-31. Comparison of Alternatives – Route designation mileage summary.

Route Designations		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Open Yearlong	change	0	+ 115.7	+ 158.3	- 281.8	+ 195.4
	result	1,859.1	1,974.8	2,017.4	1,577.3	2,054.5
Open Seasonally	change	0	+ 61.5	+ 52.0	- 98.0	+ 95.0
	result	328.6	390.1	380.6	230.6	423.6
Street Legal Only	change	0	+ 44.3	+ 43.4	+ 33.1	+ 38.5
	result	225.2	269.5	268.6	258.3	263.7
Administrative Use Only	change	0	+ 26.5	+ 18.1	+ 26.5	+ 48.8
	result	29.6	56.1	47.7	56.1	78.4
Undesignated Open	change	0	- 764.3	- 764.3	- 764.3	- 764.3
	result	764.3	0	0	0	0

Table 2-31. Comparison of Alternatives – Route designation mileage summary.

Route Designations		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Undesignated Closed	change	0	- 333.4	- 333.4	- 333.4	- 333.4
	result	333.4	0	0	0	0
Forest Total Motorized Open to Public	**result**	**3,177.2**	**2,634.4**	**2,666.6**	**2,066.2**	**2,741.8**

The proposed actions change how, where, and when motorized use is authorized. Table 2-32 provides a summary of the results from proposed changes in route types for each alternative.

Table 2-32. Comparison of Alternatives – Route type mileage summary.

Route Type		Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Forest Roads[1]	change	0	+ 167.3	+ 160.9	- 45.3	+ 210.0
	result	1,971.5	2,138.8	2,132.4	1,926.2	2,181.5
Forest Motorized Trails	change	0	+ 221.3	+ 251.5	- 134.3	+ 308.5
	result	330.3	551.6	581.8	196.0	638.8
Forest Non-motorized Trails	change	0	+ 131.3	+ 120.9	+ 342.7	+ 110.3
	result	891.9	1,023.2	1,012.8	1,234.6	1,002.2
Unauthorized Roads	change	0	-554.4	-554.4	-554.4	-554.4
	result	554.4	0	0	0	0
Unauthorized Motorized Trails	change	0	- 684.1	- 684.1	- 684.1	- 684.1
	result	684.1	0	0	0	0
Unauthorized Non-motorized Trails	change	0	- 128.1	- 128.1	- 128.1	- 128.1
	result	128.1	0	0	0	0
Forest Total Motorized	**result**	**3,540.3**	**2,690.4**	**2,714.2**	**2,122.2**	**2,820.3**
Forest Total Non-motorized	**result**	**1,020.0**	**1,023.2**	**1,012.8**	**1,234.6**	**1,002.2**

[1] State, Federal, and County roads located on forest are added for completeness even though they are not Forest Roads.

Table 2-33 compares total miles of obliteration for roads and trails by alternative.

Table 2-33. Comparison of Alternatives – Route obliteration mileage summary.

Route Type	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Forest Road	0	45.6	48.8	51.8	63.3
Forest Motorized Trail	0	1.0	1.0	9.3	9.4
Forest Non-motorized Trail	0	0.1	6.0	6.0	8.2
Unauthorized Road	0	298.5	300.2	503.0	215.2
Unauthorized Motorized Trail	0	476.9	456.0	609.6	420.2
Unauthorized Non-motorized Trail	0	24.5	21.1	23.8	21.6
Forest Totals	**0**	**846.6**	**833.1**	**1,203.5**	**737.9**

Barriers are an important component of the proposed actions that should improve compliance with the travel plan. Table 2-34 compares the number and type of proposed barriers by alternative.

Table 2-34. Comparison of Alternatives – Proposed barrier summary.

Use Restriction	Closure Type	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Closure to All Motorized Use	Barrier	0	163	173	237	175
Closure to Motorized Vehicles > 50 inches in width	Barrier	0	1	3	0	3
Seasonal Closure to All Motorized Use	Gate	0	17	20	13	20
Administrative Use Only	Gate	0	22	23	32	21

Table 2-35 summarizes the major features of the proposed actions for comparison. Table 2-36 contrasts the anticipated environmental consequences that would result from implementing each alternative, including No Action.

Table 2-35. Summary of Alternatives

Motorized Travel Plan Feature	Alternative 1 Current Mgt. - No Action	Alternative 2 Proposed Action	Alternative 3 Modified Proposed Action	Alternative 4 Non-motorized Emphasis	Alternative 5 Final Preferred Alternative
Area open to motorized cross-country travel	Over 909,000 acres (62+ % of the forest) not including the 300-ft. dispersed camping / fuel wood exemption from roads in restricted areas.	973 acres (0.07 % of the forest) in three designated open use areas west of Richfield, UT and one at Velvet Ridges.	969 acres (0.07 % of the forest) in three designated open use areas west of Richfield, UT and one at Velvet Ridges.	0 acres (0 % of the forest) in designated open use areas	879 acres (0.06 % of the forest) in two designated open use areas west of Richfield, UT and one at Velvet Ridges.
Percent of the forest within a specified distance from motorized routes.	0 to ½ mile: 71.8 % 0 to 1 mile: 91.1 % 0 to 2 miles: 98.9 % 0 to 3 miles: 99.9 %	0 to ½ mile: 65.1 % 0 to 1 mile: 87.4 % 0 to 2 miles: 98.2 % 0 to 3 miles: 99.8 %	0 to ½ mile: 65.2 % 0 to 1 mile: 87.4 % 0 to 2 miles: 98.2 % 0 to 3 miles: 99.8 %	0 to ½ mile: 57.6 % 0 to 1 mile: 82.3 % 0 to 2 miles: 97.0 % 0 to 3 miles: 99.6 %	0 to ½ mile: 65.6 % 0 to 1 mile: 87.6 % 0 to 2 miles: 98.3 % 0 to 3 miles: 99.8 %
Size of the motorized route network	3,540 total miles with 3,137 miles open to public, – includes authorized and unauthorized routes, 330 miles of authorized motorized trail	2,691 total miles with 2,634 miles open to public – authorized routes only including 552 miles of motorized trail	2,714 total miles with 2,667 miles open to public – authorized routes only including 582 miles of motorized trail	2,122 total miles with 2,066 miles open to public – authorized routes only including 196 miles of motorized trail	2,820 total miles with 2,742 miles open to public – authorized routes only including 639 miles of motorized trail
Size of the non-motorized trail network	1,020 total miles of authorized and unauthorized routes, but many trails legally and illegally used by motorized users	1,023 total miles of authorized routes exclusively for non-motorized use	1,013 total miles of authorized routes exclusively for non-motorized use	1,235 total miles of authorized routes exclusively for non-motorized use	1,002 total miles of authorized routes exclusively for non-motorized use
Ability to leave roads and trails for dispersed camping	Entry and exit from temporary campsites within 300 ft. of designated roads.	Motorized travel to temporary campsites must occur on an existing route that is within 300 feet from an open designated road or trail, until access route is designated on (MVUM).	Motorized travel to temporary campsites must occur on an existing route that is within 150 feet from an open designated road or trail until access route is designated on the motor vehicle use map (MVUM).		
Firewood gathering cross-country access with OHV	Implicitly allowed in unrestricted areas or within 300 ft. from designated roads in closed areas.	Motorized cross-country travel is acceptable within the provisions of a valid permit to use firewood or other forest products in designated areas.			

Motorized Travel Plan Feature	Alternative 1 Current Mgt. - No Action	Alternative 2 Proposed Action	Alternative 3 Modified Proposed Action	Alternative 4 Non-motorized Emphasis	Alternative 5 Final Preferred Alternative
Big game hunting cross-country access with OHV	Implicitly allowed off designated routes in unrestricted areas even though it is against forest policy.	Only by non-motorized means.			
Game Retrieval and Antler Shed Gathering cross-country access with OHV	Implicitly allowed off designated routes in unrestricted areas even though it is against forest policy.	Only by non-motorized means.			
Access via OHV's by permittees, contractors and others doing business with national forests	Motorized cross-country travel is acceptable within the provisions of a valid special use permit or valid contract with the Fishlake National Forest in designated areas.				

Table 2-36. Summary of Environmental Consequences

Identified Environmental Issue	Alternative 1 Current Mgt. - No Action	Alternative 2 Proposed Action	Alternative 3 Modified Proposed Action	Alternative 4 Non-motorized Emphasis	Alternative 5 Final Preferred Alternative
Adherence to and Enforcement of Travel Plan	No Action maintains an overly complex motorized travel plan that is inconsistent with the management being instituted on other public lands in Utah. This alternative is inherently the most difficult to enforce.	This alternative results in a motorized travel plan that is much simpler than Alternative 1, but uses a 300-foot dispersed camping distance designation that is inconsistent with the trend of other public lands in Utah.	This alternative results in a motorized travel plan that is much simpler than Alternative 1 and is the second most consistent alternative with relation to route designations on adjacent BLM lands and Capitol Reef National Park	This alternative results in a motorized travel plan that is much simpler than Alternative 1. The proposed obliterations and conversions to non-motorized trails create some inconsistencies with adjacent BLM and other adjacent lands and the closure of open use areas would be difficult to enforce.	This alternative results in a motorized travel plan that is much simpler than Alternative 1 and is the most consistent alternative because it results in seamless route designations with adjacent BLM lands and Capitol Reef National Park
Critical Mule Deer Winter Range	No Action maintains the highest route densities and the most acres of unrestricted travel in critical winter range for mule deer. The seasonal closure period for this alternative is two weeks shorter than it is for the action alternatives and relies on outdated delineations of winter range. This alternative provides the least protection for winter habitat as a result.	This alternative reduces motorized route densities and essentially eliminates unrestricted travel in critical mule deer winter range. Over-snow travel closures add additional protection on Monroe Mountain. This alternative benefits protection of mule deer winter habitat.	This alternative reduces motorized route densities and essentially eliminates unrestricted travel in critical mule deer winter range. Over-snow travel closures add additional protection on Monroe Mountain. This alternative benefits protection of mule deer winter habitat.	This alternative results in the lowest motorized route densities and essentially eliminates unrestricted travel in critical mule deer winter range. From a route density standpoint, this alternative provides the most protection for mule deer winter habitat.	This alternative reduces motorized route densities and essentially eliminates unrestricted travel in critical mule deer winter range. Over-snow travel closures add additional protection across the forest based on the new definition of an over-snow vehicle. From a winter use standpoint, this alternative provides the most protection for mule deer winter habitat
Threatened and Endangered Plant Impacts	Increased motorize use combined with ongoing impacts associated with motorized routes and unrestricted areas would begin to impact populations of Last Chance townsendia.	Protection of Last Chance townsendia and its habitat was emphasized in all of the action alternatives. Protective measures included converting motorized routes to non-motorized trails and obliterating routes in occupied habitat. There are no routes with distance designations for dispersed camping in habitat for Last Chance townsendia. The action alternatives improve protection of occupied and potential habitats.			

Identified Environmental Issue	Alternative 1 Current Mgt. - No Action	Alternative 2 Proposed Action	Alternative 3 Modified Proposed Action	Alternative 4 Non-motorized Emphasis	Alternative 5 Final Preferred Alternative
Soil Productivity	This alternative has the most miles of motorized routes and acres of unrestricted cross-country travel on soils with geologic hazards, shallow depths, and high potential for erosion, puddling, and compaction. No Action has the greatest potential for short- and long-term adverse impacts.	This alternative results in substantial reductions in motorized route miles and acres of open use on sensitive soils. This alternative would improve conditions for long-term soil productivity.	This alternative results in substantial reductions in motorized route miles and acres of open use on sensitive soils. This alternative would improve conditions for long-term soil productivity.	This alternative has the fewest number of miles of motorized routes and acres of open use on sensitive soils. As such, this alternative is the most beneficial for protecting long-term soil productivity.	This alternative has the highest motorized route densities of the action alternatives, but has fewer acres of open use than Alternatives 2 and 3. This alternative would improve conditions for long-term soil productivity.
Wetland and Riparian Area Condition and Function **Fisheries and Aquatic Organisms**	This alternative allows motorized cross-country travel on roughly 235,497 acres within wetland and riparian influence zones and maintains the highest densities of motorized routes in riparian. No Action has the greatest potential for short- and long-term adverse impacts.	This alternative reduces motorized route densities, and significantly reduces potential for motorized cross-country travel within wetlands and riparian influence zones. This alternative would improve wetland and riparian condition and aquatic habitats.	This alternative reduces motorized route densities, and significantly reduces potential for motorized cross-country travel within wetlands and riparian influence zones. This alternative would improve wetland and riparian condition and aquatic habitats more than Alternative 2.	This alternative has the fewest number of miles of motorized routes, and acres where motorized cross-country travel is permitted within wetlands and riparian areas. This alternative results in the most beneficial impacts to wetlands and riparian areas and aquatic habitats.	This alternative reduces motorized route densities, and significantly reduces potential for motorized cross-country travel within wetlands and riparian influence zones. This alternative would improve wetland and riparian condition and aquatic habitats more than Alternative 2.
Unroaded and Undeveloped Lands	This alternative allows motorized cross-country travel on roughly 502,391 acres of unroaded and undeveloped lands, and does not change existing densities of motorized routes in these same areas. No Action has the most potential to adversely impact current and potential wilderness character.	This alternative reduces unauthorized motorized route densities and essentially eliminates motorized cross-country travel in unroaded and undeveloped lands. However, "The Rocks" would likely be removed from future wilderness consideration by authorizing a 0.7-mile road that bisects the undeveloped area.	This alternative reduces unauthorized motorized route densities and essentially eliminates motorized cross-country travel in unroaded and undeveloped lands. However, "The Rocks" would likely be removed from future wilderness consideration by authorizing 3.2 miles of road within the undeveloped area.	This alternative would have the least amount of cumulative impacts to undeveloped character. This alternative authorizes only ½ mile of road in one undeveloped area and eliminates many existing roads and motorized trails in several other areas. "The Rocks" area would not be adversely impacted.	This alternative reduces unauthorized motorized route densities and essentially eliminates motorized cross-country travel in unroaded and undeveloped lands. However, "The Rocks" would likely be removed from future wilderness consideration by authorizing 3.2 miles of road within the undeveloped area.

Identified Environmental Issue	Alternative 1 Current Mgt. - No Action	Alternative 2 Proposed Action	Alternative 3 Modified Proposed Action	Alternative 4 Non-motorized Emphasis	Alternative 5 Final Preferred Alternative
Motorized and Non-motorized Recreational Opportunities	This alternative allows the most potential for wheeled motorized cross-country travel and has the highest mileage of motorized routes.	This alternative would greatly reduce the potential for wheeled motorized cross-country travel and would reduce motorized route mileages relative to No Action.	This alternative would greatly reduce the potential for wheeled motorized cross-country travel and would reduce motorized route mileages relative to No Action.	This alternative would greatly reduce the potential for wheeled motorized cross-country travel and would greatly reduce motorized route mileages relative to No Action. This alternative has the fewest motorized routes.	This alternative would greatly reduce the potential for wheeled motorized cross-country travel and would reduce motorized route mileages relative to No Action. This alternative has the most motorized routes of the action alternatives.
	There would be no change in existing motorized dispersed camping opportunities. About 16 percent of inventoried campsites would continue to have no legal motorized access.	This alternative would reduce motorized access to inventoried dispersed campsites by about 7 percent.	This alternative would reduce motorized access to inventoried dispersed campsites by about 16 percent.	This alternative would reduce motorized access to inventoried dispersed campsites by about 31 percent.	The number of inventoried dispersed campsites accessible by motorized vehicles would be very similar to No Action, but would provide the most designated routes to dispersed sites.
	Non-motorized trails would continue to be open to motorized use in unrestricted areas. Illegal use of non-motorized trails in closed areas would continue at current or increasing levels.	Motorized use would no longer be allowed on non-motorized trails. Illegal use of non-motorized trails would be less than current levels because of new barriers, and route and area designations.	Motorized use would no longer be allowed on non-motorized trails. Illegal use of non-motorized trails would be less than current levels because of new barriers, and route and area designations.	This alternative has the highest mileage of non-motorized trails. Motorized use would no longer be allowed on non-motorized trails. Illegal use of non-motorized trails would be less than current levels because of new barriers, and route and area designations.	This alternative has the lowest mileage of non-motorized trails. Motorized use would no longer be allowed on non-motorized trails. Illegal use of non-motorized trails would be less than current levels because of new barriers, and route and designations.

Selection of the Preferred Alternative

The Modified Proposed Action, Alternative 3, was identified as the preferred alternative in the DEIS. Between draft and final, the alternatives were re-reviewed for effectiveness in resolving motorized and non-motorized travel planning issues including avoidance of unnecessary impacts to the human environment, responsiveness to public concerns, and compliance with USDA-FS statutory authority and the travel management rule in 36 CFR parts 212 and 261. This resulted in numerous route and area specific changes to Alternative 3 that have been incorporated into the Final Preferred Alternative, Alternative 5. Features from other alternatives such as Alternative 4 are blended into Alternative 5 as well. The ability of the forest to implement and enforce the travel plan continued to be a primary concern. The No Action alternative is required by NEPA. But, it is not a viable management alternative given the need for change expressed in Chapter 1 and the existing and potential impacts identified with current management in Table 2-36 and Chapter 3 of the FEIS. No Action is inconsistent with the Forest Plan and with 36 CFR 212.51 that requires the forest to designate open routes and areas so that motorized cross-country travel can be properly managed.

Alternative 5 is preferred for several reasons. First, this alternative is the most inclusive in terms of incorporating site-specific comments from individuals, advocacy groups, and other governmental agencies that commented on Alternatives 2, 3, and 4 and on the proposals from Three Forest Coalition. As such, it achieves the best balance between competing interests. Recall that Alternative 2 was the proposed action, which was based on an informed, but mostly internal assessment of what would be a reasonable motorized system. Hundreds of miles of routes not in the inventory prior to release of the DEIS were scheduled to be obliterated by default. Public comments received during the DEIS helped the forest reassess which of these routes are appropriate additions to the motorized system.

Alternative 5 has had the most hours of internal review because the iterative process is cumulative. Numerous errors and unintentional consequences that would result from Alternative 2 and 4, and to a much lesser extent, from Alternative 3 were identified and corrected in Alternative 5 when district and forest resource specialists re-evaluated the DEIS alternatives. Public comments also pointed out inconsistencies in the alternatives presented in the DEIS. Alternative 5 is in every sense an evolutionary improvement over the alternatives presented in the DEIS. Relative to the current motorized travel plan, Alternative 5 makes a substantial number of important improvements for enforceability and resource protection, and provides a better balance of recreational opportunities than exists currently. Alternative 5 is most consistent with the purpose and need for action.

Alternative 4 is the environmentally preferred alternative that helps illuminate important resource protection issues and impacts to non-motorized users caused by motorized facilities and recreation. Alternative 4 shifts more towards non-motorized uses than current management and the other action alternatives. However, the alternative makes major changes to the Paiute ATV trail system and the Great Western Trail, and would eliminate “play” areas by Richfield and Torrey that are very popular with motorized users. These trail systems and areas form part of the core motorized trail system that has come to define motorized recreation opportunities on the Fishlake National Forest. Based on public responses, most of the motorized community that supports closing the forest to motorized cross-country travel are not supportive of reducing the opportunities provided by the Paiute and Great Western trails. Similarly, dispersed camping is a very important and popular recreation opportunity that generates substantial public opposition from a much broader base of forest users if appreciably changed. Alternative 4 would result in a loss of motorized access to roughly 31 percent of the forest’s inventoried dispersed campsites.

Generating a high level of opposition would put the viability of the entire project at risk. This runs counter to the most important immediate need expressed in the Purpose of and Need for Action, which is to close the forest to unrestricted motorized cross-country travel. Addressing all aspects of dispersed camping is outside the intent and scope of the route designation project. However, dispersed recreation hotspots are being assessed in a separate strategic evaluation commissioned in 2006 by the Forest Supervisor. The combination of these factors could make public acceptance, implementation, and enforcement more difficult than it is currently.

Alternatives 2, 3, or 5 would take roughly 5 to 10 years to implement. The degree of changes in Alternative 4 would likely exceed the forest's financial and logistic capacity to implement within that same period. It is counterproductive to generate substantial public opposition by selecting a management option that cannot be implemented in a reasonable period. The forest uses adaptive management to address new or unintended consequences from its management actions, including those from unmanaged recreation. Given the long implementation periods even for the other action alternatives, corrective courses of action can be taken at any time to mitigate or eliminate environmental impacts. This ability lessens the potential differences in environmental benefits assumed present in Alternative 4, that are not assumed for Alternative 5. The Fishlake OHV Route Designation Project addresses a major portion of motorized use impacts, but will not be the last or only effort to better manage motorized recreation on the Fishlake National Forest.

Alternatives Eliminated From Detailed Study

The following alternatives were eliminated from detailed study because they do not meet the purpose and need or cannot be implemented due to technical, legal, or other constraints.

Issue a Forest-wide Emergency Closure Order

Some individuals and groups suggested that a forest-wide Emergency Closure Order [36 CFR part 261] should be issued to address considerable adverse resource impacts caused by motorized recreation. The forest could then designate a route system under less restrictive time frames. Suggested processes for route designation cover the range of options considered in this chapter. This alternative would have achieved a closure to motorized cross-country travel sooner than directly designating a travel network, but would appreciably increase the total amount of time and resources needed to develop and complete an updated motorized travel plan. This would use resources that could otherwise be used to implement the new travel plan.

The Emergency Closure Order would have to describe what a road or trail is and would have to specify by description which subset of "existing" routes would be open to motorized use until the travel plan is updated. Both tasks are problematic for the public to understand and for the Forest Service to enforce because of the high degree of variability in road, trail, and site conditions on the ground. The forest feels that it is more logical to explicitly state and display where and when motorized use is allowed as part of the same process where the forest is specifying where motorized use is not allowed. In addition, the forest does not have enough detailed resource specific monitoring information to conclude that an emergency closure is justified forest-wide. The response to comments document (public concern 1800) contains additional discussion that describes why this option was not pursued.

Start the Travel Plan with a Blank Map

Some individuals and groups suggested that the forest should start with a blank map and add routes back to the motorized system one-by-one only after confirming through a thorough analysis that the route provides needed access, is not redundant, and has minimal resource

impacts and use conflicts. This approach ignores the reality that the Fishlake National Forest is managing a large system of roads and trails that has been in development at least since the 1870s. Most of the route system on the forest was constructed and in use prior to current environmental standards and requirements. In many cases, it is not possible to remove a route or eliminate its impacts to resources. An extreme example is the I-70 corridor that substantially impacts wildlife and aquatic habitats. There are numerous other examples where the forest must work within the existing route network configuration for now and make incremental reductions in impacts over time.

The travel rule does not require prior route designation decisions to be revisited. Travel rule response to comments state, "The Department believes that reviewing and inventorying all roads, trails, and areas without regard to prior travel management decisions and travel plans would be unproductive, inefficient, counter to the purposes of this final rule, and disrespectful of public involvement in past."

Even with adequate information and ample resources to conduct the analysis, this alternative would substantially delay closing the forest to motorized cross-country travel due to the complexity of the task. Therefore, this alternative is not responsive to the Purpose of and Need for Action. It is not possible or feasible to deal with all transportation related issues in one document or project when working at the forest scale. This is why the project scope has to be carefully managed (see also, Chapter 1 – Questions from Scoping). However, the forest is addressing known and anticipated resource issues and use conflicts to the fullest practical extent in the action alternatives studied in detail.

Retain all "Existing" Routes as Open to Motorized Use

Several individuals and groups indicated that the forest should consider an alternative that would close the forest to motorized cross-country travel, but would leave open all "existing" motorized routes. The forest considered this as a simplistic way to get the motorized cross-country travel closure enacted quickly. However, there was a strong desire by the Forest Leadership Team to opportunistically address known resource impacts where possible. In addition, they wanted to improve the management and balance of non-motorized and motorized recreation opportunities provided by the route system.

In theory, all that would have to be done to create this alternative would be to eliminate "A" area restrictions and unrestricted areas on the existing travel map associated with Alternative 1. In reality, the current travel plan does not explicitly designate all legal open routes. The public is often not aware of what constitutes the legal system of existing motorized routes (see Chapter 1 discussion of the Purpose of and Need for Action). Hundreds of miles of existing motorized roads and trails are not shown on the current travel plan. Some of those are open to motorized use while others are not. Therefore, the specifics of this request are very ambiguous. In addition, statutory and policy requirements direct the Forest Service to minimize access redundancy and reduce resource impacts and user conflicts over time. The Dixie and Fishlake Roads Analysis and the Roads Analysis supplement prepared for the Fishlake OHV Route Designation Project both acknowledge the need to reduce the number of miles of routes on the forest in order to reduce resource impacts and to create a system that is more in line with road and trail maintenance budgets. Therefore, this alternative is not considered in detail.

Construct New Motorized and Non-motorized Routes

Some individuals and groups asked the forest to develop new roads and trails to improve motorized or non-motorized recreation opportunities or access to local communities. Addressing

new construction in a forest-wide analysis would greatly add to the project complexity and length of time necessary to complete a closure of the forest to motorized cross-country travel. New route construction requires much more time and information to assess than existing routes. This is not a wise use of limited resources until the more pressing issues of motorized cross-country travel are addressed. The forest has documented construction needs and other known transportation issues that need more localized analyses. These can be found in Appendix B.

Close the Forest to All Forms of Cross-country Travel

A few individuals requested that the forest be closed to all forms of cross-country travel, including mountain bikes, horseback, foot travel. Forest monitoring clearly indicates that motorized cross-country travel is essentially the only type of cross-country travel creating appreciable resource concerns at present. This alternative would not meet the purpose and need and is not consistent with the multiple use mandate of the Forest Service. This alternative is also inconsistent with 36 CFR 261.51 which expressly exempts (1) aircraft; (2) watercraft; (3) over-snow vehicles; (4) limited administrative use by the Forest Service; (5) use of any fire, military, emergency, or law enforcement vehicle for emergency purposes; (6) Authorized use of any combat or combat support vehicle for national defense purposes; (7) law enforcement response to violations of law, including pursuit; and (8) motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations.

Close to All Traffic Except Search and Rescue and Emergency Military Traffic

While this alternative was suggested, it has little support among agency officials. This restriction would prohibit cross-country travel by fire engines, fuel treatment contractors, and others to accomplish the purpose and need of this proposal. The intent of this project is to provide for responsible use of the forests while balancing environmental impacts. The lack of options to administratively protect the forest would cause secondary effects of the alternative that outweigh the benefit of restricting cross-country travel. Wildfires near communities would be difficult to fight in many cases when fire engines could not leave roads for initial attack of the fire. Fire engines, ATVs and motorcycles are currently used to suppress fires, haul supplies, and facilitate reconnaissance of wildfires.

Allow no Motorized Cross-country Travel Exemption for Dispersed Camping

Members of the public and some Forest Service personnel suggested this option. If applied literally, this creates a system where dispersed camping could only occur at designated sites, which is an additional proposed action. The forest is considering designating dispersed camping in select areas (see Roads Analysis supplement), but the need is not warranted forest-wide at this time. The forest has assembled a team to better assess and evaluate dispersed recreation issues and prepare management recommendations for the leadership team. Completing an adequate inventory and analysis to facilitate designation of dispersed campsites forest-wide would substantially lengthen the NEPA process by broadening the project scope and complexity and the number of alternatives to be considered. This would increase the time required to complete the EIS, which is counter to the immediate need to address motorized cross-country travel as expressed in the purpose and need. The forest has developed a strategy whereby most distance designations for dispersed camping will be eliminated over about five-years (i.e. about 20 percent of the system per year). This will be accomplished by dropping distance designations on routes with no desirable dispersed camping opportunities and by designating access routes where

campsite access is needed. This strategy is largely implemented with the route designations in Alternative 5.

Create a Game Retrieval Exemption for Motorized Cross-country Travel

Several individuals requested that the forest provide for exemptions to permit motorized cross-country travel for game retrieval. Individuals who are elderly or disabled make the request most often. All of the action alternatives studied in detail allow legally tagged game to be picked up and transported from open designated routes only. The Fishlake National Forest allowed game retrieval when the first travel plan was issued in the late 1970s. The privilege was abused to the point that the allowance quickly eliminated. For many years since, forest policy has been that motorized cross-country travel for game retrieval is not permitted. Unfortunately, the current travel plan implicitly permits motorized cross-country travel for game retrieval in unrestricted areas. To this day, the most numerous and notable off road impacts and travel plan violations on the Fishlake National Forest typically occur during hunting season. Scouting and stalking of game on ATVs is the primary source of impact, but retrieving game is a concern as well.

Based on the new travel rule, the Regional Forester, in consultation with Forest Supervisors of Utah and Idaho, have determined that game retrieval will not be allowed on any National Forest lands in Region 4. Legally tagged game may be retrieved using non-motorized means only. There is no consistent, logical, or enforceable means to assure that a given cross-country exemption for game retrieval will not result in an undesirable user conflict with other hunters and recreationists, or that can dependably avoid resource impacts. The forest is also interested in retaining a fair chase for wildlife. This policy is consistent with current and planned restrictions on other forests, the BLM, and other public lands in Utah. Before the new travel rule, there was no incentive or logical reason for the Fishlake National Forest to be the only public lands in Utah with such an exemption. With the travel rule in place, the Forest Supervisor no longer has the authority to do so in any case.

The Forest Service is prohibited from creating a special motorized cross-country travel exemption only for elderly or disabled persons because it discriminates against other motorized users. The Forest Service is required to provide equal opportunities. In all alternatives, all users, including the elderly and those with disabilities are afforded the same motorized access opportunities and are subject to the same rules and restrictions. Restrictions on motor vehicle use that are applied consistently to everyone are not discriminatory.

Allow Open Use Areas on Soils that are Resistant to Motorized Cross-country Travel

The basis of this alternative would be to allow cross-country travel on sites that have soils capable of sustaining motorized use. Soil damage is a commonly perceived resource impact from cross-country travel. Some OHV users said they only go to areas where soils will not be impacted. This alternative would examine the use of erosion-resistant soils that comprise roughly 12 percent of the Fishlake National Forest. These soils are resistant to soil erosion and are capable of revegetation without great expense. Outside of areas with these types of soils, most motorized cross-country travel would be prohibited. The alternative is not enforceable because there is no practical way to delineate these areas on the ground and there would still be potential to create non-soil related impacts such as introducing or spreading invasive plants, damaging Threatened and Endangered plant habitats, impacting cultural resources, or displacing wildlife. Therefore, it is not consistent with the Purpose of and Need for Action to reduce the potential for resource impacts.

Create Special Route Designations for Motorized Single-Track Trails

Some individuals and motorized user groups requested that some non-motorized trails either be shared with or dedicated solely to off-highway motorcycles. To date, the forest has not intentionally managed solely for off-highway motorcycles on single-track trails. However, the opportunity has implicitly been available on non-motorized trails provided they are not signed as closed to motorized use and are located in unrestricted areas of the current travel plan. Legal and illegal use of non-motorized trails by motorcycles and ATVs has made it difficult for the forest to sustain quality non-motorized recreation opportunities and adequate resource protection in some areas. The extent of illegal use is reflected in the number of barriers that are proposed in the action alternatives to keep motorized vehicles off non-motorized trails. Most of the non-motorized trail system is highly interconnected. Consequently, converting trails from non-motorized to motorized single-tracks or permitting shared use with non-motorized users would make it even more difficult to protect the integrity of the remaining non-motorized trail system and the quality of non-motorized recreation opportunities.

Shared use is currently resulting in undesirable user conflicts between motorized and non-motorized users (see public comments in project file). Perpetuating these conflicts would be inconsistent with the Purpose of and Need for Action. All alternatives offer thousands of route miles that are open to motorized use, including off-highway motorcycles. Many provide a semi-primitive experience characteristic of the experience achieved on non-motorized trails. Not all specialized motorized recreation opportunities have to be provided on the Fishlake National Forest. Single-track opportunities are provided on other public lands in Utah. However, the forest is open to future discussions that would look at options for constructing single-track trail or converting motorized or non-motorized trails to single-track use. The complexity and potential controversy require that this be addressed as a separate planning project. This level of refinement in motorized use would delay the closure of the forest to motorized cross-country travel, which is more urgent.

Create Special Route Designations and Closures for Mechanized Trail Use

Some individuals and groups requested that the forest develop designations and restrictions for mechanized trail use such as mountain biking. Neither Forest Plan monitoring nor public input substantiates that mechanized trail use and cross-country travel is creating adverse resource impacts or user conflicts at current and anticipated levels of use. The forest does not have enough use information on non-motorized trails to inform or warrant special single-track designations for mechanized use. In addition, adding mechanized use to the project scope would delay achieving the much more immediate and important need of closing the forest to motorized cross-country travel. Therefore, this alternative does not fit within the project Purpose of and Need for Action.

Create Special Route Designations and Closures for Over-snow Vehicles

An alternative to include a full assessment of over-snow vehicle use in the proposal was eliminated from detailed study because the issues involving over-snow vehicle access are much more limited and are different enough to warrant separate analysis. The route designation project addresses motorized, wheeled vehicles such as motorcycles, ATVs, 4-wheel drive vehicles, etc. Addressing over-snow vehicle use, except in critical areas, would complicate and lengthen the EIS process significantly. Over-snow vehicle use on the Fishlake National Forest is not nearly as pervasive as other OHV use and user conflicts or resource impacts are minimal. Over-snow vehicles are usually driven on a layer of snow so the timing, types, and magnitudes of environmental effects (i.e. erosion, sedimentation, weed spread) are different than those of motorized wheeled vehicles, which come into direct contact with vegetation and the ground.

Limited restrictions on over-snow travel are included in the proposed actions to protect critical mule deer winter ranges, which are a critical resource issue in this EIS. Fully addressing winter travel management would complicate and lengthen the EIS process significantly, which would divert time and resources from more pressing issues related to the motorized travel plan.

"Closed Unless Posted Open" and "Open Unless Posted Closed"

Some groups and individuals requested that the forest either use a "closed unless posted open" or an "open unless posted closed" policy to designate open and closed routes and areas. Utah law states that routes are closed unless posted open. Both of these alternatives are problematic because of their reliance with signing on the ground. Not only are the signs expensive to install and difficult to maintain, but both strategies are subject to manipulation. Under the "closed unless posted open" scenario, a motorized user can move a "route open" sign to a route that is closed to motorized use and a non-motorized user can remove a "route open" sign if he or she desires to close a route that is open to motorized use. Under the "open unless posted closed" scenario, a motorized user can remove "route closed" signs to open a route and a non-motorized user can move a "route closed" sign to close an open route. The new travel management rule ended this debate. National Forests are now required to produce a Motor Use Vehicle Map that shows by vehicle types, when and where routes and areas are open to motorize travel (36 CFR 212.56). The BLM is also converting to travel plans that rely mostly or wholly on designated routes.

Utah Forest Network's Sustainable Multiple Use / Comprehensive Proposal

Several environmental groups represented by the Utah Forest Network submitted a route designation map and a document containing proposed new Forest Plan Standards relating to everything from wilderness recommendations to management of dispersed camping, hiking and mountain biking, equestrian use, and rock climbing. Their proposal included two mapped options for designated routes on the Fishlake National Forest. Their proposed action would obliterate about 1,600 miles of authorized and unauthorized motorized routes. This action would result in a system of 1,056 miles of motorized routes on the forest of which 1,031 miles would be open to the public. Some of the actions of this proposal would require the preparation of separate Environmental Assessments or Environmental Impact Statements in order to implement. For example, under their proposal, there would be no motorized cross-country travel exemptions; so dispersed campsites would have to be designated through some process. Much of the motorized sections of the Great Western Trail would be converted to non-motorized use, and access to some developed sites such as Adelaide Campground would be eliminated.

This proposal is not studied in detail because it includes several elements that are outside the project scope and would require several Forest Plan amendments to take effect. It does not consider the long-established use by motorized recreationists or the socio-economic consequences of eliminating such a large portion of the motorized route and dispersed camping network. These actions would take two or three decades or more to implement, given current and anticipated forest budgets. This alternative would also result in incongruent management with adjoining State, private, and BLM lands. Analyzing this alternative in detail in the FEIS would substantially increase the range and complexity of alternatives that need to be studied in detail. All of these factors would result in a significant delay in closing the forest to motorized cross-country travel. Therefore, this alternative fails to meet the Purpose of and Need for Action.

Utah Environmental Congress Wilderness Protection Alternative

Utah Environmental Congress requested that the Forest Service analyze an alternative that does not add any unauthorized routes or have any motorized trails within the boundaries of their wilderness proposal. Alternative 4 was developed in part to represent UEC's interest and results in a motorized system that has fewer miles than strict application of UEC's criteria would create. The reason is that the current draft forest roadless inventory used for the development of Alternative 4 covers more area than the UEC wilderness proposal. Therefore, the UEC alternative is represented within the range of alternatives studied in detail. In addition, UEC signed on with and participated in the development of the "Natural Heritage" alternative submitted by the Three Forest Coalition (see below), which replaced the original UFN and UEC alternative proposals described here and above.

Three Forest Coalition / Utah Environmental Congress "Natural Heritage" Proposals

Three Forest Coalition and Utah Environmental Congress developed two proposals that they called "Natural Heritage" alternatives. The first they termed a "subset" alternative that was intended to fit within the scope of the current route designation project. The second they termed "comprehensive". It represents their longer-term plan for the motorized system on the Fishlake National Forest. The subset option was derived using a set of criteria that includes (1) adopting closures proposed by the Forest Service, (2) giving special consideration to designations within critical mule deer winter range, and (3) obliterating routes through wetland and dry tundra vegetation types and within 150 feet from perennial streams and wetlands. Their proposal also included design features such as making open route designations provisional, requiring that ATVs be registered with the forest and having unique id-tags legible at 150 feet, and requirements for citizen monitoring.

The "subset" Natural Heritage proposal adds 18 miles of unauthorized routes and removes 160 miles of authorized routes from the forest's existing motorized system. About 1,044 miles of unauthorized motorized routes would be obliterated and 177 miles converted to non-motorized trail. This action would result in a system of 1,821 miles of road and 34 miles of trail for a combined total of 1,855 miles of motorized routes. Of the latter total, 1,806 of these miles would be open to the public. The amount of seasonally restricted routes would increase from 266 miles to 302 miles.

The "comprehensive" Natural Heritage proposal adds 33 miles of unauthorized routes and removes 560 miles of authorized routes from the forest's existing motorized system. About 1,055 miles of unauthorized motorized routes would be obliterated and 151 miles converted to non-motorized trail. This action would result in a system of 1,387 miles of road and 47 miles of trail for a combined total of 1,431 miles of motorized routes. Of the latter total, 1,382 of these miles would be open to the public. The amount of seasonally restricted routes would decrease from 266 miles to 181 miles due to routes being obliterated in winter range.

Both proposals convert portions of the Paiute ATV trail and significant portions of the Great Western Trail to non-motorized use. Neither option provides designation for dispersed camping. For reference, only 49 percent of inventoried dispersed campsites on the forest are located within 150 feet from designated routes in the "subset" scenario, with 42 percent within 150 feet in the "comprehensive" scenario. Thus, motorized access to a large portion of inventoried existing dispersed campsites would be closed to the public.

A letter supporting these proposals was signed by members of Western Resource Advocates, Red Rock Forests, The Wilderness Society, Wildlands CPR, Southern Utah Wilderness Alliance, Utah Environmental Congress, and Grand Canyon Trust. The first versions of these proposals were sent on the 14th of March 2005 and the final versions were received on the 14th of April 2005. These groups requested that the "subset" alternative be analyzed in detail in the DEIS. However, the proposal was sent in too late to be evaluated by the ranger districts and the interdisciplinary team and would have added months of analysis time to prepare the DEIS. This is in part related to technical reasons with the GIS coverage that they provided [see response to DEIS comments and the project file]. This would have impacted the ability of the forest to get the DEIS out in time for the public to review the proposals during field season. The proposals are not fully complete in terms of specifying travel barriers and over-snow closures although this could likely be remedied with more time.

The "subset" alternative makes enough changes to the existing motorized system that it would realistically exceed the forest's capacity to implement within the next 5 to 10 years. The loss of motorized access to such a large proportion of dispersed campsites and the move to designated camping only on the entire forest greatly exceeds the intent and scope of the route designation project. This alternative would also result in incongruent management with adjoining State, private, and BLM lands. The Forest Service does not have the authority or the resources to require ATV registration as described. The "subset" alternative may not meet the Purpose of and Need for Action for these reasons. A detailed description and maps of the TFC / UEC proposals were included on the CD-ROM that accompanied the DEIS to allow public review and comment. The "subset" alternative is also available on the project map server. The "comprehensive" option would take decades to implement and is clearly outside the scope for this project.

Subsequent forest reviews and discussions with TFC failed to reveal appreciable differences between the sub-set proposal and Alternative 4 (see DEIS response to comments in the project file). The forest did compare differences between the sub-set proposal and the preferred alternative to help improve our understanding of TFC's core issues. The "most egregious" route list provided by TFC from their development of the "subset" alternative was used to reassess designations in the final preferred alternative. Several route designation changes were made in Alternative 5 to address their concerns, including obliteration of additional authorized routes.

Chapter 3. Affected Environment and Environmental Consequences

Introduction

This chapter describes the affected environment for each resource. The affected environment describes social, economic, biological and physical conditions of the analysis area that are relevant to the issues generated by the alternatives. The intent is to characterize the current condition of and potential impact to each resource tied to a primary issue identified in Chapter 2.

This chapter describes the environmental consequences for the issues and alternatives that are evaluated in detail. The environmental consequences presented include the direct, indirect, and cumulative impacts on the environment for each alternative. This chapter provides the scientific and analytic basis for the comparison of alternatives presented in Chapter 2. Appendix C contains a list of foreseeable projects that have been considered by each resource specialist while conducting the cumulative effects analysis that is presented in this chapter and in their reports. Appendix D contains documentation of environmental effects for those issues not presented in Chapter 3.

Descriptions of the affected environment and environmental effects by alternative are drawn from detailed reports prepared by resource specialists from the Forest Service. The FEIS presents only summary information. The source reports are located in the project file, on the CD-ROM that accompanies the FEIS, and on the project web site. The January 10, 2003 Dixie and Fishlake Roads Analysis and the Fishlake Roads Analysis supplement prepared for the Fishlake OHV Route Designation Project provide context and discussions of motorized route and use impacts on the forest. These documents are located in the project file and are incorporated into the existing condition and effects analysis by reference.

The action alternatives only include actions that change current uses and authorizations. The cumulative effects of the proposed actions are reflected in the relative and absolute changes that occur to the issue indicators, which include all of the route system, even the part that is not changing. In this manner, routes that are not changing from current conditions are being analyzed. Also, routes on private inholdings and adjacent lands are included where appropriate depending on the cumulative effects area for a given resource. Existing and past cumulative resource impacts are integrated into and reflected in the discussion of existing conditions for each issue.

Environmental Setting of the Analysis Area

The analysis area includes all National Forest System lands of the Fishlake National Forest. The environmental setting of the analysis area is described in the current Forest Plan, and in current revision documents. Many resource values and experiences are provided and sought after. Numerous recreational opportunities are provided to residents and visitors alike. The forest provides culinary and irrigation water for many of the surrounding communities. Wildlife, fish and vegetation create diverse ecosystems that are deeply valued not only locally, but also regionally and nationally as well.

This chapter will discuss the components of the forest that are most affected by the proposed actions, including No Action.

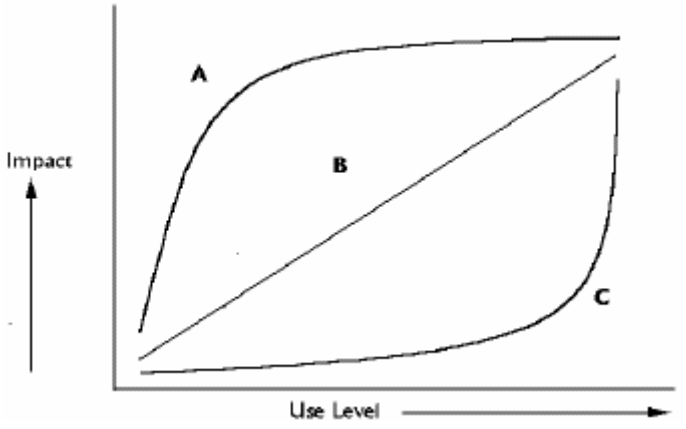
General Assumptions

1. Implementation: The effects analysis assumes that the updated motorized travel plan, including the proposed route obliterations and installation of signs and barriers will be accomplished in the first year of implementation. However, it is recognized that the plan will take several years to implement. This means that in reality the impacts and benefits from the proposed actions will also be spread out over several years.

2. Motorized Travel Plan Effectiveness: Public compliance and law enforcement is necessary to create the full benefits sought for the action alternatives. However, the effects analysis recognizes and assumes that travel plan violations will still occur under the action alternatives, but that the frequency of occurrence will be some degree less than what occurs under No Action. It is reasonable to believe that switching to an explicit designated use only system that is simpler to understand and more consistent with adjoining lands should be inherently more enforceable. This is especially true because new physical closures will make more obvious which routes are open and closed. Also, the forest will step up public education efforts. The forest accounted for existing and anticipated enforcibility considerations into all site-specific route and area designations in the action alternatives, which resulted in improvements over the current situation.

3. Effectiveness of Project Mitigation: The effects analysis assumes that Required Design Criteria are implemented correctly and in a timely manner, but does not make the assumption that the measures will be 100 percent effective unless a measure is designed to prevent or avoid a given risk entirely.

4. Potential for Unintended Consequences: The following considerations were factored into the route and area designation decisions that were made in the action alternatives. Recreational ecologists have identified three potential relationships between use levels and the amount of resulting biophysical and social impacts. These are displayed in the figure below that is taken from (McCool 2002).



Curve C represents a situation where use impacts could theoretically be minimized by defining and managing carrying capacity. Simply limiting use levels to below the point where the curve steepens could quickly restore degraded sites. Impacts that are directly proportional to use are displayed as Curve B. In this case, the concept of carrying capacity no longer applies. A manager would need to define a maximum acceptable level of impact and manage accordingly. Recovery of degraded sites would respond in a predictable linear fashion to reductions in use. Curve A displays the situation where most of the potential impacts are created by low to moderate levels of use. This relationship implies that the magnitude of impacts from high use is not much greater than the impacts of low to moderate use. "Settings characterized by even moderate levels of use would have to experience

significant reductions in order to reduce impacts. In many cases, such reductions would still have little effect on the level of impact" (McCool 2002).

Research in both biophysical and social settings indicates that Curve A represent the most common relationship between recreation use levels and impacts, although Curve B has been observed (Marion 1996, McCool 2002). The interdisciplinary team feels that these same relationships hold true on the Fishlake National Forest. In many cases, the motorized route itself is a large or majority portion of the defined resource impacts, with use as a secondary and lesser additional impact. In other words, having the facility available for even one user creates a large portion of the total resource impact. This is certainly the case for some watershed impacts. The same is true for off-route impacts. For example, most of the compaction of soils occurs after the first few passes over previously undisturbed sites. Similarly, one pass of a vehicle is all that is needed to spread invasive plant seeds to a new area. Implications of this research include the following:

- limiting use will likely be ineffective in controlling impacts except at very low use levels,
- strategies that contain or concentrate use will be more effective at minimizing adverse biophysical and social impacts than strategies that disperse use,
- displacing existing use to new areas will create new impacts and will not likely promote recovery at the original sites given that most of the impacts occur at low to moderate levels of use.

Given the level of existing and foreseeable demand for motorized recreation opportunities on the Fishlake National Forest, there are some levels and locations of route and area closures that would create resource impacts through displacement of motorized use to new areas on or off the forest. This is particularly true for popular routes such as the Paiute and Great Western trails and popular dispersed camping areas (see Appendix B for a list).

5. Adaptive Management: The effects analysis assumes that the Forest Service will monitor, assess, prioritize, mitigate and rehabilitate routes that create undesirable resource impacts. This is standard procedure.

Effects Common to All Alternatives

1. The Fishlake National Forest has numerous current and planned projects that will be implemented regardless of which OHV Route Designation alternative is selected. Several potential transportation related projects are not addressed in the OHV Route Designation Project because they warrant separate NEPA analysis due to their complexity. These are listed in Appendix B. Potential for cumulative effects and changes to relevant issue indicators from reasonably foreseeable activities in combination with the OHV Route Designation Project are described in Appendix C. Chapter 3 contains the integrated cumulative effects from past, present and future activities. Discussions that are more specific can be found in the source reports from the forest resource specialists. These are included on the CD-ROM that accompanies the FEIS or can be viewed on the project web page.

2. The Fishlake OHV Route Designation Project applies existing Forest Plan Standards and Guidelines. It is important to remember that ongoing land uses and reasonably foreseeable activities are held to these same standards, which reduces the potential for adverse cumulative impacts from past, present, and reasonably foreseeable activities. Also, NEPA analysis for foreseeable alternatives must include the Fishlake OHV Route Designation Project as an existing or foreseeable activity.

3. The Forest Service has used its discretionary authority to determine the scope of this project. Addressing all impacts from transportation facilities and use is a much larger task than is feasible to cover in any one assessment. It will take decades of incremental improvement through adaptive management to meet all of the objectives and requirements for transportation planning stated in Forest Service directives and policy assuming current funding levels. Accordingly, the Forest Supervisor has focused the scope of the project to what is specified in the Purpose of and Need for Action. The most immediate and important transportation impacts and conflicts are being addressed by the action alternatives. As such, all alternatives have unresolved resource impacts and conflicts related to the transportation system and motorized use. However, each action alternative makes substantial improvements towards reducing redundant routes, and minimizing resource impacts and use conflicts as required by 36 CFR 212.55 and Executive Orders 11644 and 11989. The amount of time for implementing each of the action alternatives will push the limit for the shelf life of the OHV route designation NEPA document even with the added priority the forest is giving to implementation. Implementation will also push the limits of available funding and personnel resources available to the forest, but this project is a top priority.

4. The Richfield BLM Field Office is in the process of revising its Resource Management Plan (RMP). The new RMP will include greater restrictions on motorized cross-country travel and will designate a motorized travel network. Based on ongoing coordination, the new travel plan will be more consistent across lands managed by both agencies than what exists currently. This should make the travel plans from both agencies easier for the public to understand and for the agencies to enforce. The RMP should improve on dated management direction for all or most of the resources managed by the respective BLM offices. This should reduce land use impacts to some degree as the new plans are implemented. Since BLM lands adjoin National Forest System lands managed by the Fishlake National Forest, this should result in a net decrease in cumulative impacts over time. The same reasoning can be applied to the revision of the Forest Plans for the Dixie, Fishlake, and Manti-LaSal National Forests.

5. For the purposes of modeling, the distance designations for dispersed camping are analyzed in the same way as open use areas. This is done for simplicity, but it creates a worst-case comparison between No Action and the action alternatives. Use within unrestricted and designated open use areas (and within the Alternative 1 dispersed camping and firewood gathering exemption) is essentially unrestricted. However, the dispersed camping distance designation for the action alternatives states that motorized travel must occur on an existing track within the specified distance from an open designated route. The allowance permits travel off a designated route, but not off an existing route. The designation does not permit creation of new routes. Therefore, the approximation of areas potentially open to motorized cross-country travel in the action alternatives are grossly overestimated. Areas truly open to motorized cross-country travel are less than indicated by the modeling for another reason as well. On site terrain features such as dense woody vegetation, large rocks, uneven and steep slopes reduce the total amount of area where motorized vehicles can actually travel. Other sites along routes simply lack amenities that make them attractive places to camp. Though it is unknowable, the actual footprint of cross-country travel exemptions is significantly smaller than what is indicated in the analyses tables. Finally, it is important to remember that most distance designations will be removed or replaced with designated routes over time. Even so, the relative rankings of each alternative add value for comparison purposes.

6. The indicators used to track and compare cumulative impacts among alternatives have cause-and-effect relationships with the issues that they are assigned to. These relationships are

briefly described under each resource issue in the FEIS, with additional detail provided in the source reports. These indicators are entirely dependent on site-specific spatial relationships between routes and open use areas, and at-risk resource values. They are also stratified by geographically meaningful cumulative effects areas, which vary by resource. With the exception of indictors for social values such as Motorized and Non-motorized Recreation, a decrease in the indicator value corresponds with reduced risk, and reduced likelihood for actual and potential direct, indirect, and thus cumulative impacts.

7. Thresholds for human interactions with wildlife species is a topic of great debate in the scientific community, especially those thresholds surrounding the dramatic increase in Off-Highway Vehicle use across public lands. The focus of effects discussed in this document center around the overall reduction of roads, and additionally, reducing the practice of unrestricted cross-country motorized travel. In general, the combination of the effects of reducing motorized access and especially the proliferation of additional routes will increase habitat effectiveness regardless of current route density. Further reductions in route density may be required in the future once these species thresholds and relative visitor use patterns are better understood. This document does not address how each of the five alternatives fit with respect to varying opinions on road densities tolerated by certain species. Note- the authors most often use "roads" as a label meaning motorized routes, which can be motorized roads or trails.

   Through this analysis it has been determined that any reduction of open roads or trails, and the use that would occur on them, would be beneficial to wildlife species over time. It is recognized that open route densities may still exceed the recommended level discussed in the scientific literature. However, as a result of all action alternatives open route densities will be reduced and perhaps more important to all wildlife, cross-country travel will be discontinued. Selection of the no action alternative will allow the continued growth and use of user created roads and trails, as well as unrestricted cross country travel. These elements combined would continue to decreases habitat effectiveness for all wildlife species discussed in the FEIS.

   Potentially suitable habitat is addressed within this document and referenced in the Fishlake Life History Report (Rodriguez, 2006). These habitat coverage's were developed by identifying habitat requirements for each species, GAP data and/or soils derived vegetation data were then used to map potentially suitable habitat across the forest. It is recognized that the number of acres discussed as potentially suitable habitat may be higher than actual or occupied habitat. These possible differences in acres could occur due to the resolution of the GAP data used for the analysis, which were based at the forest scale. These data are continually being refined at the project level. Potentially suitable habitat for the Utah prairie dog was determined by using known translocation sites as provided by the Utah Division of Wildlife Resources. Currently there are no known Utah prairie dogs on the Fishlake National Forest.

Effects Common to All Action Alternatives

1. All routes being considered in the OHV Route Designation Project currently exist and are being used to varying degrees. As such, the impacts to the various resources described in the FEIS are already occurring. Rather than creating new effects, the proposed actions primarily result in maintaining or reducing existing cumulative impacts associated with the route network and motorized use.

2. Closing the forest to motorized cross-country travel will have the effect of reducing the potential for direct and indirect off-route interactions and impacts with other land uses. By

definition, this will have the effect of reducing actual and potential cumulative impacts to nearly all other resource values and uses on the forest.

3. The installation of barriers is not expected to generate enough site disturbances to adversely affect biological or physical resource values. In fact, physical barriers are expected to reduce resource impacts and use conflicts by improving compliance with the motorized travel plan.

4. There are many non-motorized trails currently used by motorized users. Much of this use is from ATVs and motorcycles in open use areas, but there are also several non-motorized trails that are being used by ATVs and motorcycles in closed areas. When an action alternative retains the existing non-motorized use designation, it will not appear to cause a change, even though in reality a change of use and impacts will occur. A reduction in resource impacts beyond what is suggested by the issue indicators will likely result from removing motorized use from non-motorized trails.

Adherence to and Enforcement of the Motorized Travel Plan

Affected Environment

Scoping done for this project indicates that most of the public does not fully understand the existing travel plan and that many people are not even aware that one exists. Thus, a necessary first step is that the public be made aware that the motor vehicle use map exists and must be followed when using motor vehicles on National Forest System lands. After that, successful enforcement requires that the public, agency personnel, and law enforcement be able to understand the rules that govern motorized use. Making a plan simple to interpret and consistent with other public lands greatly improves the odds that forest visitors will understand and adhere to the travel plan. It also increases the potential for cooperative law enforcement with other local, State, and federal agencies. The existing travel plan for the Fishlake National Forest is unnecessarily complicated and is inconsistent with other public lands in Utah (see Appendix F). Lastly, it is critical to avoid creating rules that cannot be enforced. Creating rules that cannot be enforced degrades the legitimacy of the entire plan in the eyes of the public. Lack of public acceptance for the travel plan legitimacy and purpose translates into lack of ownership and adherence to the assigned rules and designations. This fact weighed heavily on the route designations and travel rules that are incorporated in the action alternatives.

Once people understand what is allowed on national forests and what is not, they should be motivated to achieve their personal needs within the law. Because people associate OHVs with thrills, adventure and risk to some degree, they seek this from the environment available to them. Engineering of OHV routes can provide elements of these experiences to people and meet their needs within the law. However, when people do not understand the negative consequences of their actions, they are less likely to avoid such actions. When they learn of resource damage that occurs in certain situations, they may avoid damaging use in the future. Therefore, education is an essential component of travel plan enforcement. The forest will need to maintain and improve its education program and be more visible and active with on the ground enforcement in order to succeed. Finally, enforcement and penalties for prohibited behavior are needed to motivate people to avoid repeating bad behavior or to avoiding the behavior altogether. Some items related to penalties can only be addressed within the State legislature and at a national level within the Forest Service.

Alternative 1 – No Action Consequences

This alternative would continue use of the existing motorized travel plan that relies on implicit and explicit route designations. By initiating the Fishlake OHV Route Designation Project, the forest has already conceded that the current travel plan is inadequate to meet agency mandates, especially when considering future use. This inadequacy is described in the Purpose of and Need for Action. In Utah, both the Forest Service and the BLM are actively updating management plans to require that motorized use only occur on designated routes and areas. This will greatly simplify the myriad of complex rules currently in place. Both agencies are also improving the consistency of exemptions for motorized cross-country travel. Choosing the No Action alternative would be equivalent to stopping current progress, standing still, and then going backwards while other land management agencies move forwards. Consequently, No Action exacerbates the current inconsistencies among motorized travel plans relative to other public lands in Utah. At the same time, this alternative maintains a motorized travel plan that is unnecessarily complex and that does not address important resource issues. The forest has an active education program, but as mentioned previously it has not consistently improved public understanding of the relevance and content of the motorized travel plan. Cumulatively, this alternative has the least effective design and fewest actions to assure public adherence to the motorized travel plan.

Alternatives 2, 3, 4, and 5 – Action Alternative Consequences

The action alternatives greatly simplify the current travel plan by explicitly designating open routes and areas on a Motor Vehicle Use Map (MVUM). The user has to read the map legend, but does not have to interpret it, as is currently the case. The action alternatives are similar to management changes being pursued by BLM lands in Utah. BLM Field offices are converting to travel on designated routes and areas as they revise their Resource Management Plans. Communications with the BLM State office indicates their consideration of a dispersed camping exemption that allows users to travel 150 feet from a designated route at most if not all of its field offices. One alternative proposed by the Richfield BLM in their RMP revision has a dispersed camping exemption that is worded very similarly to the one proposed in the Fishlake OHV Route Designation Project. The 150-foot distance designation with increased reliance on designated routes is consistent with current or planned rules on other National Forests in Utah. As such, Alternatives 3, 4 and 5 greatly improve travel plan consistency within and among agencies. Alternative 2 is more consistent than No Action, but less than the other action alternatives because it would use a 300-foot distance designation for dispersed camping.

The action alternatives, especially Alternatives 2, 3, and 5 reflect current user preferences better than Alternative 1. Each action alternative better addresses existing enforcement issues and conflicts that remain under No Action. The Forest Supervisor has committed to increasing public awareness and education of the motorized travel plan in the action alternatives. These strategies are outlined in Appendix B. Therefore, cumulatively the action alternatives greatly improve the potential for achieving public adherence to the motorized travel plan.

Critical Mule Deer Winter Range

Affected Environment

Population estimates of deer throughout the Utah Division of Wildlife Resources (UDWR) Southern region, including Beaver, Fillmore, Monroe and Plateau Units have trended down since 2001 until last year. The lack of fawn recruitment was attributed to multi-year drought conditions

and degrading winter ranges. This trend improved with 2004 population estimates up some 24% across the units mentioned previously from 57,300 in 2003 to 70,825 in 2004 (UDWR 2005a).

Hunting strategies and overall population control in Utah are made through the Regional Advisory Council and Wildlife Board process. This process has been designed to involve the people in public meetings, with a wide range of interests in Utah. Decisions for all hunting season bag limits, and season dates are rendered based on political as well as biological input. This process demonstrates that the Forest Service does not control hunted game species in the State of Utah. This determination means that some units may have site-specific areas that are significantly higher than approved herd unit numbers or some that may be slightly lower. Trends of big game on the Fishlake, in the Southern Region, are stable to slightly up in numbers.

The forest comprises parts of five of UDWR's 30 Wildlife Management Units, sometimes referred to as hunt units. These include #16 Central Mountains, Manti; #25 Plateau, Fishlake/Thousand Lakes; #21 Fillmore; #22 Beaver, and #23 Monroe. Because of their relationship to population dynamics, both key winter range and key summer use or calving/fawning habitat are analyzed according to effectiveness based on route densities and amounts of unrestricted travel allowed in these habitats. Big Game herd unit objectives and status along with the percentage of winter and summer range on the forest is included in Table 3-1. Table 3-1 displays UDWR's herd units that include Fishlake National Forest land and shows the status of deer populations along with the proportion of winter habitat within the herd unit that lies within the forest boundary.

Deer population levels within the forest fall short of UDWR objectives and deer winter survival has been identified as an important limiting factor to recruitment and population growth. The lowering of motorized route densities through obliteration of redundant routes and seasonal closures within winter range would help to lower stress to wintering big game, thus enhancing survival.

Table 3-1. Mule deer herd status and proportion of winter range on National Forest

Herd Units	Status (% of herd objective)	% of winter Range USFS
Central Mtns, Manti	79	9
Fillmore	78	39
Beaver	86	14
Monroe	68	25
Plateau	61	13

The UDWR has delineated and classified by value, deer wintering habitat on the Fishlake National Forest. Deer habitat maps shown in Figure 3-1 were obtained from the UDWR's website. Both "high value" and "critical" winter range polygons were combined for all summaries and analyses. This map was used to generate the cumulative effects summaries that follow. There are approximately 475,109 acres of deer winter range on the forest containing some 1,158 miles of motorized routes resulting in an average of 1.6 miles of road per square mile (see Table 3-2).

The current travel plan allows cross-country travel on over 62% of the forest landscape. This designation is not distributed evenly across the forest, since fully 75% of the deer winter range discussed previously is unrestricted (see Table 3-2). Table 3-2 show the amount of deer winter range on the Fishlake National Forest by Ranger District and Geographic Area (GA) with the accompanying miles of motorized routes and resultant route density. Also shown is the current proportion of these acres designated "unrestricted", where cross-country travel is allowed.

Table 3-2. Existing route densities and open use / exemption areas in critical mule deer habitat.

Geographic Area Name	District	Acres	Motorized miles	Route Density (miles/mile^2)	Unrestricted Travel (%)
Beaver Foothills	Fillmore	2,717	11.6	2.7	97
Canyon Range		35,074	121.9	2.2	90
Clear Creek		2,496	8.6	2.2	100
East Pahvant		51,374	116.1	1.5	81
West Pahvant		47,894	105.8	1.4	89
Fillmore District Total:		**139,555**	**364.0**	**1.7**	**87**
Fish Lake/High top	Fremont River	2,611	9.4	2.3	91
Last Chance/Geyser Peak		28,302	57.8	1.3	48
Mytoge Mtn/Tidwell Slopes		17,848	70.7	2.5	89
Old Woman Plateau		1,320	3.7	1.8	100
Thousand Lakes Mtn		36,928	67.2	1.2	18
Fremont River District Total:		**87,010**	**208.7**	**1.5**	**46**
Beaver Foothills	Beaver	43,096	109.7	1.6	93
Beaver River Basin		363	1.4	2.5	63
Clear Creek		4,497	13.6	1.9	100
Indian Creek/North Creek		537	0.7	0.8	47
Piute Front		34,659	82.7	1.5	89
Beaver District Total:		**83,152**	**208.1**	**1.6**	**92**
Gooseberry/Lost Creek	Richfield	59,645	243.8	2.6	86
Monroe Mtn		43,687	116.5	1.7	87
Old Woman Plateau		16,789	70.6	2.7	94
Salina Creek		45,277	148.9	2.1	36
Richfield District Total:		**165,397**	**579.7**	**2.2**	**73**
Fishlake Forest Total:		**475,114**	**1,360.5**	**1.8**	**75**

Habitat effectiveness for big game species is related to hiding cover and open road densities as defined by Lyon (1979). Hiding cover is considered forested areas capable of hiding 90% of a deer or elk at 200 feet. Hiding cover, the amount, juxtaposition, and quality of foraging habitat, habitat effectiveness, and availability of migration corridors are important components for maintaining big game numbers. Not all past studies measuring negative impacts of roads on deer were density explicit; rather the spatial arrangement of routes within various vegetative communities, degree and frequency of use, presence of other ungulates and various ecological characteristics need to be considered (de Vos et al 2003). For the purposes of this analysis, motorized route density, and unrestricted or cross-country travel within wintering habitats is the focus.

Figure 3-1. Map of critical mule deer winter range on the Fishlake National Forest.

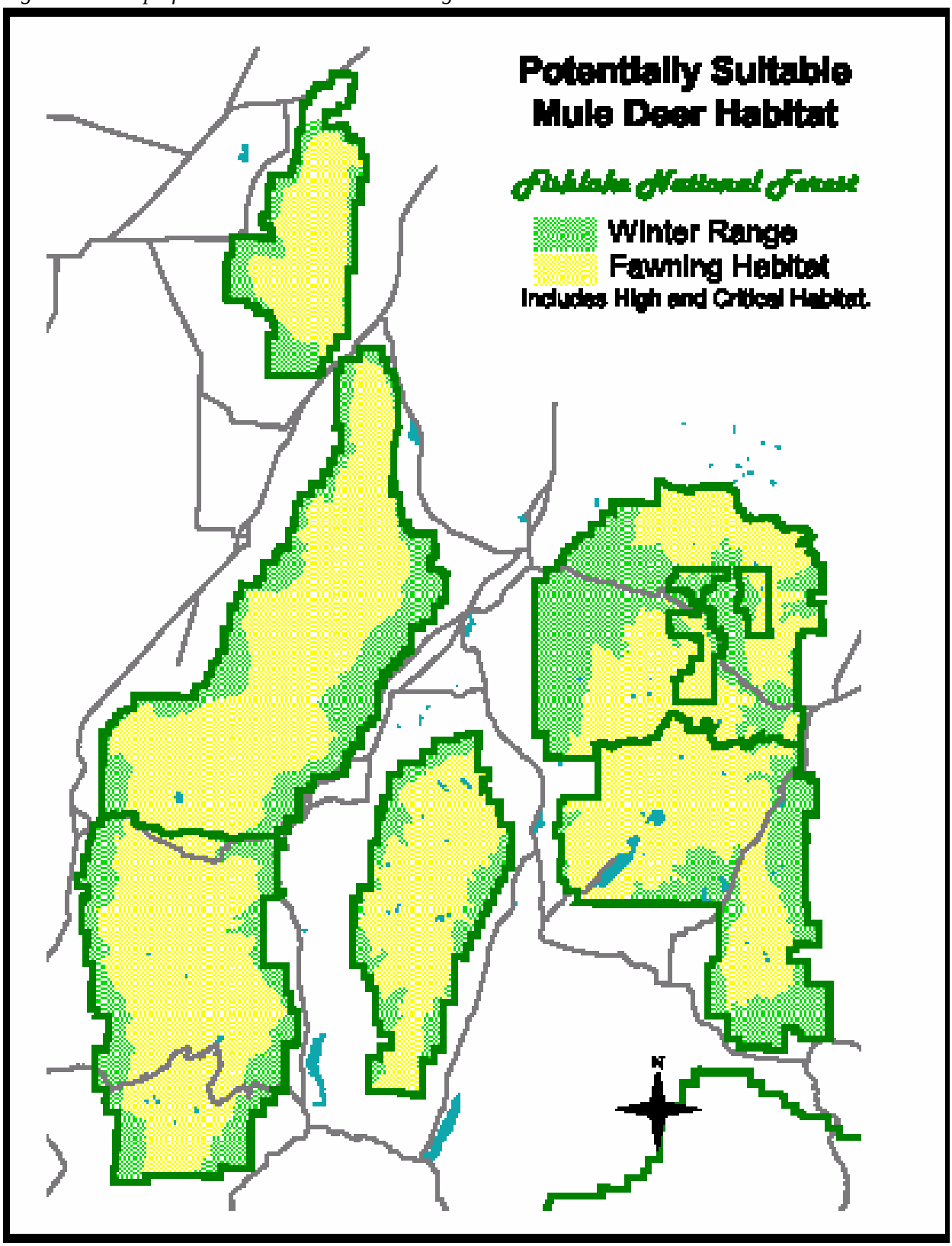


Table 3-3 compares deer winter habitat on the Fishlake Forest by Ranger District and GA showing the relative route density and amount of "unrestricted" travel acres, where cross-country travel is allowed, between alternatives.

Table 3-3. Route density and open use / exemption area in critical mule deer winter habitat by alternative.

Geographic Area Name	Route density (miles/mile^2)					Open Use / Exemption Area (% of area)				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Beaver Foothills	2.7	2.0	2.0	1.9	2.4	97	14	7	7	9
Canyon Range	2.2	1.8	1.8	1.4	1.6	90	18	9	7	8
Clear Creek	2.2	1.9	2.2	1.0	2.2	100	18	11	5	11
East Pahvant	1.5	1.1	1.0	0.5	1.0	81	11	6	3	6
West Pahvant	1.4	1.3	1.3	1.0	1.3	89	13	7	5	7
Fillmore District Total:	**1.7**	**1.4**	**1.3**	**0.9**	**1.3**	**87**	**14**	**7**	**5**	**7**
Fish Lake/High top	2.3	1.6	2.2	1.5	2.3	91	16	11	8	12
Last Chance/Geyser Peak	1.3	1.0	1.0	0.9	1.2	48	5	3	3	2
Mytoge Mtn/Tidwell Slopes	2.5	1.3	1.6	1.2	1.8	89	11	7	5	8
Old Woman Plateau	1.8	1.5	1.5	1.4	1.8	100	16	8	8	10
Thousand Lakes Mtn	1.2	0.7	0.8	0.6	1.0	18	6	4	3	4
Fremont River District Total:	**1.5**	**1.0**	**1.1**	**0.9**	**1.3**	**46**	**7**	**4**	**3**	**5**
Beaver Foothills	1.6	1.3	1.3	1.2	1.5	93	13	7	6	7
Clear Creek	1.9	1.7	1.7	1.7	1.7	100	10	5	5	5
Indian Creek/North Creek	0.8	0	0	0	0.8	47	0	0	0	5
Piute Front	1.5	0.9	0.9	0.8	1.0	89	9	5	4	4
Beaver District Total:	**1.6**	**1.1**	**1.2**	**1.1**	**1.3**	**92**	**11**	**6**	**5**	**6**
Gooseberry/Lost Creek	2.6	1.8	1.9	1.5	1.9	86	15	8	6	8
Monroe Mtn	1.7	1.3	1.2	0.8	1.2	87	12	6	4	6
Old Woman Plateau	2.7	2.1	2.0	1.7	2.1	94	16	8	6	8
Salina Creek	2.1	1.6	1.6	1.3	1.6	36	13	6	5	7
Richfield District Total:	**2.2**	**1.6**	**1.6**	**1.3**	**1.7**	**73**	**14**	**7**	**5**	**7**
Fishlake Forest Total:	**1.8**	**1.3**	**1.4**	**1.1**	**1.4**	**75**	**12**	**6**	**5**	**6**

Alternative 1 – No Action Consequences

Continuation of the current condition would mean allowing cross-country travel on 358,477 acres, some 75% of the deer winter range that occurs on the forest. There are 1,360 miles of road within the entire 475,113 acres designated (see Table 3-3). With 75% of deer winter range across the forest open to unrestricted motorized travel, significant animal disturbance and vegetation impacts can occur during winter and spring months; especially in those areas targeted for antler

shed gathering. Enthusiasts often drive directly through the winter habitat in search of antlers or even chase animals in an attempt to cause antlers to drop off.

The implementation of this alternative would continue to allow the increase of new roads and motorized trails in big game winter range areas, as well as outright motorized disturbance to animals while on winter range caused by cross-country travel activities. Over time, there would be a decrease in habitat effectiveness for big game winter range because of unrestricted travel by allowing animal, soil and vegetation disturbance.

Implementation of this alternative would reduce mule deer winter range effectiveness by allowing continued unrestricted travel in this habitat. Past, present and reasonably foreseeable future actions in combination with the continued use of unrestricted travel through critical winter range would continue to decrease habitat effectiveness across the forest through vegetation destruction and animal disturbance/displacement. The combination of these uses and their effects on habitat would lower habitat effectiveness over time.

Alternatives 2, 3, 4, and 5 – Action Alternative Consequences

Deer winter survival is considered the most important limiting factor to population growth. The need to control winter disturbances led to the formation of the proposed seasonal restrictions and route and area closures.

Associated with the action alternatives are seasonal closures on selected big game winter range routes from January 1 through April 15 to lower stress to wintering big game caused by motorized travel. This period is two weeks longer the seasonal closure period in Alternative 1. For deer, route densities during this closure period on winter range will be reduced from 1.5 miles/square mile to 1.1, 1.1, 0.9, and 1.1 for alternatives 2, 3, 4, and 5, respectively (see Table 3-4). These numbers do not account for those routes made inaccessible by snow accumulation and thus are a generous estimate of route density during winter.

The implementation of any of the action alternatives increase winter range effectiveness through restricting travel to authorized routes and lowering overall route densities, thus decreasing disturbance to animals and vegetation. Table 3-4 shows a comparison of motorized route densities and areas open to over-snow travel on deer winter habitat during the seasonal closure period: Jan.1 through April 15 on the Fishlake Forest by Ranger District and GA. The comparison is shown by alternative.

Table 3-4. Motorized route density and areas open to over-snow travel in critical mule deer winter range when seasonal closures are in effect.

Geographic Area Name	Route density (miles/mile^2)					Open to over-snow travel (% of area)				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Beaver Foothills	2.7	2.0	2.0	1.9	2.4	73	100	100	100	73
Canyon Range	2.0	1.6	1.6	1.3	1.4	88	100	100	100	88
Clear Creek	2.2	1.9	2.2	1.0	2.2	92	100	100	100	92
East Pahvant	1.5	1.1	1.0	0.5	1.0	100	100	100	100	100
West Pahvant	1.2	1.3	1.3	1.0	1.3	77	88	100	100	70
Fillmore District Total:	**1.6**	**1.3**	**1.3**	**0.9**	**1.3**	**81**	**91**	**100**	**100**	**75**

Table 3-4. Motorized route density and areas open to over-snow travel in critical mule deer winter range when seasonal closures are in effect.

Geographic Area Name	Route density (miles/mile^2)					Open to over-snow travel (% of area)				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fish Lake/High top	2.3	1.1	1.5	1.0	1.9	100	100	100	100	100
Last Chance/Geyser Peak	1.3	0.6	0.6	0.6	0.6	84	84	100	100	69
Mytoge Mtn/Tidwell Slopes	1.7	0.8	0.9	0.8	0.9	79	100	100	100	58
Old Woman Plateau	1.8	0.9	0.9	0.9	0.4	100	100	100	100	39
Thousand Lakes Mtn	1.0	0.5	0.7	0.5	0.7	52	79	100	100	18
Fremont River District Total:	**1.3**	**0.6**	**0.7**	**0.6**	**0.8**	**75**	**89**	**100**	**100**	**52**
Beaver Foothills	1.4	1.1	1.2	1.0	1.3	84	100	100	100	81
Clear Creek	1.9	1.7	1.7	1.7	1.7	100	100	100	100	100
Indian Creek/North Creek	0.8	0	0	0	0.8	0	100	100	100	0
Piute Front	1.4	0.9	0.9	0.8	1.0	96	100	100	100	68
Beaver District Total:	**1.5**	**1.1**	**1.1**	**1.0**	**1.2**	**91**	**100**	**100**	**100**	**74**
Gooseberry/Lost Creek	1.2	1.2	1.2	1.2	1.3	33	100	100	100	100
Monroe Mtn	1.0	0.8	0.7	0.6	0.8	45	89	89	89	73
Old Woman Plateau	2.7	1.5	1.6	1.4	1.5	95	95	95	95	72
Salina Creek	1.8	1.1	1.2	1.0	1.2	93	100	100	100	100
Richfield District Total:	**1.5**	**1.1**	**1.1**	**1.0**	**1.1**	**63**	**96**	**96**	**96**	**87**
Fishlake Forest Total:	**1.5**	**1.1**	**1.1**	**0.9**	**1.1**	**73**	**94**	**98**	**98**	**75**

Implementation of any of the action alternatives would reduce motorized routes both permanently and seasonally and substantially reduce unrestricted motorized travel into deer winter range. These actions would improve habitat effectiveness for deer by reducing disturbances to wintering animals and decreasing impacts to vegetation that supports them during the winter months. In addition to these proposals, the action alternatives propose to have area closures to motorized travel during the winter months. Because Alternative 5 includes a larger area of winter range, it would provide the greatest protection to wintering animals and their habitat. Therefore, implementation of the Alternative 5 would improve habitat effectiveness for deer (and elk) and possibly lead to improved carrying capacities and population trends over time. Note - the habitat in the Gooseberry / Lost Creek area is not conducive to oversnow travel in most years due to lack of snow and rugged terrain. Therefore, the apparent advantage of Alternative 1 over Alternative 5 in terms of percent of area closures is not accurate.

Cumulative Effects Summary

Under No Action, mule deer and critical winter range habitat would continue to be impacted by unrestricted motorized use. Cumulatively, this would reduce habitat effectiveness over time. In the action alternatives, seasonal closure areas were carefully chosen from those areas designated as critical winter range by the UDWR where deer use is on going rather than historic. Therefore, implementation of all action alternatives in combination with past, present and reasonably

foreseeable future actions along with the lowering of unrestricted travel through big game winter range would continue to increase habitat effectiveness across the forest. The combination of these changes and their effects on winter range for mule deer winter range would improve over time.

Threatened and Endangered Plant Habitat

Affected Environment

Three species are federally listed: one as endangered (San Rafael cactus) and two as threatened (Maguire daisy and Last Chance townsendia). There are not any plant species known to occur on the Fishlake National Forest that are proposed for federal listing or that are candidate species. All of the known occurrences and known potential habitat for these three species are in the southeastern corner of the forest (see Figure 3-2). The area of potential habitat for these three species was analyzed in detail as described below.

Occupied or known potential habitat for San Rafael cactus does not occur within 1.5 miles of authorized or potentially designated routes on the Fishlake NF. Occupied or known potential habitat for Maguire daisy does not occur within one half mile of authorized or potentially designated routes. The one federally listed plant species that requires greater analysis is Last Chance townsendia. Its occupied habitat occurs in several locations within the distance designation corridors and at times less than one foot from the routes' tracks. The other listed species would not be affected under any of the alternatives (see Effects Common to All Alternatives below, Appendix D, and the vegetation report for further details).

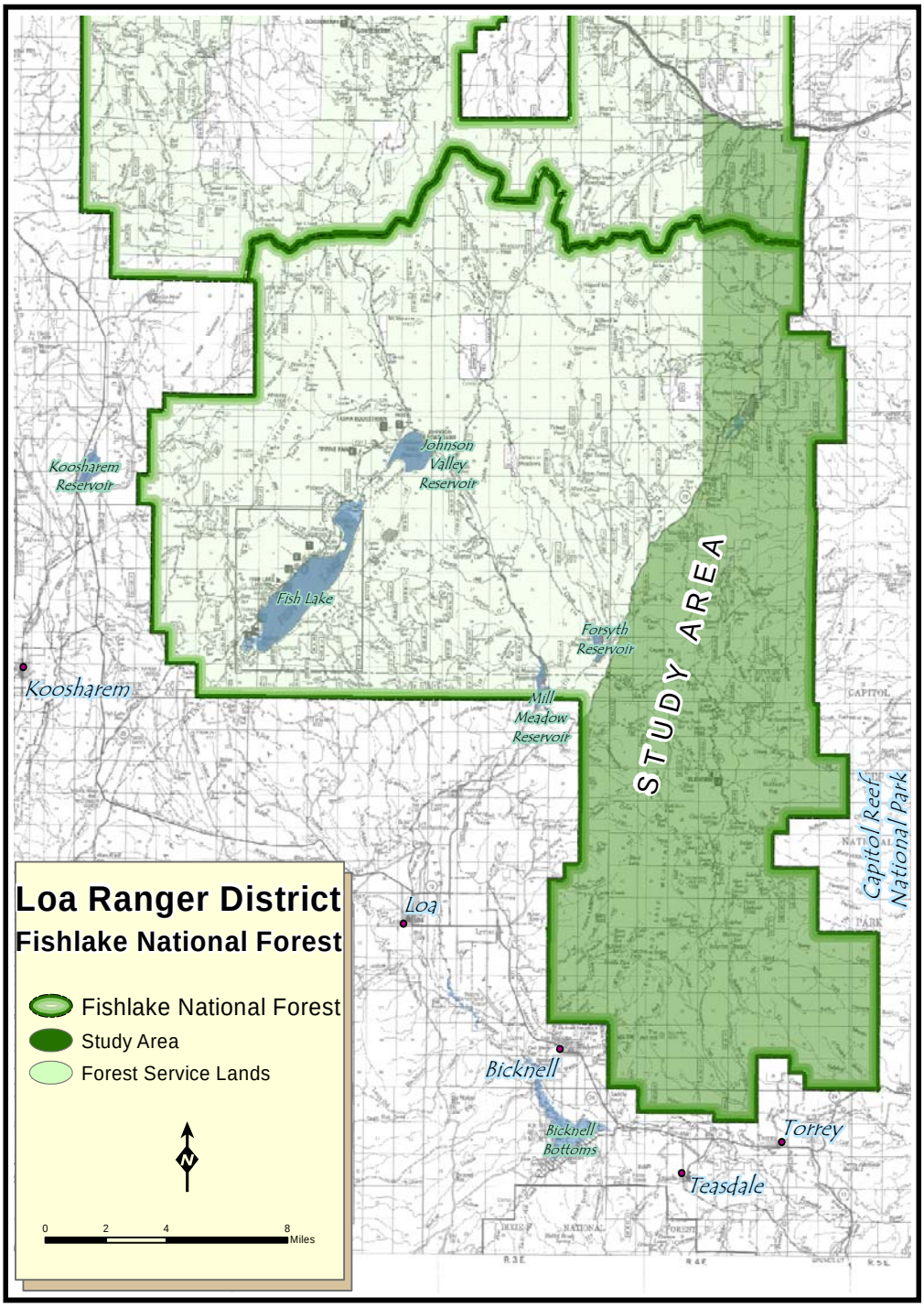
Last Chance townsendia (Townsendia aprica) is a member of the sunflower family and grows to be about 0.5 to 1 inch tall. This species is endemic; its worldwide distribution is limited to portions of Emery, Sevier and Wayne counties in south-central Utah. It is found in pinyon/juniper and salt desert shrub communities on clay-silt soils of the Arapien and Mancos Shale formations in habitats that range in elevation from 6,000 to over 8,000 feet. April thru May is the blooming season (Rodriguez 2006).

The recovery plan for Last Chance townsendia does not designate any critical habitat; however, threats to this species include road development and road building (US Fish and Wildlife Service 1993). The plan states the following:

> At present, off-road vehicle use on T. aprica habitat is light. However, with possible human population increases in the region in which T. aprica occurs, and with increasing popularity and availability of improved off-road vehicles, off-road vehicle use is expected to increase. This can be expected to result in an increase in damage to the habitat of T. aprica. The Bureau of Land Management, Forest Service, and National Park Service should develop off-road vehicle use plans that prohibit off-road vehicle use on T. aprica habitat.

Nearly 120 person days have been spent surveying in the rare plant emphasis study area in 2004, 2005, and 2006 (see Figure 3-2). At least seven locations exist where Last Chance townsendia plants are growing close to established routes. Individual townsendia plants appear to be colonizing disturbed substrates at 3 of the 7 sites.

Figure 3-2. Rare plant emphasis study area (122,447 acres, includes inholdings).



A basic assumption for this analysis is that rare plants do not grow on the tracks of the motorized trails nor are those tracks suitable habitat. The premise is that as long as motorized vehicles stay on the existing tracks, rare plants and their habitats are not being affected.

There is a 300-foot wide exemption on both sides of the roads in Alternative 1 where open use with motorized vehicles is allowable. Excluding Alternative 1, there are only five situations where motorized vehicles might be authorized to leave the designated tracks of a forest route. First, to ride anywhere one desires within the boundaries of the designated open use areas, none of which contain T & E plant habitat. Second, to leave a designated road or trail only on previously established tracks to travel directly to, and return directly from, a previously used dispersed camping site within the distance designation corridor. Third, to turn around or park safely along the side of a designated route in a manner that avoids wet meadows, stream corridors and undisturbed areas. Fourth, to drive in designated firewood areas. Designation of firewood areas is beyond the scope of the analysis. However, firewood gathering is allowed only in officially designated areas and with the appropriate permit obtained from a Forest Service office. Fifth is administrative use (i.e., special use permits, contracts, some noxious weed treatments, military operations, fire fighting, and search and rescue that are exempted by regulation).

Hence, the primary risk to rare plants and/or habitat is the potential for impact within the distance designation corridors for dispersed camping where approved along authorized routes. Certainly not all distance designation corridors will be suitable for dispersed camping use, and not all of the distance designations have potential habitat for rare plants. However, the total number of acres of distance designation area is where the risks and potential threats to rare plants will most likely occur. This approach is likely the most unbiased considering the lack of information available about the specific characteristics of each distance designation corridor. Looking at the relative proportions for all distance designation corridors is the most objective approach.

This analysis compared the amount of area where unrestricted and open use was allowable for each of the five alternatives. Next, the areas of distance designations for roads and trails were evaluated and compared for each alternative. The proportions of total areas were also analyzed. Table 3-5 shows this analysis for the rare plant study area, which includes 122,447 acres of NFS lands and inholdings.

Table 3-5. Total acres of open use and exemption corridors by alternative within the Rare Plant Emphasis Study Area.

Designation	**Alternative 1** (Unrestricted, "A" Areas, and 300' Exemption on Roads)	**Alternative 2** (Open Areas, 300' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 3** (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 4** (150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 5** (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)
Unrestricted or Open Use Areas	31,488	193	189	0	189

Table 3-5. Total acres of open use and exemption corridors by alternative within the Rare Plant Emphasis Study Area.

Designation	Alternative 1 (Unrestricted, "A" Areas, and 300' Exemption on Roads)	Alternative 2 (Open Areas, 300' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	Alternative 3 (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	Alternative 4 (150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	Alternative 5 (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)
Roads and Trail Distance Designations	4,478	9,499	5,223	4,189	5,082
Total	35,966	9,692	5,412	4,189	5,271
Percent of Total Area (122,447)	29%	8%	4%	3%	4%

Alternative 1 has unrestricted/open use and road exemption areas that include 60% (934,433/1,564,236 acres) of area within the administrative forest boundary. Alternative 2 has six times less potential risk to the total area than the current condition. Alternatives 3, 4 and 5 have 12, 15 and 12 times less area of potential impact, respectively, than the current condition. Also, under the action alternatives, these four percentages should decline over the next five years as dispersed camping distance designations are either dropped or replaced by designated routes.

Next, compare the total unrestricted/open use acres in Alternative 5 to the total of unrestricted acres in Alternative 1 (909,115 vs. 879 acres). There is a difference of 3 orders of magnitude; 1,034 times (or 103,400 %) less area that might be exposed to unrestricted/open use motorized activity.

Effects Common to All Alternatives

Occupied or known potential habitat for San Rafael cactus does not occur within 1.5 miles of authorized or potentially designated routes on the Fishlake NF. Occupied or known potential habitat for Maguire daisy does not occur within one half mile of authorized or potentially designated routes. For pinnate spring parsley and Wonderland alice-flower (also known as Rabbit Valley gilia), known occupied habitat does not occur within the 300-ft distance designation. However, Individual gilia were close to the route distance designation corridor at one location, and that route's distance designation was removed in each of the action alternatives.

Alternative 1 – No Action Consequences

Motorized activity probably will increase and disturbance to populations of rare plants will become increasingly more apparent. Examples were documented from one trail where allowable motorized activity was moving into areas occupied by the threatened, Last Chance townsendia. Over time, the habitat for Last Chance townsendia will begin to erode and compromise the unique nature of these ecosystems. In another area, two-wheeled motorized trail bikes were traveling through the population of Wonderland alice-flower. However, this was in a "C" closure area that

was prohibits all motorized travel. Allowable cross-country travel away from designated routes is occurring in occupied habitat for both creeping draba and Beaver Mountain groundsel at a rate that causes concern currently.

The "no action" or "no change" alternative is the existing condition and would be the continuation of current management. With respect to Last Chance townsendia and occupied habitat, the fabric of the landscape is just beginning to fray. Based on numerous field observations, none of the **populations** of Last Chance townsendia have yet been affected substantially. Likewise, none of the populations of the Forest Service sensitive plant species have been impacted substantially, yet. Nonetheless, individuals and occupied habitat for some rare species have begun to be disturbed by motorized vehicles in just the past few years. This is not surprising given the marked increase in OHV activity during this period. If the existing condition were to continue, clearly the impacted portions of these habitats would begin to unravel and some populations of rare species would be impacted substantially and thus are at risk. Implementation of the present and foreseeable projects listed in Appendix C, might increase the risk and accelerate the rate at which ecosystems that contain rare plant habitats would become disturbed and compromised.

Alternatives 2, 3, 4, and 5 – Action Alternative Consequences

There will be no direct effects to any threatened or endangered plant species as a whole, or to any critical habitat. The tracks of the motorized routes in the project area are not suitable habitat for the threatened or endangered species known to occur on the Fishlake National Forest. The improvements result from specific route designations and closing the forest to unrestricted motorized cross-country travel.

One route was converted to non-motorized use in the four action alternatives because current use has OHV's running cross-country over individual plants. The distance designation is removed from all other routes where routes go through known occupied habitat. This action removes the threat of direct impact with OHV traffic on individuals of Last Chance townsendia, or its potential habitat, on thousands of acres.

There are at least six situations where individual plants occur in close proximity to the wheel tracks of the established route. Although the distance designation is removed and motorized travel to dispersed campsites will be illegal, there remains a slight potential for damage to suitable habitat and individual plants where machines may be allowed to park at the edge of the established route. In any of these cases, the proposed actions are more restrictive than the current allowable use. The forest will monitor areas where individuals of Last Chance townsendia are known to occur near motorized routes and the results shared with the Service annually. If individual townsendia plants become adversely affected, the forest will coordinate with the Service and make appropriate adjustments. The route designation project recommends that routes may need to be realigned in some cases where individuals of listed species are at risk. There is one segment of the Great Western trail that will be realigned because Last Chance townsendia was discovered growing adjacent to the established route.

OHV traffic moving along the trails stirs up dust. Some of the dust may become deposited on individuals of Last Chance townsendia. This is considered a low risk to the population of the species overall.

There is the possibility of additional visitor foot traffic in some areas when riders might park along the route and walk to some vista or point of interest. This is considered a very low probability event because only about 0.1 acres are at risk.

Invasive species were considered and then dropped as an indirect effect because only a few noxious weeds are known to occur in the eastern portion of the forest. The likelihood of invasive species spreading into potential habitats of these threatened and endangered species because of OHV traffic is extremely low.

Alternatives 2, 3, 4 and 5 substantially reduce the risk of disturbance to habitats of rare plants and greatly improve conditions with respect to threats to rare plants or their habitats for more than half of the acreage of the Fishlake NF. Appendix C of this FEIS contains a list of projects on the Fishlake NF for the present or foreseeable future. These other projects will require analysis and will not proceed if significant effects and impacts were to occur to Last Chance townsendia or other rare plant species. Also, those future activities that occur off-route would no longer interact with unrestricted OHV cross-country travel. Required management requirements for all alternatives stated in Chapter 2 make it clear that the forest will do what is necessary to protect Last Chance townsendia or other rare plants if new issues emerge or new impacts are discovered and that actions will be coordinated with the U.S. Fish and Wildlife Service. Therefore, the cumulative effects of this project with the other foreseeable projects would not cause significant adverse resource impacts.

Soil Productivity

Affected Environment

There are several issues related to geology and the soil resource that can be associated with allowing motorized use on public lands. Most of the issues are connected with the current forest travel plan that keeps 62 percent of NFS lands open for off-highway vehicles. Our existing management of OHVs has resulted in some areas having accelerated rates of erosion, soil deformation, and a loss of water control in locations where the hydrologic function of the ground has been compromised by vehicular traffic. A brief listing of the six land issues and concerns follows:

- **GEOLOGIC HAZARDS** … most of the inherent problems commonly observed on the Fishlake National Forest include soil creep, slumps and rotational landslides occurring on unstable terrain derived from calcareous sediments of the North Horn Geologic Formation. These clayey soils were formed from both mudstone and siltstone deposits. North Horn landscapes occur on both the Fillmore and Richfield Ranger Districts. There are 108,000 acres of upland soils derived from North Horn sediments located here on the Fishlake Forest. Most of our North Horn areas occur in Management Area 9F – which places an emphasis on improved watershed condition.

- **DISPLACEMENT** … involves the detachment and transport of geologic sediments or soil particles by a force of energy such as wind, water or gravity. Quite often, eroded material is the richest part of the soil profile – usually, its surface horizon containing most of the fertility in the form of plant nutrients and humified organic matter. Detrimental conditions occur when displacement amounts to the loss of either 2 inches or ½ of the humus enriched topsoil – whichever is less (R4 / Soil Quality Standards, revised … 01-2003).

- **PUDDLING** … is defined as the act of destroying the natural structure of a mineral soil when the ground is wet or saturated. Puddling is generally evaluated right at the ground surface. Visual indicators of detrimental puddling include … clearly identifiable tire ruts with berms or hoof prints left in the topsoil. Fine-textured soils containing appreciable amounts of clay are the sites considered most susceptible to puddling type disturbances. Often times, puddling will result in the reduction of macropore space by 50 percent or more in severely damaged areas; this condition may restrict or even prevent the infiltration of water at the ground surface – causing erosion by surface runoff conditions.

- **COMPACTION** … this disturbance is generally evaluated just below the ground surface; it usually occurs between the depths of 2 to 12 inches in a mineral soil. A common cause of compacted layers in the solum (meaning … the A and B Horizons of a soil profile) is operating motorized vehicles or heavy equipment over the ground during moist conditions. This often results in a subsurface or subsoil condition called a traffic pan. Compacted sites restrict root penetration, limit water movement and behave like shallow soils – all 3 of these acquired conditions hinder soil productivity and indicate changes in hydrologic function. Threshold values for detrimental impacts to soil porosity are provided in FSH 2509.18 (R4 / Soil Quality Standards, revised, Table 2 … 01-2003).

- **GROUND COVER – INSUFFICIENT PROTECTION** … wildland soils are considered detrimentally exposed to potential erosion losses when excessive amounts of ground cover are removed from a treatment unit or management area. In this particular instance, the term ground cover is being used to represent vegetation, litter and rock fragments occurring in direct contact with the soil surface – if, the material is larger than ¾ inch in size; in addition, the ground cover concept has been expanded to include any perennial canopy cover located within 3 feet of the soil surface. Insufficient protection of the topsoil commonly results in accelerated rates of erosion, which adversely affects long-term soil productivity.

- **BIOLOGICAL SOIL CRUSTS** … ground disturbances often result in a variety of adverse impacts to soil crust populations from activities such as cross-country travel by motorized vehicles, trampling by domestic livestock or wildlife and land-clearing activities – especially, the mechanical thinning of pinyon - juniper plant communities within semidesert environments. Most of these disturbances will puddle and compact the upper soil profile (top 12 inches) during moist or wet ground conditions. The deformation of soil structure influences soil – plant water relationships and can accelerate rates of erosion by wind and overland flows. Our existing populations of biological soil crust should be managed to provide for 1) soil stabilization, 2) improved water retention properties and 3) nitrogen fixation within semiarid ecosystems. It should be noted, cyanobacteria are the most resistant crusts to ground disturbances; the organism is highly mobile and can re-colonize quite rapidly in disturbed areas (USDI – BLM and USGS, Technical Reference 1730-2, 2001).

Most of the resource damage observed on the Fishlake National Forest from authorized and unauthorized use of OHVs on NFS lands occurs in both semidesert and upland areas. Semiarid landscapes occur at elevations less than 7,800 feet. Generally, these areas do not have enough ground cover to protect the site from disturbances that cause soil deformation and erosion problems from uncontrolled flows of water. To a lesser extent, some of our mountain and high mountain landscapes have stream crossings, riparian zones and fragile meadow areas damaged by motorized traffic. Some of the impacts are connected with dispersed recreation activities; other disturbances involving OHVs and dirt bikes have been attributed to isolated incidents involving youngsters, seasonal hunters of upland big game animals and a small group of local residents who

willingly choose to violate the BLM and FS travel map restrictions. Table 3-6 shows the potential for motorized routes and motorized use off routes to impact long-term soil productivity.

Table 3-6. Soil productivity indicators by alternative for the forest.

Issue Indicator	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Miles of Motorized Routes on Soils with Geologic Hazards	915.7	718.1	719.7	548.8	732.4
Open Use Acres on Soils with Geologic Hazards	191,600	299	250	0	213
Open Use + Distance Designation Acres on Soils with Geologic Hazards	207,518	44,188	23,036	17,098	22,633
Miles of Motorized Routes on Shallow Topsoil	1,041.3	765.6	766.0	575.2	782.2
Open Use Acres on Shallow Topsoil	380,954	925	922	0	826
Open Use + Distance Designation Acres on Shallow Topsoil	384,778	49,646	25,026	18,054	24,375
Miles of Motorized Routes on Soils with High Wind Erosion Potential	81.4	33.3	33.7	25.5	35.3
Open Use Acres on Soils with High Wind Erosion Potential	6,366	1	0.4	0	0.4
Open Use + Distance Designation Acres on Soils with High Wind Erosion Potential	6,622	2,249	1,168	919	1,190
Miles of Motorized Routes on Soils with High Water Erosion Potential	30.3	23.6	24.3	17.7	26.6
Open Use Acres on Soils with High Water Erosion Potential	7,868	184	164	0	164
Open Use + Distance Designation Acres on Soils with High Water Erosion Potential	2,359	1,070	686	407	680

Table 3-6. Soil productivity indicators by alternative for the forest.

Issue Indicator	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Miles of Motorized Routes on Soils with High Potential for Puddling and Compaction	458.0	376.9	383.8	308.1	391.2
Open Use Acres on Soils with High Potential for Puddling and Compaction	47,062	479	479	0	474
Open Use + Distance Designation Acres on Soils with High Potential for Puddling and Compaction	52,248	18,270	10,496	7,863	10,555
Open Use Acres on Unsuitable Soils and Terrain	356,373	237	217	0	164
Open Use + Distance Designation Acres on Unsuitable Soils and Terrain	360,256	39,497	19,292	13,613	18,947

Alternative 1 – No Action Consequences

As shown in Table 3-6, No action maintains the highest motorized route densities and open use areas on soils that have geologic hazards, shallow topsoil, and high potential for surface erosion and puddling and compaction. As such, Alternative 1 has the most potential to adversely impact long-term soil productivity and to create cumulative impacts with other activities that occur on and off motorized routes.

Alternatives 2, 3, 4, and 5 –Action Alternative Consequences

As shown in Table 3-6, the action alternatives reduce actual and potential resource impacts on NFS lands, especially relative to Alternative 1. The action alternatives are expected to meet regional soil quality standards. The seasonal closures allow the soil to become drier by extending further into the spring season. This results in less rutting and compaction on Forest roads and trails. Obliterated routes in combination with mitigation measures would lower soil erosion rates from the existing erosive conditions. Converting road surfaces into non-motorized trails can also lower accelerated rates of soil erosion.

There would always be some problems related to maintaining the long-term productivity of soil resources as long as OHVs are allowed to travel cross-country in snow free conditions. However, the action alternatives generate far fewer concerns about the overall integrity of soil condition and its hydrologic function when compared with Alternative 1. Road surfaces and trail systems are considered a part of our dedicated lands making them exempt from the existing soil productivity standards and guidelines. The route obliteration would return treated areas to a productive status.

Cumulative Effects Summary

The actions listed in Appendix C of the FEIS are part of the cumulative effects analysis including the proposed projects for fuels reduction, campground reconstruction, developing and repairing water systems, dam reconstruction, vegetation management – timber, broadcast seeding, building sanitary facilities, thinning timber, Dixie harrow treatments, geothermal leasing and development, grazing permit reauthorizations, and new road construction. Certainly, there is a strong likelihood that any, perhaps all, of these projects could cause some type of local soil disturbance on NFS lands. However, if approved, each project would contain a list of mitigation measures or design measures intended to protect the soil resource from detrimental conditions. For instance, in the case of fuels reduction, the project would avoid severe burning disturbances on fragile soils and landscapes during dry ground conditions. In order to limit soil displacement on the geothermal locations, a seed mix consisting of native and introduced grass species would be recommended to limit soil erosion losses. Much of the new road construction that is associated with the SUFCO Mine / Quitchupah Road Project will actually occur on BLM administered lands. Many of the anticipated uses connected with these projects would occur on established transportation surfaces. These actions would not adversely affect the management of soils on NFS lands. Regardless, of the individual impacts caused by ongoing and foreseeable projects, reducing motorized cross-country travel would reduce the potential for cumulative impacts to long-term soil productivity at any given location.

Wetland and Riparian Area Condition and Function

Affected Environment

Encroaching routes are defined in this analysis as roads and trails, within 50 feet of stream channels, lake margins, and wetlands. Encroaching roads and trails risk filling of natural floodplains, lake fringes, or wetlands. Routes within 300 feet of stream channels, lakes, and wetlands are considered to be within the "riparian influence zone". Facilities such as roads, road fills, landings, and other encroachments in close proximity to channels have great potential to directly and indirectly modify streams (Gucinski 2001, Belt et al. 1992, Meehan 1991). In addition to being a mechanism of disturbance, encroaching and riparian roads and trails are also instrumental in providing access to and concentrating use within riparian areas (including wetlands) and streams by livestock and humans. This is especially true in areas that are open to wheeled motorized cross-country travel as often occurs around and between undeveloped dispersed campsites. Many channel disturbances and in-channel failures, or evidence of instability on the forest, can be attributed to

Users have converted this non-motorized trail in an unrestricted area in UM Creek to a motorized trail. The action alternatives close this trail to motorized use to protect Colorado River cutthroat habitat.

one or a combination of these circumstances. Whether due to improper location, inadequate design or construction methods, lack of maintenance, or simply due to the inevitability of failure over time, some facilities have either failed catastrophically or are chronic sediment sources. In addition, airborne particulates from motorized use are more likely to settle out in streams and lakes when the route is in close proximity to them.

ATVs repeatedly drove through these wetlands in an unrestricted area on Monroe Mountain. The use occurred near a corduroy bridge that was built to avoid damage to the wetland. This act is expressly prohibited under the action alternatives.

Road and trail crossings can fragment aquatic habitats by creating migration barriers. All stream crossings, but especially those that are forded create an elevated risk of contamination with hydrocarbons (Deiter 2002a, 2002b, 2006a, 2006b), and for introducing or spreading aquatic nuisance species such as whirling disease (Deiter 2003, Whelan 2003). Much of the risks associated with direct delivery of bed load materials are directly associated with stream crossings. The most efficient sediment delivery occurs when the eroded materials are delivered directly to the stream course. This happens when the erosion source is essentially adjacent to the water. Throughout the forest, especially in the tributary areas with higher channel densities, this efficient delivery situation is apparent. Facilities, (primarily roads and motorized trails) sometimes encroach on stream channels or their active flood prone areas and low terraces, often over long lineal distances. This proximity to the streams not only assures the immediate and efficient delivery of eroded soil, but it often creates the erosion mechanism in the first place. The extent of this form of erosion and mechanism of sediment delivery is widespread on the Fishlake National Forest. All of the channel network, not simply flowing streams, are important to consider. Material delivered to dry channels ultimately is delivered to perennial waters. Based on the discussion above, it is evident that reducing miles of travel routes within riparian areas and along streams and wetlands reduces actual and potential impacts to watershed and aquatic resource values. Table 3-7 shows, by alternative, the miles of roads and motorized trails within 50 feet of stream channels, lakes and wetlands within each cumulative effects watershed that encompasses the forest. Table 3-8 shows, by alternative, the miles of roads and motorized trails within 300 feet of stream channels, lakes and wetlands within each cumulative effects watershed that encompasses the forest. Table 3-9 shows, by alternative, the estimated number of stream crossings per mile of stream channel within each cumulative effects watershed that encompasses the forest. Figure 3-3 displays the cumulative effects watersheds that are summarized in Tables 3-7, 3-8, and 3-9.

Table 3-7. Encroaching motorized route cumulative effects indicator.

HUC Number	Cumulative Effects Watershed	Miles of Motorized Route Encroaching on Channels, Lakes, and Wetlands				
		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1407000201	**Ivie Creek - Upper Colorado River**	11.1	9.7	9.7	8.4	9.9
1407000205	**Salt Wash**	5.8	4.3	4.6	4.2	5.1
1407000301	**Headwaters Fremont River**	21.9	14.0	14.2	12.1	17.7
1407000302	**Pine Creek-Fremont River**	0.6	0.5	0.5	0.3	0.5
1407000303	**Deep Creek-Fremont River**	3.1	2.0	2.2	2.0	2.6
1603000106	**City Creek-Sevier River**	9.3	6.7	7.0	6.7	7.1
1603000201	**Upper Otter Creek**	14.3	11.7	12.7	5.6	12.7
1603000202	**Lower Otter Creek**	8.2	7.4	6.8	2.8	6.8
1603000205	**Lower East Fork Sevier River**	0.0	0.0	0.0	0.0	0.0
1603000301	**Clear Creek**	21.3	17.1	17.1	15.9	16.5
1603000302	**Beaver Creek-Sevier River**	12.8	10.0	9.5	8.7	9.6
1603000303	**Cottonwood Creek-Sevier River**	35.6	23.7	23.3	12.6	22.3
1603000304	**Salina Creek**	20.2	17.0	17.3	11.6	18.0
1603000305	**Lost Creek-Sevier River**	15.7	11.5	10.3	6.9	11.3
1603000306	**Willow Creek-Sevier River**	1.6	1.0	1.0	0.7	1.1
1603000501	**Ivie Creek - Lower Sevier River**	3.1	2.5	2.4	1.7	3.0
1603000504	**Upper Sevier River**	1.2	1.0	1.0	0.7	0.9
1603000512	**Middle Sevier River**	5.7	5.4	5.5	2.7	4.8
1603000513	**Corn Creek**	8.6	9.1	9.1	4.5	9.2
1603000514	**Chalk Creek**	21.3	19.2	19.5	12.1	19.7
1603000515	**Oak Creek**	12.5	11.7	11.5	8.4	10.7
1603000601	**Fremont Wash**	1.7	1.6	1.6	1.6	1.7
1603000701	**Indian Creek**	4.9	4.5	5.3	4.5	5.4
1603000702	**South Creek-Beaver River**	16.5	14.4	14.1	11.9	14.6
1603000705	**Cove Creek**	5.0	3.6	3.6	3.5	4.6
1603000801	**Pahvant Valley**	5.1	4.8	6.5	2.4	6.0
CEA - FOREST TOTALS		**267.2**	**214.4**	**216.3**	**152.6**	**221.6**

Figure 3-3. Map of cumulative effects watersheds.

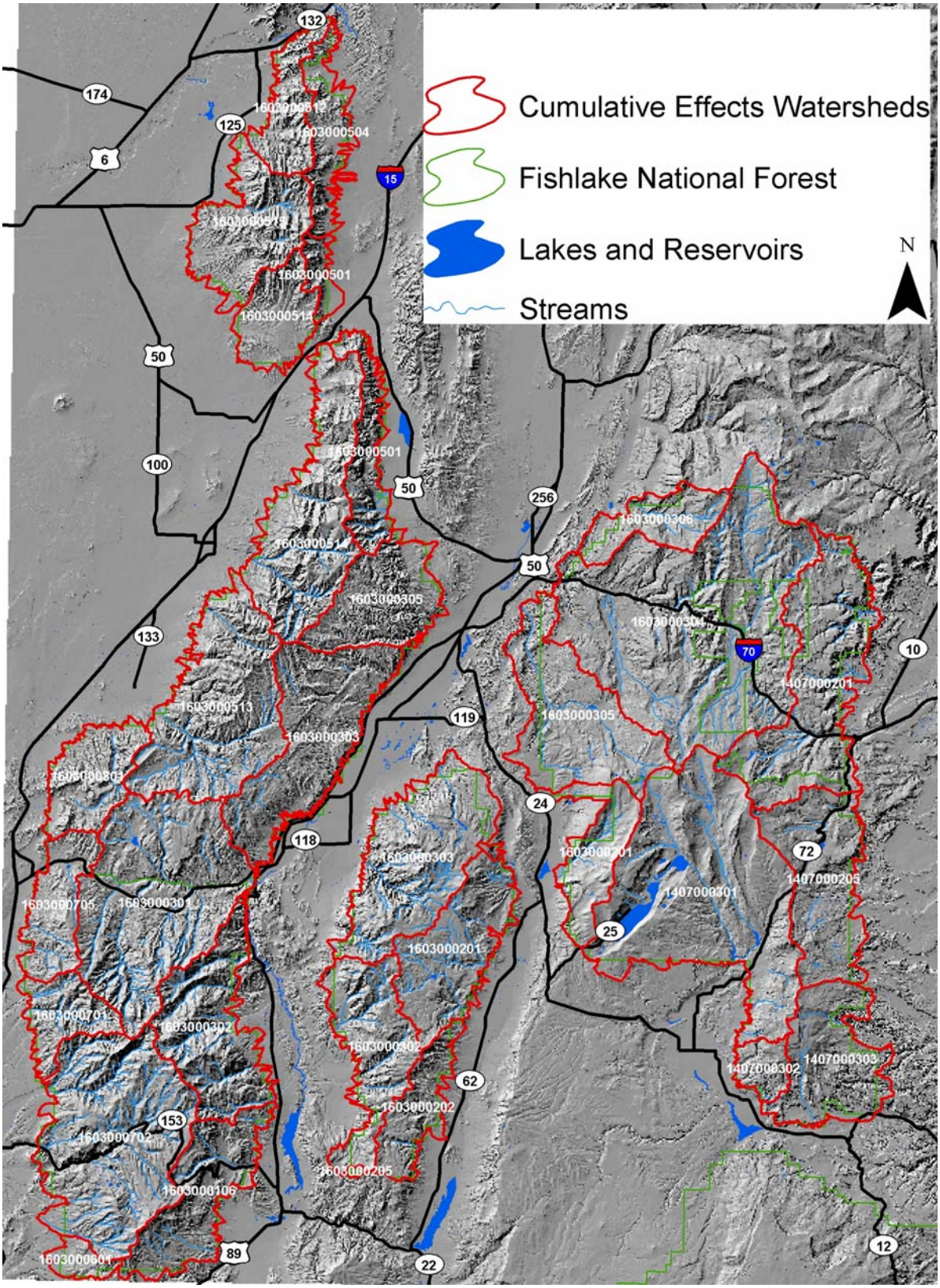


Table 3-8. Riparian motorized route cumulative effects indicator.

HUC Number	Cumulative Effects Watershed	Miles of Motorized Route in the Riparian Influence Zone				
		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1407000201	Ivie Creek - Upper Colorado River	63.7	53.0	52.8	47.3	53.9
1407000205	Salt Wash	38.8	29.6	31.2	28.8	34.1
1407000301	Headwaters Fremont River	110.3	79.2	82.2	68.1	91.7
1407000302	Pine Creek-Fremont River	3.4	2.7	2.8	2.3	3.1
1407000303	Deep Creek-Fremont River	23.9	15.7	17.5	15.0	18.8
1603000106	City Creek-Sevier River	40.0	27.8	28.1	26.8	29.2
1603000201	Upper Otter Creek	62.5	52.6	55.3	35.6	55.6
1603000202	Lower Otter Creek	21.8	19.2	17.1	9.9	17.1
1603000205	Lower East Fork Sevier River	0.1	0.1	0.1	0.1	0.1
1603000301	Clear Creek	96.0	80.7	80.7	75.2	79.6
1603000302	Beaver Creek-Sevier River	70.5	57.1	57.0	51.0	57.5
1603000303	Cottonwood Creek-Sevier River	128.8	91.3	91.9	58.0	90.2
1603000304	Salina Creek	155.8	134.1	135.4	113.7	139.0
1603000305	Lost Creek-Sevier River	71.9	56.3	51.9	38.1	54.4
1603000306	Willow Creek-Sevier River	13.4	10.7	10.6	8.3	11.1
1603000501	Ivie Creek - Lower Sevier River	16.8	14.0	13.7	11.6	16.2
1603000504	Upper Sevier River	10.3	8.9	8.6	7.8	8.3
1603000512	Middle Sevier River	29.9	24.8	24.9	18.7	24.6
1603000513	Corn Creek	49.4	51.4	51.3	35.8	52.0
1603000514	Chalk Creek	75.9	69.3	71.3	53.4	70.2
1603000515	Oak Creek	54.3	48.8	47.6	34.3	45.9
1603000601	Fremont Wash	6.2	5.5	5.5	5.5	5.7
1603000701	Indian Creek	18.6	16.2	17.5	15.9	17.9
1603000702	South Creek-Beaver River	87.8	79.8	79.6	69.8	81.8
1603000705	Cove Creek	28.0	20.6	20.6	19.1	25.2
1603000801	Pahvant Valley	24.7	22.4	23.2	11.4	21.7
CEA - FOREST TOTALS		**1302.7**	**1071.8**	**1078.2**	**861.4**	**1104.8**

Table 3-9. Stream crossing frequency cumulative effects indicator.

HUC Number	Cumulative Effects Watershed	Stream Crossing Frequency (number per mile of channel)				
		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1407000201	Ivie Creek - Upper Colorado River	0.7	0.6	0.6	0.5	0.6
1407000205	Salt Wash	1.2	1.0	1.0	0.9	1.1
1407000301	Headwaters Fremont River	1.3	0.9	0.9	0.8	1.0
1407000302	Pine Creek-Fremont River	0.3	0.3	0.3	0.2	0.3
1407000303	Deep Creek-Fremont River	0.7	0.4	0.5	0.3	0.6
1603000106	City Creek-Sevier River	0.9	0.6	0.6	0.6	0.7
1603000201	Upper Otter Creek	1.1	0.9	1.0	0.5	1.0

Table 3-9. Stream crossing frequency cumulative effects indicator.

HUC Number	Cumulative Effects Watershed	Stream Crossing Frequency (number per mile of channel)				
		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1603000202	**Lower Otter Creek**	1.3	1.1	1.1	0.4	1.1
1603000205	**Lower East Fork Sevier River**	0.0	0.0	0.0	0.0	0.0
1603000301	**Clear Creek**	0.9	0.8	0.8	0.7	0.8
1603000302	**Beaver Creek-Sevier River**	0.7	0.5	0.5	0.4	0.5
1603000303	**Cottonwood Creek-Sevier River**	0.9	0.6	0.7	0.4	0.6
1603000304	**Salina Creek**	0.7	0.6	0.6	0.4	0.6
1603000305	**Lost Creek-Sevier River**	0.5	0.4	0.3	0.2	0.4
1603000306	**Willow Creek-Sevier River**	0.4	0.3	0.3	0.2	0.3
1603000501	**Ivie Creek - Lower Sevier River**	0.4	0.3	0.3	0.3	0.4
1603000504	**Upper Sevier River**	0.3	0.2	0.2	0.2	0.2
1603000512	**Middle Sevier River**	1.2	1.1	1.1	0.6	1.1
1603000513	**Corn Creek**	0.4	0.4	0.4	0.2	0.4
1603000514	**Chalk Creek**	0.8	0.7	0.8	0.5	0.8
1603000515	**Oak Creek**	0.9	0.8	0.8	0.6	0.8
1603000601	**Fremont Wash**	0.9	0.8	0.8	0.8	0.8
1603000701	**Indian Creek**	0.8	0.6	1.0	0.6	1.0
1603000702	**South Creek-Beaver River**	0.8	0.7	0.7	0.6	0.7
1603000705	**Cove Creek**	1.1	0.8	0.8	0.8	1.0
1603000801	**Pahvant Valley**	0.8	0.7	0.9	0.5	0.9
CEA - FOREST TOTALS		**0.8**	**0.6**	**0.7**	**0.5**	**0.7**

Available documents summarizing results from water quality sampling on the Fishlake National Forest include internal reports (such as Alma 1978, USDA Forest Service 1987, Deiter 2003) and State reports. The State of Utah Division of Water Quality prepares 303(d) and 305(b) reports every two years on water quality that include streams, lakes, and reservoirs on the forest. The internal reports are located in the project file and State reports are available on the Internet. These documents all indicate that water quality on the Fishlake National Forest is supporting beneficial uses in most cases. Locations that are not fully supporting beneficial uses on or near the forest are discussed in Appendix B of the specialist report. Most are located off forest. Where water quality objectives are not being fully met, it is usually due to excessive nutrients, or to a much lesser extent, total suspended solids. Surficial geology plays a significant role in nutrient exceedences, but human induced increases through livestock grazing, recreation, and accelerated erosion are also likely.

In some instances on the forest, substantial stream, soils, riparian and wetland, impacts are evident even where water quality standards are otherwise being met. This often results from motorized routes and use within riparian areas or from overgrazing by livestock. Since 2001, a contractor has surveyed 487.5 miles of streams on the forest using the Region 4 Level 2 Integrated Riparian Evaluation protocol. Roughly 409 miles of this survey are have been completed to date. The inventory has been collected forest-wide and includes the highest priority aquatic systems on the Fishlake National Forest. This inventory has helped us identify and focus on where OHV use is and is not a concern. Table 3-10 summarizes the OHV impacts to riparian areas found so far.

Table 3-10. OHV impacts to stream and riparian resources based on Level 2 Integrated Riparian Inventories.

Stream Code and Stream Name	Degree of OHV Impacts 0 (none) to 5 (severe)*	Illegal Activity Identified
A01 Beaver River	1	
A02 Jim Reed Creek	1	
A03 South Fork Baker Canyon	2	
A04 South Fork Beaver River	0	
A05 Lower Kents Lake Creek	3	
A06 Dry Hollow Creek	1	
A07 Iant Creek	1	
A08 Lebarron Creek	0	
A09 Lousey Jim Creek	4	X
A10 Wilson Creek	3	X
A11 Three Creeks	3	
A12 North Fork Three Creeks	1	
A13 Blaney Creek	0	
A14 Hi Hunt Creek	0	
A15 South Fork Three Creeks	3	
A16 West Fork Merchant Creek	1	
A17 Poison Creek	1	
A18 Merchant Creek	4	X
A19 Twin Lakes Creek	1	
A20 Little North Creek	3	
A21 Pine Creek	1	
A22 South Fork of Pine Creek	1	
A23 North Wildcat Creek	2	
A24 Wildcat Creek	2	
A25 Indian Creek	1	
A26 North Fork of North Creek	4	X
A27 Pole Creek	3	
A28 South Fork of North Creek	2	
A29 Pine Creek (South Fork of North)	0	
A30 Briggs Creek	0	
A31 South Birch Creek	2	
A32 Big Twist Creek	2	
A33 South Creek	3	
B01 Sevenmile Creek	2	
B02 Tasha Creek	3	X
B03 Sawmill Creek	4	X
B04 White Creek	2	
B05 Gottfredsen Creek	1	
B06 UM Creek	2	
B07 Left Fork	2	
B08 Right Fork	2	
B10 Fremont River	1	

Table 3-10. OHV impacts to stream and riparian resources based on Level 2 Integrated Riparian Inventories.

Stream Code and Stream Name	Degree of OHV Impacts 0 (none) to 5 (severe)*	Illegal Activity Identified
B11 Lake Creek below Fish Lake	1	
C01 Salina Creek	2	
C02 Dead Horse Canyon Creek	1	
C03 Browns Hole Creek	2	
C04 Water Hollow	1	
C05 Pine Hollow	0	
C06 Niotche Creek	3	
C07 Unnamed 1 North	1	
C08 Unnamed 2 South	1	
C09 Skumpah Creek	2	
C10 Horse Hollow	2	
C11 Beaver Creek	1	
C12 West Fork Beaver Creek	0	
C13 East Fork Beaver Creek	0	
C14 Picklekeg Creek	0	
C15 East Fork Picklekeg Creek	0	
C16 Pine Creek	0	
C17 Steves Creek	1	
C18 Jump Creek	1	
D01 Corn Creek	2	
D02 North Fork Corn Creek	0	
D03 Leavitts Canyon Creek	0	
D04 Second Creek	2	
D05 Middle Canyon Creek	2	
D06 Pine Hollow Canyon	0	
D07 West Corn Creek	0	
D08 East Fork Corn Creek	0	
F01 Manning Creek	4	X
F02 Barney Creek	3	
F03 Collins Creek	0	
F04 East Fork Manning Creek	0	
F05 Vale Creek	0	
F06 Straight Canyon	5	X
G01 Chalk Creek	2	
G02 North Fork Chalk Creek	1	
G03 Teeples Wash	0	
G04 Broad Canyon	0	
G05 Turner Wash	0	
G06 South Fork Chalk Creek	3	
G07 Chokecherry Creek	0	
G08 Three Forks Creek	0	
G09 White Pine Creek	0	

Table 3-10. OHV impacts to stream and riparian resources based on Level 2 Integrated Riparian Inventories.

Stream Code and Stream Name	Degree of OHV Impacts 0 (none) to 5 (severe)*	Illegal Activity Identified
G10 Bear Canyon	0	
G11 Shingle Mill Creek	0	
H01 Tenmile Creek	4	X
I01 Birch Creek	3	X
J01 Oak Creek	2	
J02 North Walker Canyon	2	
K01 Clear Creek	2	
K02 Sam Stowe Creek	0	
K03 North Joe Lott Creek	0	
K04 South Joe Lott Creek	1	
K05 Dry Creek	1	
K06 Mill Creek	2	
K07 Pole Creek	0	
K08 Grass Creek	2	
K09 Skunk Creek	0	
K10 Three Creeks	0	
K11 Birch Creek	1	
K12 Fish Creek	5	X
K13 Picnic Creek	3	X
K14 Trail Canyon	0	
K15 Line Canyon	2	
K16 East Fork Fish Creek	3	X
K17 Long Creek	1	
K18 Shingle Creek	3	

Key*
0 = no OHV use
1 = low OHV use
2 = moderate OHV
3 = isolated OHV damage occurring (i.e. bank damage @ a single crossing in 1 or 2 reaches)
4 = numerous locations of advanced OHV damage occurring
5 = nearly continuous severe OHV damage occurring on extensive sections of stream

Table 3-11 tallies the number of streams in Table 3-10 for each of the classes that describe the degree of riparian impacts from OHV use.

Table 3-11. Tally of streams in each OHV / riparian impact class based on Level 2 Integrated Riparian Inventories.

Level of OHV use	Number of Inventoried Streams	Percent of Inventoried Streams
0. No OHV use.	34	31 %
1. Low OHV use.	26	24 %
2. Moderate OHV use.	25	23 %
3. Isolated OHV damage occurring (i.e. bank damage at a single crossing in 1 or 2 reaches).	15	14 %
4. Numerous locations of advanced OHV damage occurring.	6	6 %
5. Nearly continuous severe OHV damage occurring on extensive sections of stream.	2	2 %
TOTALS	**108**	**100 %**

Table 3-12 describes actions that are being taken in addition to enhancing public education and enforcement efforts, to specifically address the OHV riparian impacts documented in Table 3-10. Only sites with a rating of 3 or higher are listed where 3 = isolated OHV damage occurring, 4 = numerous locations of advanced OHV damage occurring, and 5 = nearly continuous severe OHV damage occurring on extensive sections of stream.

Table 3-12. Actions that would reduce or eliminate existing OHV impacts to stream and riparian resources.

Stream Code and Stream Name	Degree of OHV Impacts*	Mitigations included in the action alternatives to address issues
A05 Lower Kents Lake Creek	3	Closing riparian area to unrestricted motorized cross-country travel.
A09 Lousey Jim Creek	4	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
A10 Wilson Creek	3	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
A11 Three Creeks	3	Closing riparian area to unrestricted motorized cross-country travel.
A15 South Fork Three Creeks	3	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
A18 Merchant Creek	4	Constructing barriers to motorized use.

Table 3-12. Actions that would reduce or eliminate existing OHV impacts to stream and riparian resources.

Stream Code and Stream Name	Degree of OHV Impacts*	Mitigations included in the action alternatives to address issues
A20 Little North Creek	3	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
A26 North Fork of North Creek	4	Route obliteration, constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
A27 Pole Creek	3	Route obliteration, constructing motorized barriers, closing riparian area to unrestricted motorized cross-country travel.
A33 South Creek	3	Constructing several barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
B02 Tasha Creek	3	No specific actions planned other than enforcement. Area is already closed to motorized use and no motorized trails would be designated in areas of concerns.
B03 Sawmill Creek	4	Route obliteration.
C06 Niotche Creek	3	No specific actions planned other than routine maintenance and possible relocation of route.
F01 Manning Creek	4	Route obliteration, constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
F02 Barney Creek	3	Closing riparian area to unrestricted motorized cross-country travel, route obliteration, and possible route relocation in future NEPA [see Appendix B of the DEIS & FEIS].
F06 Straight Canyon	5	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
G06 South Fork Chalk Creek	3	Constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel, and route relocation through other NEPA [see Appendix B and C in the DEIS and FEIS].
H01 Tenmile Creek	4	Route obliteration, constructing motorized barriers, closing riparian area to unrestricted motorized cross-country travel.
I01 Birch Creek	3	Route obliteration, closing riparian area to unrestricted motorized cross-country travel.

Table 3-12. Actions that would reduce or eliminate existing OHV impacts to stream and riparian resources.

Stream Code and Stream Name	Degree of OHV Impacts*	Mitigations included in the action alternatives to address issues
K12 Fish Creek	5	Route obliteration, constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel.
K13 Picnic Creek	3	Route obliteration, constructing barriers to motorized vehicles.
K16 East Fork Fish Creek	3	Route obliteration, constructing motorized barriers, closing riparian area to unrestricted motorized cross-country travel.
K18 Shingle Creek	3	Route obliteration, constructing barriers to motorized vehicles, closing riparian area to unrestricted motorized cross-country travel, and changes in route designation.

Alternative 1 – No Action Consequences

The No Action alternative provides a baseline for comparison with the action alternatives. This alternative maintains the greatest amount of routes and open use areas that encroach directly upon or that are located within riparian areas and wetland influence zones (see Tables 3-7 through 3-11). Table 3-12 gives an indication for what is needed to alleviate existing riparian impacts from motorized use. None of these actions would occur under No Action, except perhaps at a later date and as separate NEPA projects. This alternative authorizes use that would result in continued expansion of user created route networks and continued motorized use of non-motorized trails such as what is shown in the photos of UM Creek and Monroe Mountain. No Action maintains existing risk elements within riparian areas and wetlands, and at stream crossings since no obliteration would occur and most of the forest would remain open to motorized cross-country travel. Even in the short-term, the impacts to soil productivity, riparian areas, wetlands, aquatic organisms, and water quality from motorized recreation would continue to increase because of the rapid growth in motorized use that is expected. This fact should not be used to imply that all use of motorized routes and open use areas are creating negative impacts to hydrologic and aquatic resources across the forest. Riparian inventory data collected between 2001 and 2005 show that this is not the case. However, continuing management under a motorized travel plan that has known deficiencies at current use levels should not be expected to function better with even more motorized users. The issues and management strategies identified in the Final Environmental Impact Statement for the Fishlake OHV Route Designation Project, and from the forest scale Roads Analysis supplement make clear that closing the forest to cross-country travel and other measures are necessary in order to keep motorized use compatible with resource protection needs and to reduce user conflicts. Over the long-term, this alternative would accumulate significant negative impacts to soil productivity, riparian areas, wetlands, aquatic organisms, and water quality in select watersheds across the forest. This alternative has the most potential for adverse cumulative impacts with other resource uses and land management because it retains significantly more open use area than any other alternative. This alternative is least likely to maintain current support of beneficial uses as required by the Clean Water Act and the Forest Plan unless management restrictions and actions are taken later.

Alternative 2 – Proposed Action Consequences

This alternative represents the first proposal by the forest to address the Purpose of and Need for Action discussed in the EIS. This alternative would result in a substantial reduction in the mileage of motorized routes and acres of open use areas adjacent to or within stream channels, riparian areas and wetlands (see Tables 3-7 through 3-12). Under Alternative 2, open use areas, including dispersed camping distance designations, within the riparian influence zone decrease by a minimum of 75 percent relative to No Action. This change is achieved by switching exclusively to travel on designated routes and areas and through road and trail obliteration. The percent reduction in open use areas will decrease further as distance designations are either dropped or replaced by designated routes to campsites. When the route and open use indicators are considered together, the net result for all watersheds is a beneficial effect for soil productivity, riparian areas, wetlands, aquatic organisms, and water quality. As discussed in the watershed and aquatics report, the obliteration of routes within the riparian influence zone reduces modification of channel floodplains, allows vegetation to become reestablished, reduces sediment production and delivery to streams, lakes, and wetlands, restores normal slope hydrology, and reduces the potential for spread of aquatic nuisance species and non-native trout. Relative to No Action, Alternative 2 results in improved support of aquatic beneficial uses currently supported and protected under the Clean Water Act.

Alternative 3 – Modified Proposed Action Consequences

The route effects for Alternative 3 are similar to those described for Alternative 2. Alternative 2 has more obliteration than Alternative 3, but this is primarily on routes that were inventoried during the summer of 2004 after the proposed action was released to the public. There are route specific cases where the designation in Alternative 2 would be preferable from a hydrologic and/or aquatic perspective to the actions proposed in Alternative 3 and the reverse is also true (see Tables 3-7 through 3-12, and the route changes database in the project file). Under Alternative 3, open use areas within the riparian influence zone decrease by a minimum of 86 percent relative to No Action. This change is achieved by switching exclusively to travel on designated routes and areas and through road and trail obliteration. The percent reduction in open use areas will decrease further as distance designations are either dropped or replaced by designated routes to campsites. When the route and open use indicators are considered together, the net result for all watersheds is a beneficial effect for soil productivity, riparian areas, wetlands, aquatic organisms, and water quality. As discussed in the watershed and aquatics report, the obliteration of routes within the riparian influence zone reduces modification of channel floodplains, allows vegetation to become reestablished, reduces sediment production and delivery to streams, lakes, and wetlands, restores normal slope hydrology, and reduces the potential for spread of aquatic nuisance species and non-native trout. Relative to No Action, Alternative 3 results in improved support of aquatic beneficial uses protected under the Clean Water Act. Alternative 3 is preferable to Alternative 2 overall because of having substantially less riparian areas and wetlands within open use areas and dispersed camping distance designations.

Alternative 4 – Non-motorized Emphasis Consequences

This alternative results in the lowest mileage of routes and acres of open use areas being located adjacent to or within stream channels, riparian areas and wetlands (see Tables 3-7 through 3-12). Under Alternative 4, open use areas within the riparian influence zone decrease by about 89 percent relative to No Action. This change is achieved by switching exclusively to travel on designated routes and areas and through road and trail obliteration. The percent reduction in open

use areas will decrease further as distance designations are either dropped or replaced by designated routes to campsites. When the route and open use indicators are considered together, the net result for all watersheds is for a beneficial effect for soil productivity, riparian areas, wetlands, aquatic organisms, and water quality. As discussed in the watershed and aquatics reports, the obliteration of routes within the riparian influence zone would reduce modification of channel floodplains, would allow vegetation to become reestablished, would reduce sediment production and delivery to streams, lakes, and wetlands, would restore normal slope hydrology, and would reduce the potential for spread of aquatic nuisance species and non-native trout. Relative to No Action, Alternative 4 results in improved support of aquatic beneficial uses protected under the Clean Water Act. This alternative would result in the fewest watershed and aquatic impacts if realistic to implement and enforce.

Alternative 5 – Final Preferred Alternative Consequences

Alternative 5 addresses site-specific resource concerns by incorporating actions from all of the other action alternatives after including additional public comments and internal review. The route effects for Alternative 5 are most similar to those described for Alternative 3. Alternative 5 obliterates more of the existing authorized route network than any other alternative. Due to the routes that were added after release of the DEIS, Alternative 5 has the least amount of total obliteration of any of the action alternatives however. A large percentage of the added miles are necessary to provide access to desired dispersed campsites. Therefore, Alternative 5 requires far fewer adaptations than the other action alternatives in order to accommodate existing desired dispersed camping opportunities (see DEIS and FEIS Appendix B). Thus, much of the disparity in route obliteration mileages from Alternatives 2, 3, 4 versus Alternative 5 is nominal. There are route specific cases where the designations in the other alternatives would be preferable from a hydrologic and/or aquatic perspective to the actions proposed in Alternative 5 and the reverse is also true (see Tables 3-7 through 3-12, and the route changes database in the project file). Under Alternative 5, open use areas within the riparian influence zone decrease by a minimum of 86 percent relative to No Action. This change is achieved by switching exclusively to travel on designated routes and areas and through road and trail obliteration. The percent reduction in open use areas will decrease further as distance designations are either dropped or replaced by designated routes to campsites. When the route and open use indicators are considered together, the net result for all watersheds is a beneficial effect for soil productivity, riparian areas, wetlands, aquatic organisms, and water quality. As discussed in the watershed and aquatics reports, the obliteration of routes within the riparian influence zone would reduce modification of channel floodplains, would allow vegetation to become reestablished, would reduce sediment production and delivery to streams, lakes, and wetlands, would restore normal slope hydrology, and would reduce the potential for spread of aquatic nuisance species and non-native trout. Relative to No Action, Alternative 5 results in improved support of aquatic beneficial uses protected under the Clean Water Act. Alternative 5 is preferable to Alternative 2 overall because of having substantially less riparian areas and wetlands within open use areas and dispersed camping distance designations.

Fisheries and Aquatic Organisms

Affected Environment

Aquatic biota on the forest can be broken into four broad categories: sport fish, non-game fish, amphibians, and aquatic macroinvertebrates. Some inventory of aquatic invertebrates has occurred and are discussed in the specialist report. The smaller and more inconspicuous forms of aquatic biota such as aquatic mullusks, aquatic invertebrates, and aquatic plants have not

generally been studied or are not well known across the forest. Some inventory of aquatic invertebrates has occurred. In the past 10 years, though there has been one limited survey of mollusks (both terrestrial and aquatic) on the forest, and very little study of aquatic plants. Tables 3-13 and 3-14 respectively list the most important native cutthroat and recreational fisheries, and known amphibian populations on the forest.

Table 3-13. Priority native cutthroat and recreational fisheries on the Fishlake Forest.

Stream / Lake / Watershed Name	Ranger District	Species of Interest	Type of Fisheries
Beaver River	Beaver	Rainbow trout Brown trout Red-sided shiner	Recreational & Non-game
Birch Creek (East)	Beaver	Bonneville cutthroat	Reintroduced
Birch Creek (West)	Beaver	Bonneville cutthroat	Remnant
Briggs Creek	Beaver	Bonneville cutthroat	Reintroduced
Corn Creek	Fillmore	Brown trout Rainbow trout Mountain sucker Mottled sculpin	Recreational & Non-game
Fish Creek	Beaver	Brown trout Rainbow trout Bonneville cutthroat*	*Future Renovation and Reintroduction
Fish Lake	Loa	Rainbow trout Splake Lake trout Brown trout Mottled sculpin Numerous non-natives	Recreational & Non-game
Manning Reservoir and Manning Creek	Richfield	Bonneville cutthroat	Reintroduced
South Fork of North Creek	Beaver	Bonneville cutthroat*	*Future Reintroduction
North Fork of North Creek	Beaver	Bonneville cutthroat Mottled sculpin	Remnant with introgression & Non-game
Pine Creek	Beaver	Bonneville cutthroat	Reintroduced
Pine Creek/Bullion Canyon	Beaver	Rainbow trout Cutthroat trout Bonneville cutthroat*	*Future Renovation and Reintroduction
Pole Creek	Fillmore	Bonneville cutthroat	Remnant and Future Renovation and Reintroduced

Table 3-13. Priority native cutthroat and recreational fisheries on the Fishlake Forest.

Stream / Lake / Watershed Name	Ranger District	Species of Interest	Type of Fisheries
Salina Creek	Richfield	Bonneville cutthroat Cutthroat trout Rainbow trout Brown trout Brook trout Mountain sucker Speckled dace Mottled sculpin Leatherside chub	Remnant Recreational & Non-game
Sam Stowe	Fillmore	Bonneville cutthroat	Reintroduced
Sand Creek	Loa	Colorado River cutthroat	Reintroduced
Sevenmile Creek	Loa	Brook trout	Recreational
Shingle Creek	Beaver	Brown trout Rainbow trout Bonneville cutthroat*	*Future Renovation and Reintroduction
Tasha Creek	Loa	Colorado River cutthroat*	*Future Renovation and Reintroduction
Tenmile Creek	Beaver	Bonneville cutthroat	Reintroduced
Three Creek/Pole Creek	Beaver	Brown trout Rainbow trout Bonneville cutthroat*	*Future Renovation and Reintroduction
UM Creek	Loa	Colorado River cutthroat Tiger trout Mottled sculpin	Reintroduced & Non-game
Upper Clear Creek	Beaver	Brown trout Rainbow trout Bonneville cutthroat	*Future Renovation and Reintroduction
Willow Creek	Richfield	Rainbow trout Cutthroat trout Bonneville cutthroat	*Future Renovation and Reintroduction

Table 3-14 lists important habitats for boreal toads and other aquatic organisms on the forest.

Table 3-14. Priority watersheds supporting other aquatic species of interest on the forest.

Stream / Lake / Watershed Name	Ranger District	Species of Interest
UM Creek	Loa	Chorus frogs
Sevenmile Creek	Loa	Chorus frogs
Greenwich Creek	Richfield	Boreal toads
Box Creek	Richfield	Boreal toads
Shingle Creek	Beaver	Leopard frogs
Three Creeks / Pole Creek	Fillmore	Leopard frogs
Manning Creek	Richfield	Boreal toads, Chorus frogs

Table 3-14. Priority watersheds supporting other aquatic species of interest on the forest.

Stream / Lake / Watershed Name	Ranger District	Species of Interest
Salina Creek	Richfield	Chorus frogs, Tiger salamanders
Upper Salina Creek	Richfield	Tiger salamanders
Gooseberry Creek	Richfield	Chorus frogs, Tiger salamanders
Upper Lost Creek above Little Lost	Richfield	Tiger Salamanders
Beaver River	Beaver	Leopard frogs

Alternative 1 – No Action Consequences

Under Alternative 1 a large percentage of most sub-watersheds are open to cross-country OHV travel. Depending on the watershed slope, terrain, and vegetation, the actual amount of this open travel area that may receive OHV use varies. In some sub-watersheds with gentle terrain and open vegetation, OHVs may be able to travel across a large percentage of the area. This can lead to higher rates of erosion across broad areas, but may also diffuse impacts. In other sub-watersheds with steep terrain and dense vegetation, OHV use is often physically restricted to major ridgetops and drainage bottoms. Ridgetop use will generally be far enough away from streams to reduce sedimentation, but drainage bottom use can affect fisheries due to the direct proximity to streams, including sedimentation, stream bank damage, and damage to vegetation. Besides these negative effects to fisheries, these drainage bottoms are often important passageways for amphibians. Sub-watersheds which are currently experiencing problems to streams and lakes from current motorized use are listed in Table 3–10 and are described in Table AB-4 in the specialist report. Relative levels of OHV use by stream name are shown in Table 3-10.

As shown in tables 3-7 through 3-12, Alternative 1 will likely lead to increasing degradation of aquatic habitat from increasing OHV use and cross-country travel in all of the sub-watersheds across the forest that contain fisheries, amphibian, and other aquatic biota values. The specialist report contains a much more detailed summary of the effects of No Action.

Alternatives 2, 3, 4, and 5 – Action Alternative Consequences

The primary effect of implementing all action alternatives would be a major reduction in areas open to cross-country OHV use, which should reduce current ongoing and future impacts and reduce the proliferation of new unplanned user created routes. All action alternatives attempt to improve compliance and prevent motorized use of non-motorized use areas by installation of barriers. One factor of route design and selection was the ability to place barriers in effective sites. Finally, all of the action alternatives have obliteration of routes that are unneeded or have high resource impacts. Therefore, there is a relatively large change between the No Action alternative and all four of the action alternatives.

The differences between the action alternatives are relatively minor among themselves, when compared to the No Action alternative. There is a slight reduction or improvement of measures of encroaching road, riparian influenced road, area open to cross-country travel and other hydrological values as one compares the later action alternatives to Alternative 2. When the hydrologic and aquatic biota measures (Tables AB-3 and AB-4 in the specialist report) are ranked and summarized across all sub-watersheds (Table AB-5 in the specialist report), Alternative 4

ranks as the least impactive and most beneficial. Alternative 3 and 5 ranked 2nd overall, in part due to the smaller (150') designation for travel to reach established campsites. There are some individual sub-watersheds where Alternative 2 would be more beneficial than Alternatives 3 or 5, as some popular routes proposed for closure or obliteration under Alternative 2 were kept open under Alternatives 3 and 5. Alternative 5 does have small changes that opened short sections of routes that had been closed in Alternative 3, but not enough to cause a major difference in the rankings. Alternative 2-ranked 4th, mostly due to the larger area potentially open to travel on existing routes to reach established campsites (300 feet vs. 150 feet). Again, the action alternatives are much better in terms of the hydrologic and aquatic biota measures than the No Action alternative. Table AB-5 in the specialist report shows that the action alternatives would result in a slight improvement from current aquatic habitat conditions at a minimum, while the No Action alternative would have increased impacts and continued degradation from current aquatic habitat conditions. At the individual sub-watershed level, the action alternatives effects would range from maintaining current habitat conditions to greatly improved habitat conditions.

Effects Specific to Alternative 4

There are a few specific areas where Alternative 4 would have additional benefits to fisheries. These are UM Creek, where closure of the Left Hand Fork trail would reduce some sedimentation and disease transfer risk; Manning Creek where closure of the trail past Barney Lake would help reduce sedimentation and impacts to boreal toads; and, Sam Stowe and upper Lost Creek where motorized route closures in the upper watersheds would reduce sedimentation impacts to these streams.

Effects Specific to Alternative 5

In Alternative 5, the upper Pine Creek (Tushar Mts.) route that was closed to motorized travel in Alternatives 2, 3, and 4 would be designated as a motorized trail that is open to motorized vehicles with widths less than 50 inches. This route is primarily used during the hunting season and is actually brushing in over time, making travel in full sized vehicles difficult. There are management considerations for allowing motorized access for fuels management, livestock management, and livestock exclosure maintenance. Alternative 5 would likely result in a small improvement from current conditions by eliminating the full-sized vehicle use on the route and by closing the watershed to cross-country travel. This route is in close proximity to the creek, contributes sediment directly to the stream in numerous areas, and has several stream crossings. Therefore, if OHV use levels increase in the future, there could be an increase in effects from this route to the aquatic habitat. Monitoring of motorized use levels and impacts to the stream will be necessary to ensure that long-term effects are not negative. If monitoring indicates concerns, management adjustments may be needed.

Sensitive Fish Species – Bonneville cutthroat trout and Colorado River cutthroat trout

The action alternatives may impact Bonneville or Colorado River cutthroat trout because motorized use will continue in watersheds containing these species, but will not likely lead to a trend towards federal listing of these cutthroat trout sub-species for any alternative. Under the No Action alternative native trout habitat would continue to be impacted by OHVs in several of the key native cutthroat streams such as UM Creek, Birch Creek (East), North Fork of North Creek, and Pine Creek, although some impacts are occurring in other native cutthroat watersheds as well. Under the action alternatives, there would be some improvement to native cutthroat trout habitat, especially in the watersheds mentioned above. Tables 3-15 and 3-16 summarize the effects to Bonneville and Colorado River cutthroat trout watersheds, respectively.

Table 3-15. Bonneville cutthroat trout effects summary.

HUC Number	Bonneville Cutthroat Trout Effects			
	Alt 1	Alt 2	Alt 3	Alt 4
160300010603 Birch Creek E	Increased impacts	Improvement	Improvement	Improvement+
160300030101 Fish Creek*	Increased impacts	Improvement	Improvement+	Improvement++
160300030102 Shingle Creek*	Increased impacts	Improvement	Slight improvement+	Slight improvement++
160300030103 Three Creeks / Pole Creek*	Increased impacts	Slight improvement	Slight improvement+	Slight improvement++
160300030105 Sam Stowe Creek	Potential for increased impacts	Slight improvement	Slight improvement+	Slight improvement+
160300030203 Manning Creek	Increased impacts	Slight improvement	Slight improvement+	Improvement
160300030204 Ten Mile Creek	Increased impacts	Slight improvement+	Slight improvement++	Slight improvement++
160300030205 Pine Creek (Bullion Canyon)*	Potential for increased impacts	Slight improvement	Slight improvement	Slight improvement
160300030402 Upper Salina Creek	Potential for increased impacts	Slight improvement	Slight improvement	Slight improvement+
160300030602 Willow Creek*	Increased impacts	Proposed actions maintain habitat condition	Slight improvement	Slight improvement+
160300070203 South Fork of North Creek*	Potential for increased impacts	Slight improvement	Slight improvement+	Slight improvement+
160300070206 Birch Creek W	Potential for increased impacts	Proposed actions maintain habitat condition	Proposed actions maintain habitat condition	Slight improvement
160300070208 North Fork of North Creek	Increased impacts	Slight improvement	Slight improvement+	Slight improvement+
160300070501 Pine Creek (Tushar Mts)	Increased impacts	Improvement	Improvement	Improvement
* = Proposed for reintroduction				

Table 3-16. Colorado River cutthroat trout effects summary.

HUC Number	Colorado River Cutthroat Trout Effects			
	Alt 1	Alt 2	Alt 3	Alt 4
140700030101 UM Creek	Increased impacts	Improvement	Improvement +	Improvement++
140700030103 Seven Mile Creek (Tasha Creek*)	Potential for increased impacts	Slight improvement	Slight improvement++	Slight improvement++
140700030304 Sand Creek	Increased impacts	Slight improvement	Slight improvement+	Slight improvement++
* = Proposed for reintroduction				

Cumulative Effects Summary for Wetlands, Riparian Areas, Fisheries and Aquatic Organisms

All routes being evaluated in the OHV Route Designation Project currently exist and are being used to varying degrees. As such, the impacts to the various resources described in the FEIS are

already occurring. Rather than creating new effects, the proposed actions primarily result in maintaining or reducing existing impacts associated with the route network and motorized use. Closing the forest to motorized cross-country travel would have the effect of reducing the potential for direct and indirect off-route interactions and impacts with other land uses. By definition, this would reduce actual and potential cumulative impacts to nearly all resource values and uses on the forest. The reductions in mileage and open use areas in and near channels, riparian areas, lakes and wetlands, and on sensitive soils shown in Table 3-17 consistently shows that actual and/or potential impacts to hydrologic functionality and aquatic values would be reduced under the action alternatives. The greatest potential for adverse cumulative impacts is under the No Action alterative, especially given that the existing travel plan is inadequate to protect water resources and given that the technological capability of OHVs and the amount of use would continue to increase over time. Alternative 4 has the most potential to improve watershed and aquatic condition and function if it could be implemented and enforced.

Table 3-17. Cumulative effects indicator summary for the forest minimum bounding CEA

		Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Miles of Motorized Route Encroaching on Channels, Lakes, and Wetlands	change	0.0	-52.8	-50.9	-114.6	-45.6
	result	267.2	214.4	216.3	152.6	221.6
Miles of Motorized Route in the Riparian Influence Zone	change	0.0	-230.9	-224.6	-441.3	-198.0
	result	1,302.7	1,071.8	1,078.2	861.4	1,104.8
Stream Crossing Frequency (number per mile of channel)	change	0.0	-0.2	-0.1	-0.3	-0.1
	result	0.8	0.6	0.7	0.5	0.7
Open Use Area & Distance Designations within the Riparian Influence Zone (acres)	change	0	-175,438	-201,379	-208,716	-201,508
	result	233,733	58,295	32,354	25,017	32,225
Hydrologic – Motorized Route Density (miles per square mile)	change	0.0	-0.3	-0.3	-0.5	-0.3
	result	1.3	1.0	1.0	0.8	1.1
Miles of Motorized Route on Sensitive Soils	change	0.0	-445.8	-428.5	-762.9	-381.7
	result	2,033.2	1,587.4	1,604.8	1,270.3	1,651.5
Acres of Cumulative Effects Area Open to Motorized Use including Distance Designations	change	0	-764,793	-840,611	-860,348	-840,497
	result	924,480	159,688	83,870	64,132	83,983
Percent Cumulative Effects Area Open to Motorized Use including Distance Designations	change	0.0%	-45.8%	-50.3%	-51.5%	-50.3%
	result	55.3%	9.6%	5.0%	3.8%	5.0%
Open Use Area & Distance Designations on Sensitive Soils (acres)	change	0	-320,238	-361,536	-372,622	-361,440
	result	410,628	90,390	49,092	38,007	49,188
Average Composite Scores for All Issue Indicators (1=least impact)	result	**5.7**	**1.8**	**1.4**	**1.0**	**1.4**

Tables 3-10 and 3-11 reflect cumulative impacts from past and current conditions. The measures used to project direct and indirect impacts in Tables 3-7 through 3-9, and Table 3-17 are

cumulative since they are summarized by analysis watershed and include all motorized routes, open use areas, and foreseeable activities. The descriptions and rationale contained in the specialist report show that no physical response from the Fishlake OHV Route Designation Project would extend to or be measurable beyond the cumulative effects areas shown in Figure 3-3. The assessment of Forest Plan consistency, impacts to Water Quality Limited streams and lakes; reasonably foreseeable activities, the information in Tables 3-7 through 3-17, and the forest-scale Roads Analysis supplement all demonstrate that the action alternatives would have a net benefit to long-term soil productivity, wetland and riparian area condition, support of aquatic organisms and their habitat, and water quality on the forest provided the "Required Design Criteria" are applied (see specialist report for details). No Action would result in impacts that are similar to what is occurring currently or that increase over time due to retaining existing route designations and inadequate travel rules while the rapid growth in motorized use on the forest continues at the same time that capabilities of the machines improve. Technological improvements in OHVs could also reduce water quality impacts from individual machines over time by reducing the potential for spilling or leaking oil, gas, and hydraulic fluids and/or by making the machines more fuel-efficient, but the absolute impact also depends on how much motorized use increases. Each of the action alternatives improve current support of aquatic beneficial uses that are protected under the Clean Water Act as amended. No Action would require future actions in order to stay consistent with the Clean Water Act.

Under current management, OHV impacts are becoming a problem on several important forest aquatic habitats supporting fisheries, amphibians and other aquatic biota. While the concerns are presently secondary to those caused by National Forest roads and other management activities such as livestock grazing, this pattern of increasing use and impacts, especially in areas along streams, lakes and waterways will continue to increase cumulative effects to fisheries and other aquatic biota. In time, it could become a primary issue of concern to these resources on many waters.

All of the action alternatives are greatly preferable to the existing situation (No Action alternative). All make considerable improvements in hydrologic measures such as miles of encroaching road; watershed acres open to cross-country travel; numbers of stream crossings, etc. There are relatively minor differences between Alternatives 2, 3, 4, and 5. Alternatives 3, 4, and 5 are generally preferable for fisheries and aquatic biota due to the smaller distance designation for access to dispersed camping sites and several changes to address specific fisheries concerns. There are some areas proposed for closure and obliteration or seasonal closure in Alternative 2 that are opened in Alternatives 3, 4 and 5, however. The most important specific change in Alternatives 3, 4, and 5 is the elimination of motorized travel along all of Fish Creek. The user created trail is the major impact to the stream in the upper watershed.

Alternative 4 is most favorable for aquatic biota overall, because it has the most obliteration of routes within riparian areas (see the last row in Table 3-17 for relative comparisons of alternatives). There are a few specific areas where Alternative 4 would have additional benefits to fisheries. These are UM Creek, where closure of the Left Hand Fork trail would reduce some sedimentation and disease transfer risk, Manning Creek where closure of the trail past Barney Lake would help reduce sedimentation and impacts to boreal toads, and Sam Stowe and upper Lost Creek where motorized route closures in the upper watersheds would reduce sedimentation impacts to these streams. Alternatives 2, 3, and 4 would result in less impacts from motorized travel on upper Pine Creek (west side of the Tushar Mts) than Alternative 5, but this may be partially offset by increased impacts from other land uses if access for needed administrative activities is lost. Under Alternative 5 Pine Creek OHV use levels and road impacts should be monitored to assure that impacts do not increase if motorized use levels increase.

Unroaded and Undeveloped Lands

Affected Environment

What follows is a summary of the potential effects of the proposed Off Highway Vehicle (OHV) Route Designation Project to undeveloped (roadless) character on the Fishlake National Forest. More detailed discussion of the existing wilderness characteristics and potential impacts associated with each alternative can be found in the source report that is included on the CD-ROM distributed with the FEIS or can be viewed on the project web page.

The Forest Service is concerned about short- and long-term effects associated with this management activity; particularly those which may adversely impact any potential wilderness characteristics associated with undeveloped areas. Effects occurring in undeveloped areas related to soils, water, vegetation, wildlife, and heritage resources can be reviewed in the appropriate sections of the FEIS and in the project file.

This issue involves the effects of existing road authorizations and related human activities (primarily motorized travel) on the character of undeveloped areas presently being determined during the Fishlake National Forest's plan revision. This issue is important to many people who may want these identified areas kept unaltered by human activity or recommended for wilderness in the future. It is equally important to others who want these same areas developed and made more accessible to motorized vehicles.

Unmanaged recreation is one of the four threats to the National Forest System as described by its present Chief Dale Bosworth. As he stated, "…the issue is this: Back when we had light recreational use, we did not need to manage it; but now that it's heavier, we do. OHVs are a great way to experience the outdoors, and only a tiny fraction of the users leave lasting traces by going cross-country. But the number of people who own OHVs has exploded in recent years. In 2000, it reached almost 36 million. Even a tiny percentage of impact from all those millions of users is still a lot of impact. Each year, we get hundreds of miles of what we euphemistically refer to as "unplanned roads and trails."

On the Fishlake National Forest as a whole, OHV use has greatly increased in recent years (Reid 2005). There is a noticeable corresponding increase in encroachment by unrestricted use into more primitive areas of the forest. This Fishlake OHV Route Designation Project is focused towards addressing this trend.

The term "undeveloped area" refers to an area usually of at least 5,000 acres, without developed and maintained roads, and substantially natural that was initially inventoried as part of either the National Roadless Area Review Evaluation (RARE II) process or the Land and Resource Management Planning Process (36 CFR 219.17(a)(1)).

The Utah (1984) Wilderness Act released National Forest System lands within the Fishlake National Forest to other multiple use management until the next planning cycle. At the end of this period, and during Forest Plan revision (presently under way), this inventory of roadless or undeveloped areas and the need for additional wilderness is again being evaluated using the updated Roadless Area Inventory and Evaluation Protocol for Region 4 of the Forest Service.

This evaluation does not address wilderness suitability (36 CFR 219.17(a)(2)) of the inventoried roadless areas or the subsequent undeveloped areas being determined through the plan revision

process. This review addresses potential effects to wilderness character for undeveloped areas from proposed changes outlined in alternatives for this proposed OHV Route Designation project.

The existing Fishlake Land and Resource Management Plan (1986) does not provide desired conditions, goals, or standards and guidelines to specifically address or maintain roadless or undeveloped character. However, some of the lands initially inventoried as roadless during the RARE II process were allocated coincident to generally maintaining potential wilderness characteristics, such as Research Natural Areas, critical wildlife winter range or habitat, and semi-primitive non-motorized areas. Other lands also inventoried earlier as roadless have been managed in ways that allowed road construction and other development such as timber harvest. The most recent inventory of undeveloped areas used in the analysis for this project incorporating the updated Region 4 Roadless Area Inventory and Evaluation Protocol contains approximately 30 percent more total acres than that determined during RARE II.

Undeveloped character is largely the sense of remoteness and isolation a person may feel by the absence of people and their associated activities. People and their associated activities have affected or influenced much of the project area. Outside of the undeveloped area boundaries, it is difficult to find areas of land that have not been impacted. Indicators of these conditions are demonstrated by the presence or absence of motorized network densities (roads and trails), past and current harvest activities, improvements associated with cattle and sheep allotments and their use, and developed and dispersed recreation sites.

Presently there are 2,526 total miles of motorized roads and 1,014 miles of motorized trails distributed across the project area. Additionally, 934,433 acres or 64 percent of the project area is open to wheeled motorized cross-country travel. In contrast, there are 50 total miles of existing motorized roads and 482 miles of motorized trails contained within associated undeveloped areas. Although, a total of 502,391 acres or 54 percent of undeveloped areas are open to this unrestricted motorized travel.

Forest Roads typically have a 12 to 14-foot wide road surface with an additional 4 feet of clearing of vegetation on each side of the roadway (cut-and-fill slopes are often associated with these roads). Motorized trails are generally less than 5 feet wide, and minor cut and fill slopes may be associated with them.

Past and present timber sales are located in portions of the project area, however, no evidence (to the casual visitor) of timber sales exist or are currently planned in the designated undeveloped areas as determined in the current inventory being developed in Forest Plan revision.

Although located within the area of the route designation project, there are no developed recreation sites within inventoried undeveloped areas. These developed areas are highly used from approximately July 1 through October. Dispersed recreation sites serving a variety of uses exist throughout the project area, with higher concentrations near water and along access routes. The limited winter recreational use of these areas is primarily snowmobiling.

There are numerous livestock grazing allotments contained in the project area. These allotments encompass the entire forest except for a portion of the northwest face of Monroe Mountain within the Signal Peak Undeveloped Area. As also determined during the undeveloped area evaluation, major improvements are primarily limited to areas outside the undeveloped areas. However there are troughs, fences, water ponds, etc., located within these areas. Figure 3-4 illustrates the location of the undeveloped areas associated with the Fishlake OHV Route Designation Project.

The key elements established to disclose and compare effects to undeveloped character are miles of newly authorized road and a narrative description of potential changes in the wilderness characteristics of manageability, natural integrity, natural appearance, opportunities for solitude, opportunities for primitive recreation or challenging experiences, special features, and remoteness. The degree to which each undeveloped area achieves each of these characteristics portrays the area's condition. Previous studies used to prepare the affected environment include the Fishlake National Forest Roadless Area Evaluation or Appendix C of the Forest Plan that completed in 1986, and the more recent Undeveloped Area Evaluation conducted by the Fishlake and Dixie National Forests plan revision team in 2004. The results of these two evaluations, which outline the present quantitative and qualitative attributes for the undeveloped areas, are described in the source reports and are incorporated by reference. Only undeveloped areas potentially affected by authorizing roads in action alternatives are summarized below. The potential wilderness characteristics listed above are used as comparison elements. The key comparison elements for evaluating how the alternatives respond to the issue are miles of road authorized as well as narratively describing associated changes in manageability, natural integrity, natural appearance, opportunities for solitude, opportunities for primitive recreation or challenging experiences, special features, and remoteness.

Effects Common to All Alternatives

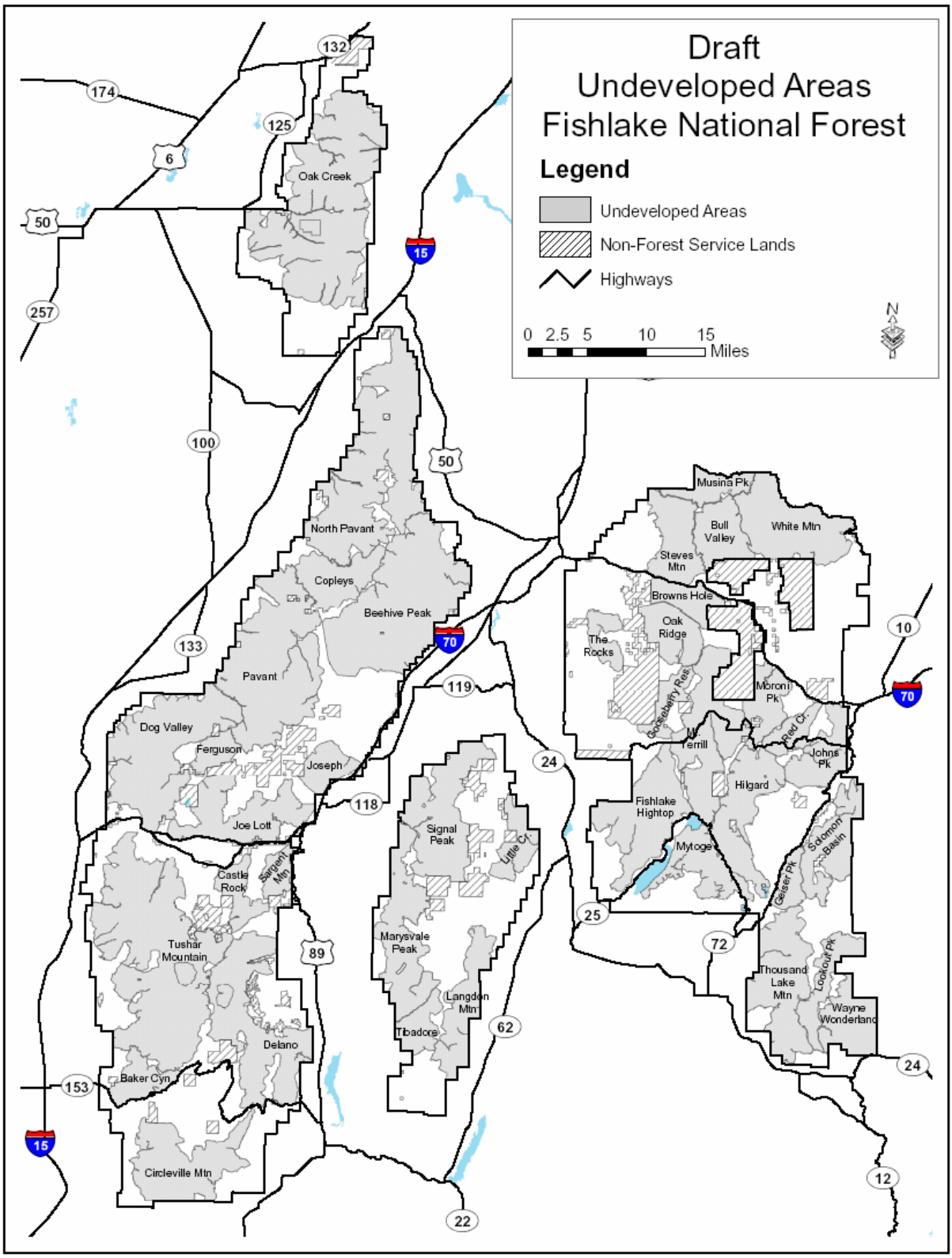
Changes in wilderness characteristics for any affected undeveloped area are consistent with decisions made in the existing 1986 Forest Plan and the 1984 Utah Wilderness Act.

Effects occurring in undeveloped areas related to wildlife, soils, water, biological diversity, cultural resources, etc. can be reviewed in the appropriate sections of the FEIS. These sections indicate that the above resources would be maintained or improved through each of the proposed actions.

Motorized cross-country travel (both legal and not) and use of non-system roads and trails (including non-motorized trails) has increased annually causing a corresponding reduction in a sense of remoteness and naturalness within undeveloped areas. Non-system travelways, when used year after year, become a part of the public's expectation for motorized access. Unauthorized motorized use has reduced the manageability of these areas based on past trends of unauthorized intrusions. The open nature of the terrain in some locations makes management of the undeveloped areas even more problematic.

In addition to direct effects discussed for each alternative, it should be noted that there are potential indirect effects to undeveloped areas associated with sights and sounds from activities or development on adjacent lands. These secondary effects are more evident for the No Action alternative due to the ever-increasing amount of open cross-country or unrestricted motorized use. Alternatives 2, 3, and 5 would exhibit a much lower level of this indirect effect to undeveloped areas by limiting cross-country travel to minor open use areas located near the communities of Richfield, Elsinore, Bicknell and Torrey. Alternative 4 has no designated open use areas.

Figure 3-4. Map of undeveloped areas on the Fishlake National Forest.



Effects Common to the Action Alternatives

No acreage in any undeveloped area is open to wheeled, motorized cross-country travel for any of the action alternatives. Restricting this open motorized travel greatly contributes to potential wilderness character. However, a dispersed camping designation of 300 feet for Alternative 2 and 150 feet for Alternatives 3, 4 and 5 on either side of designated roads or motorized trails allows use of existing routes to access dispersed campsites. This is reflected in the small amount of open use acres indicated on the tables associated with each alternative, and has relatively small effect to potential wilderness character. The minor impact would decrease further as distance designations are removed, or replaced by designated route to dispersed campsites.

Authorizing an existing road is not a ground disturbing activity. Only an accounting change in a database is required. However, the action does formally authorize existing and future motorized use. As this use increases, the roads in undeveloped areas could directly change the physical and biological aspects of the associated lands for the longer term and accordingly affect its wilderness characteristics indefinitely. A more modified setting would heighten one's sensation of being in a developed area. The character of the greater landscape may change because the sights, sounds and other evidence of people could be noticed for some distance, even beyond the area directly affected. Some effects on wilderness characteristics are relatively short-lived, as is evidenced with some forms of vegetative management such as using a Dixie harrow. Other more apparent changes to potential wilderness character, i.e., roading, may endure indefinitely due to soil scarring, continuing use.

Undeveloped areas containing or within sight of roads and motorized trails would be proportionately modified in natural integrity and apparent naturalness. In these areas, opportunities for solitude and the associated sense of remoteness would be reduced dependant on contrasting sights and sounds. Conversely, reducing roads or motorized trails in undeveloped areas would increase these wilderness characteristics. Obliterating roads outside of undeveloped areas could create boundaries that are more manageable.

Increasing motorized travel within an undeveloped area could change the recreational use of that area. Forest users seeking a relatively primitive recreation experience might choose not to visit the area, but the number of forest users seeking a more modified setting could increase. Indirectly, development or activity occurring outside of the undeveloped areas could also have the effect of encouraging recreationists to use these relatively less developed areas for camping and other uses. Subsequently, the remoteness and solitude of these areas located near activity or development could be degraded as users move into these undeveloped areas to seek a more unmodified natural setting. As a result, the more developed of these areas would not likely be considered for wilderness suitability until such time the evidence of human related development is not appreciably noticeable. This would especially be the case for future revisions of the Forest Plan and therefore, could remove or limit future opportunities to consider and recommend wilderness.

Alternative 1 – No Action Consequences

Figure 3-5 shows the inventoried areas in Alternative 1 that contain roads that influence the current undeveloped character. Table 3-18 summarizes the miles and acres of all open routes and area available for cross-country travel for alternative 1 (No Action).

Alternative 1 would allow both direct and indirect effects to associated undeveloped areas to continue to increase, particularly in relation to open cross-country travel. Therefore, there would be a decrease in natural integrity, natural appearance, remoteness, solitude, and opportunities for primitive recreation or challenging experiences, manageability and special features of these areas consistent with motorized off-road use trends.

In contrast to the action alternatives, Alternative 1 would not obliterate or reclaim any existing system or non-system routes. Accordingly, the potential benefit of improvements in manageability (limited motorized access), and a corresponding positive effect to potential wilderness characteristics, particularly solitude and apparent naturalness would not be realized.

Alternative 2 – Proposed Action Consequences

Figure 3-6 shows the location of undeveloped with roads to be authorized for Alternative 2. Table 3-19 summarizes the miles of open motorized routes (including acres associated with the 300-foot wide distance designations for dispersed camping) for Alternative 2.

Specific effects to undeveloped areas for Alternative 2 are presented below.

Beehive Peak

This undeveloped Area of 60,872 acres in size would contain 1.94 miles of newly authorized road (U0861) located above the town of Aurora. This road is the preferred access to the main Paiute Trail. This existing road proposed for authorization is near the edge of the undeveloped area nearest town. Effects to the potential wilderness characteristics of natural integrity and appearance, solitude and manageability would be comparatively negligible for this action due to the amount of present development (roading, fencing, structures) and disturbance (mining, dumping) visible throughout the area.

In summary, visitors using the Beehive Peak Undeveloped Area would perceive minor change in the areas wilderness characteristics upon formally adding this road to the system, especially since 3.6 miles of other road and motorized trail in the area would be obliterated. This would result in an offsetting positive effect when combined with eliminating unrestricted or cross-country motorized travel. The generally high rating for wilderness character as outlined in the existing condition for this undeveloped area would remain so.

Figure 3-5. Map of undeveloped areas affected by Alternative 1.

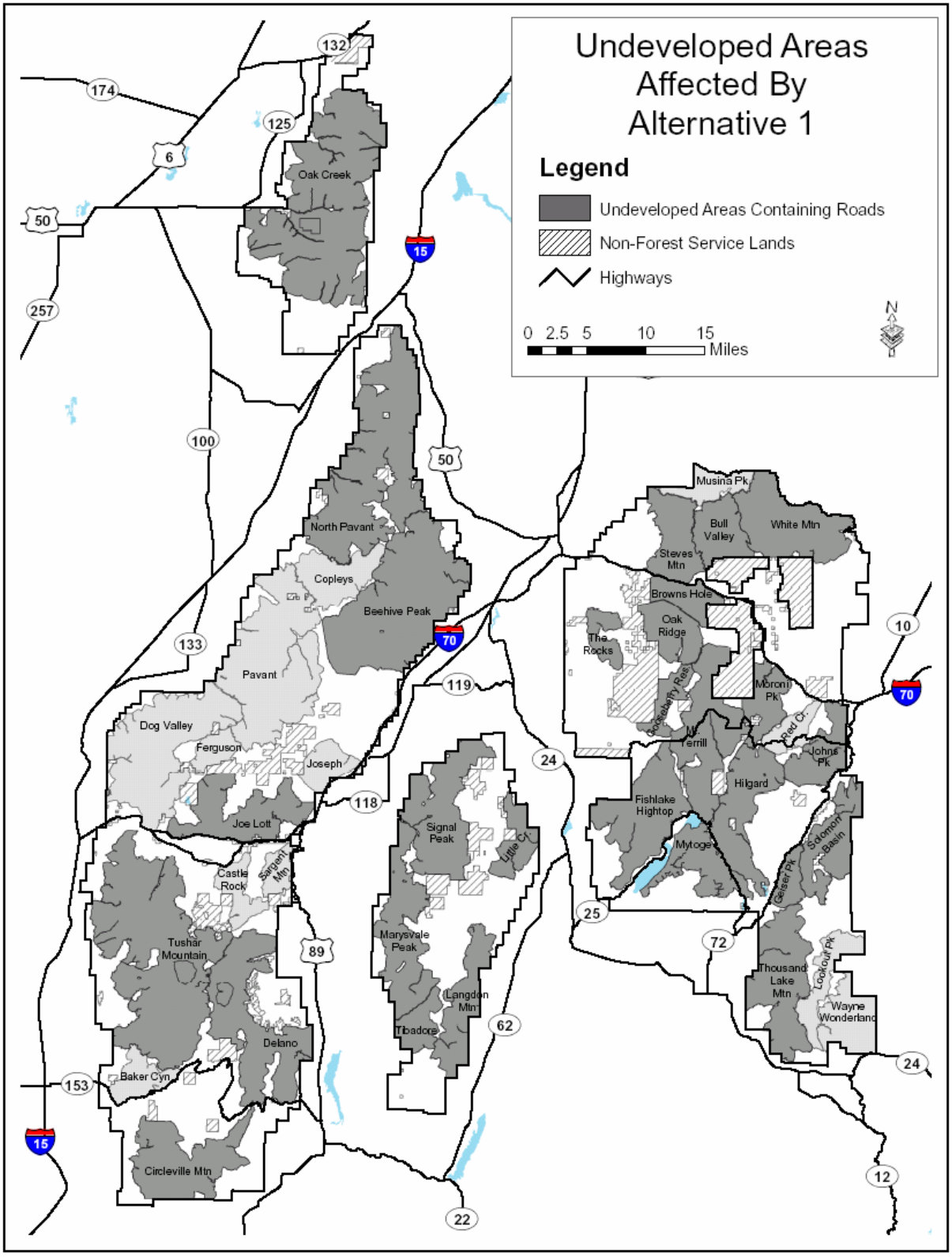


Table 3-18. Undeveloped Areas, Alternative 1 - Acres by Area and Motorized Miles by Area

Undeveloped Area Name	Total Acres	Open Use / Exemption Acres	% of Total Area	Road Miles	Motorized Trail Miles	Total Motorized
Baker Canyon	9,079	9,079	100%	0.0	0.2	0.2
Beehive Peak	60,872	34,740	57%	2.1	25.3	27.4
Browns Hole	8,212	1,658	20%	0.8	5.1	5.8
Bull Valley	13,273	470	4%	0.6	18.0	18.6
Castle Rock	8,270	8,270	100%	0.0	6.4	6.4
Circleville Mountain	28,630	20,650	72%	0.8	12.4	13.1
Copleys	14,843	10,203	69%	0.0	6.3	6.3
Delano	39,552	17,307	44%	2.2	6.5	8.8
Dog Valley	45,386	39,629	87%	0.0	21.2	21.2
Ferguson	5,770	131	2%	0.0	0.7	0.7
Fishlake Hightop	29,278	4,542	16%	0.2	8.8	9.1
Geiser Peak	6,011	755	13%	0.5	5.2	5.6
Gooseberry Reservoir	6,874	306	4%	0.3	8.7	9.0
Hilgard	24,636	24,183	98%	8.4	19.6	28.0
Joe Lott	24,358	24,358	100%	0.7	16.4	17.1
Johns Peak	13,497	13,497	100%	0.5	6.6	7.2
Joseph	8,101	8,101	100%	0.0	10.1	10.1
Langdon Mountain	18,184	18,184	100%	0.8	17.0	17.8
Little Creek	9,529	8,121	85%	0.9	8.4	9.4
Lookout Peak	11,221	692	6%	0.0	9.6	9.6
Marysvale Peak	27,168	26,829	99%	0.6	29.4	30.1
Moroni Peak	10,900	10,900	100%	0.8	18.9	19.7
Mount Terrill	29,955	7,822	26%	2.8	32.5	35.3
Musina Peak	7,811	187	2%	0.0	1.1	1.1
Mytoge	14,884	12,061	81%	2.2	0.6	2.8
North Pahvant	64,180	49,650	77%	0.6	22.9	23.5
Oak Creek	78,296	48,733	62%	0.8	28.0	28.8
Oak Ridge	12,479	205	2%	0.2	14.9	15.1
Pahvant	55,482	22,814	41%	0.0	13.1	13.1
Red Creek	6,864	6,864	100%	0.0	3.3	3.3
Sargent Mountain	5,525	5,525	100%	0.0	1.0	1.0
Signal Peak	29,900	11,649	39%	1.5	20.3	21.8
Solomon Basin	18,008	5,647	31%	1.9	8.4	10.4
Steves Mountain	16,451	487	3%	1.6	14.1	15.7
The Rocks	6,232	6,232	100%	10.5	8.6	19.1
Thousand Lake Mountain	29,257	2,552	9%	1.0	26.6	27.6
Tibadore	8,074	4,945	61%	1.1	1.5	2.6
Tushar Mountain	82,094	33,408	41%	4.2	16.3	20.5
Wayne Wonderland	15,050	404	3%	0.0	0.8	0.8
White Mountain	29,136	601	2%	0.9	6.9	7.9
Total Acres	**933,321**	**502,391**	**54%**	**49.6**	**481.9**	**531.6**

Figure 3-6. Map of undeveloped areas affected by Alternative 2.

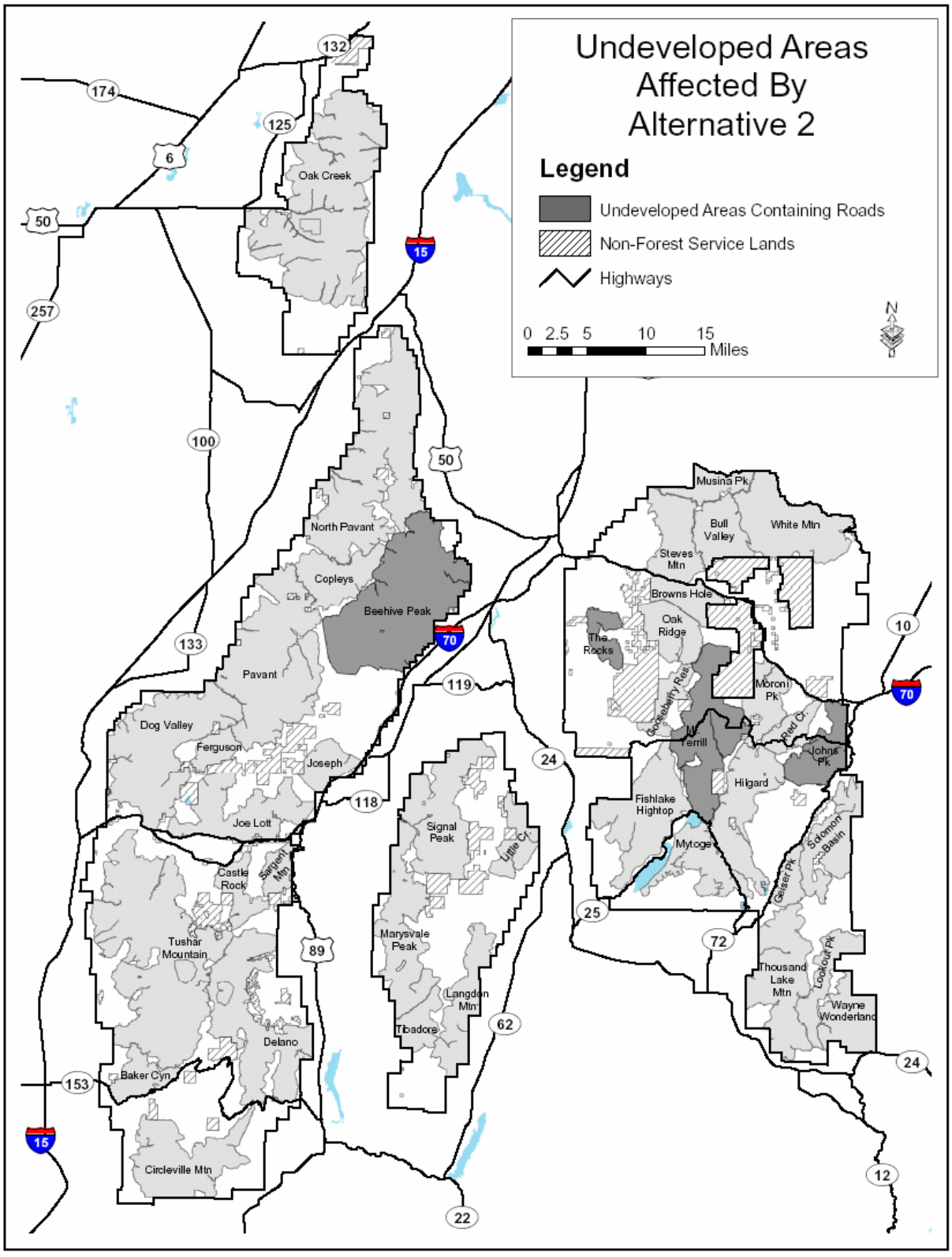


Table 3-19. Undeveloped Areas, Alternative 2 - Acres by Area and Motorized Miles by Area

Undeveloped Area Name	Total Acres	Open Use / Designation Acres	% of Total Area	Road Miles	Motorized Trail Miles	Total Motorized
Baker Canyon	9,079	343	4%	0.0	0.0	0.0
Beehive Peak	60,872	2,841	5%	1.9	21.7	23.6
Browns Hole	8,212	313	4%	0.0	4.0	4.0
Bull Valley	13,273	1,225	9%	0.0	10.8	10.8
Castle Rock	8,270	639	8%	0.0	2.2	2.2
Circleville Mountain	28,630	1,408	5%	0.0	10.9	10.9
Copleys	14,843	1,189	8%	0.0	6.3	6.3
Delano	39,552	1,208	3%	0.0	0.3	0.3
Dog Valley	45,386	2,703	6%	0.0	15.0	15.0
Ferguson	5,770	308	5%	0.0	0.1	0.1
Fishlake Hightop	29,278	803	3%	0.0	1.0	1.0
Geiser Peak	6,011	328	5%	0.0	0.0	0.0
Gooseberry Reservoir	6,874	682	10%	0.0	5.3	5.3
Hilgard	24,630	1,319	5%	0.0	5.8	5.8
Joe Lott	24,358	1,656	7%	0.0	7.2	7.2
Johns Peak	13,497	653	5%	0.5	0.0	0.5
Joseph	8,101	133	2%	0.0	0.0	0.0
Langdon Mountain	18,184	1,921	11%	0.0	15.9	15.9
Little Creek	9,529	646	7%	0.0	4.3	4.3
Lookout Peak	11,221	522	5%	0.0	3.2	3.2
Marysvale Peak	27,168	2,089	8%	0.0	16.1	16.1
Moroni Peak	10,900	1,476	14%	0.0	14.4	14.4
Mount Terrill	29,955	1,945	6%	1.2	15.8	17.0
Musina Peak	7,811	188	2%	0.0	0.0	0.0
Mytoge	14,884	804	5%	0.0	0.0	0.0
North Pahvant	64,180	3,362	5%	0.0	17.2	17.2
Oak Creek	78,296	3,968	5%	0.0	20.5	20.5
Oak Ridge	12,479	1,070	9%	0.0	14.2	14.2
Pahvant	55,482	3,324	6%	0.0	15.5	15.5
Red Creek	6,864	382	6%	0.0	0.0	0.0
Sargent Mountain	5,525	236	4%	0.0	0.0	0.0
Signal Peak	29,900	801	3%	0.0	2.9	2.9
Solomon Basin	18,008	477	3%	0.0	0.0	0.0
Steves Mountain	16,451	1,171	7%	0.0	9.1	9.1
The Rocks	6,232	539	9%	0.7	3.5	4.3
Thousand Lake Mountain	29,257	1,849	6%	0.0	21.1	21.1
Tibadore	8,074	430	5%	0.0	0.8	0.8
Tushar Mountain	82,094	2,360	3%	0.0	2.6	2.6
Wayne Wonderland	15,050	156	1%	0.0	0.0	0.0
White Mountain	29,136	642.5	2%	0.0	0.0	0.0
Total Acres	**933,315**	**48,109**	**5%**	**4.4**	**267.9**	**272.3**

Johns Peak

This undeveloped Area covering 13,497 acres contains 0.52 miles of road (U0273) at its northwest boundary to be newly authorized in this alternative. Alternative 1 retains this same 0.52 miles of system road remaining in this undeveloped area. No designated motorized trails would remain in this area (3.83 obliterated). For Alternative 2 there would not be any area open to unrestricted motorized travel in the undeveloped area, which in alternative 1 (no action) has 100 percent of its area open to motorized unrestricted travel.

This undeveloped area is of relatively smaller size, and only moderate in the existing amount of apparent development or disturbance. However, the effect of this road to natural appearance would be noticeable to the casual forest visitor only in a small portion of the area due to its intruding only half a mile from the area's boundary. Effects to the area's potential wilderness character overall, should remain within the threshold requisite to maintaining its status as an undeveloped area as rated moderate to low in the existing condition description.

Mount Terrill

This undeveloped Area of 29,955 acres would have 1.19 miles of road (U0475) newly authorized in this alternative. In comparison, the no action alternative has 2.80 miles of road. 7,822 acres are open to motorized cross-country travel in Alternative 1 or approximately 26%. Motorized trail miles are reduced almost by half (17 miles) from Alternative 1.

The potentially authorized road is located at the end of the eastern appendage of the undeveloped area near several other existing system roads and motorized trails. In relation, the effects this road has on the undeveloped character of the entire area would be minor.

The Rocks

In this undeveloped Area of only 6,232 acres, a 0.74-mile extension of road 279 would be newly authorized in Alternative 2. In comparison, the no action alternative has 10.5 total miles of road network in this area and Alternative 3 has 3.19 miles. Outside of seasonal restrictions for big-game winter range, this entire area remains open to motorized cross-country use in the no-action alternative. All of the action alternatives disallow this motorized unrestricted travel during all seasons of the year.

In the existing condition description, this undeveloped area is rated low for manageability, natural integrity, opportunities for solitude, and opportunities for primitive recreation or challenging experiences. Natural Appearance was moderate. There are no special features and it is relatively close to communities or populated areas, contributing to a marginal sense of remoteness for visitors there. It is anticipated that the added effects of authorizing this 0.74 mile section of road that roughly bisects the undeveloped area in half would place the area below the threshold of being continued as an undeveloped area, also defined as usually of 5,000 contiguous acres in size. If this alternative were selected, this area would be dropped from the undeveloped area inventory and would not receive future consideration for wilderness recommendations.

Alternative 3 – Modified Proposed Action Consequences

Figure 3-7 shows the location of undeveloped areas with roads to be authorized for Alternative 3. Table 3-20 summarizes the miles of open motorized routes (including acres associated with a 150-foot wide distance designations for dispersed camping) for Alternative 3.

Figure 3-7. Map of undeveloped areas affected by Alternative 3.

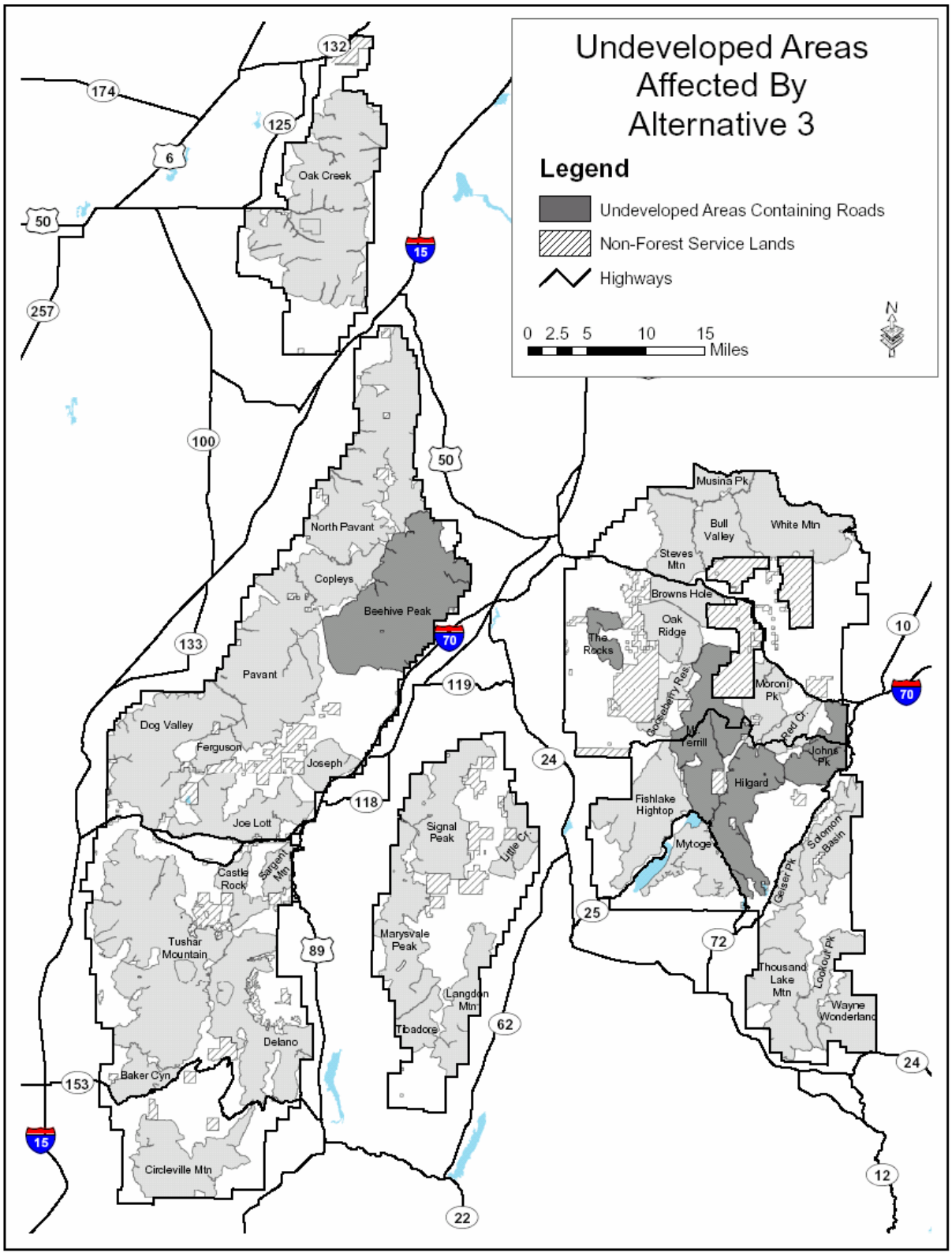


Table 3-20. Undeveloped Areas, Alternative 3 - Acres by Area and Motorized Miles by Area

Undeveloped Area Name	Total Acres	Open Use / Designation Acres	% of Total Area	Road Miles	Motorized Trail Miles	Total Motorized
Baker Canyon	9,079	144	2%	0.0	0.0	0.0
Beehive Peak	60,872	1,229	2%	1.9	18.7	20.7
Browns Hole	8,212	153	2%	0.0	4.0	4.0
Bull Valley	13,273	561	4%	0.0	11.0	11.0
Castle Rock	8,270	321	4%	0.0	2.2	2.2
Circleville Mountain	28,630	678	2%	0.0	10.9	10.9
Copleys	14,843	555	4%	0.0	6.3	6.3
Delano	39,552	478	1%	0.0	0.4	0.4
Dog Valley	45,386	1,311	3%	0.0	17.8	17.8
Ferguson	5,770	133	2%	0.0	0.1	0.1
Fishlake Hightop	29,278	669	2%	0.0	9.1	9.1
Geiser Peak	6,011	143	2%	0.0	0.0	0.0
Gooseberry Reservoir	6,874	336	5%	0.0	5.8	5.8
Hilgard	24,631	694	3%	0.9	6.7	7.6
Joe Lott	24,358	872	4%	0.0	10.4	10.4
Johns Peak	13,497	327	2%	0.5	3.8	4.3
Joseph	8,101	52	1%	0.0	0.0	0.0
Langdon Mountain	18,184	848	5%	0.0	14.1	14.1
Little Creek	9,529	301	3%	0.0	4.3	4.3
Lookout Peak	11,221	292	3%	0.0	4.4	4.4
Marysvale Peak	27,168	920	3%	0.0	14.7	14.7
Moroni Peak	10,900	680	6%	0.0	14.2	14.2
Mount Terrill	29,955	866	3%	1.2	15.7	16.9
Musina Peak	7,811	0.3	0%	0.0	0.0	0.0
Mytoge	14,884	343	2%	0.0	0.0	0.0
North Pahvant	64,180	1,455	2%	0.0	17.0	17.0
Oak Creek	78,296	1,328	2%	0.0	21.1	21.1
Oak Ridge	12,479	504	4%	0.0	14.2	14.2
Pahvant	55,482	1,478	3%	0.0	15.6	15.6
Red Creek	6,864	121	2%	0.0	0.2	0.2
Sargent Mountain	5,525	93	2%	0.0	0.0	0.0
Signal Peak	29,900	341	1%	0.0	2.9	2.9
Solomon Basin	18,008	208	1%	0.0	0.0	0.0
Steves Mountain	16,451	509	3%	0.0	9.1	9.1
The Rocks	6,232	340	5%	3.2	3.5	6.7
Thousand Lake Mountain	29,257	877	3%	0.0	20.5	20.5
Tibadore	8,074	119	1%	0.0	0.0	0.0
Tushar Mountain	82,094	1,078	1%	0.0	5.1	5.1
Wayne Wonderland	15,050	75	0%	0.0	0.0	0.0
White Mountain	29,136	247	1%	0.0	0.0	0.0
Total Acres	**933,315**	**21,680**	**2%**	**7.8**	**284.0**	**291.8**

Specific effects to undeveloped areas for Alternative 3 are presented below.

Beehive Peak

This undeveloped Area of 60,8752 acres in size would contain 1.94 miles of newly authorized road (U0861) located above the town of Aurora and would accordingly exhibit effect similar to Alternative 2. The area would receive some added benefit, primarily in natural appearance by roughly doubling the amount of motorized trails to be obliterated (6.28 miles).

Hilgard

This 24,630-acre undeveloped area contains a section of road (0.45 miles) to be newly authorized in this alternative. This half-mile section of road (1509) heads toward an inholding of private land at Danish Meadows. There are tentative plans to extend this road an additional quarter mile to access this property in the near future.

In referring to the existing condition for this undeveloped area as described in its capability section; all present wilderness characteristics are rated medium, except manageability which is low. There are no special features other than the presence of Colorado River Cutthroat, which would benefit from route designation and closing the area to motorized cross-country travel. There is apparent development in the area associated with livestock improvements and a significant portion of the District's merchantable timber is located in this area at Willies Flat.

This undeveloped area is moderate in size. Its existing suitability for wilderness consideration is medium at best. The Tidwell Canyon area near its eastern contains a high density of roads and motorized trails with associated indirect or secondary effect. It would be expected that the overall status of the Hilgard Undeveloped Area would remain relatively the same, given the limited potential impact of authorizing this short section of road.

Johns Peak

As in Alternative 2, this undeveloped area covering 13,497 acres contains the identical 0.52 miles of road (U0273) at its northwest boundary to be authorized in this alternative and is affected much the same relative to wilderness characteristics. However as in the no action, this alternative does keep the 3.73 miles of existing motorized trail (allowed in undeveloped areas according to accepted protocol (USDA 2004)), with limited added effect.

Mount Terrill

This undeveloped Area of 29,955 acres also would have the same 1.19 miles of road (U0475) newly authorized for this alternative as in Alternative 2, with about a mile more of associated motorized trail to be obliterated. Accordingly, for all intents, the effects to undeveloped character are very similar to Alternative 2.

The Rocks

As discussed before, this undeveloped area is only 6,232 acres. In Alternative 3, 2.45 miles of road connecting the main Paiute ATV Trail (Road 050) to the rocks trail (#310) would be newly authorized in addition to the 0.74-mile extension of road 279 authorized in Alternative 2.

This alternative also would prohibit motorized off designated route travel during all seasons of the year. Again, outside of seasonal restrictions for big-game winter range this entire area remains open to motorized cross-country use in the no-action alternative.

As discussed for Alternative 2, in the existing condition description this undeveloped area is rated low for manageability, natural integrity, opportunities for solitude, and opportunities for primitive recreation or challenging experiences. Natural Appearance is moderate. There are no special features and it is relatively close to communities or populated areas, contributing to a marginal sense of remoteness for visitors there. If this alternative were selected, this area would be dropped from the undeveloped area inventory and would not receive future consideration for wilderness recommendations.

Alternative 4 – Non-motorized Emphasis Consequences

Figure 3-8 shows the location of undeveloped areas with roads to be authorized for Alternative 4. Table 3-21 summarizes the miles of open motorized routes (including acres associated with a 150-foot wide distance designation for dispersed camping) for Alternative 4.

Alternative 4 has a limited amount of newly authorized road proposed in only one undeveloped area and there accordingly would be very little direct effect to potential wilderness character. Indirect effects would be consistent with the other action Alternatives 2 and 3, due to visual and audible perceptions of unscreened adjacent activity or development common to all three.

In summary, Alternative 4 would have the least amount of potential impact to the wilderness character of undeveloped areas in comparison to all other alternatives.

The limited effect to the one undeveloped area containing 0.46 mile of proposed authorized road is presented below.

Hilgard

For this alternative, the 24,630 acre undeveloped area contains one short section of road to be newly authorized, totaling 0.45 miles. As described for Alternative 3, this half-mile section of road (1509) heads towards an inholding at Danish Meadows. There are plans to possibly extend this road an additional quarter mile to access this property in the future.

For reasons described earlier in more detail for Alternative 3, and to a somewhat more positive extent, the overall status of this area would remain much the same relative to potential suitability as wilderness given the limited potential impact of authorizing this section of road, which would primarily be used in the future to access private property.

Alternative 5 – Final Preferred Alternative

Figure 3-9 shows the location of undeveloped areas with roads to be authorized for Alternative 5. Table 3-22 summarizes the miles of open motorized routes (including acres associated with a 150-foot wide distance designation for dispersed camping) for Alternative 5.

Figure 3-8. Map of undeveloped areas affected by Alternative 4.

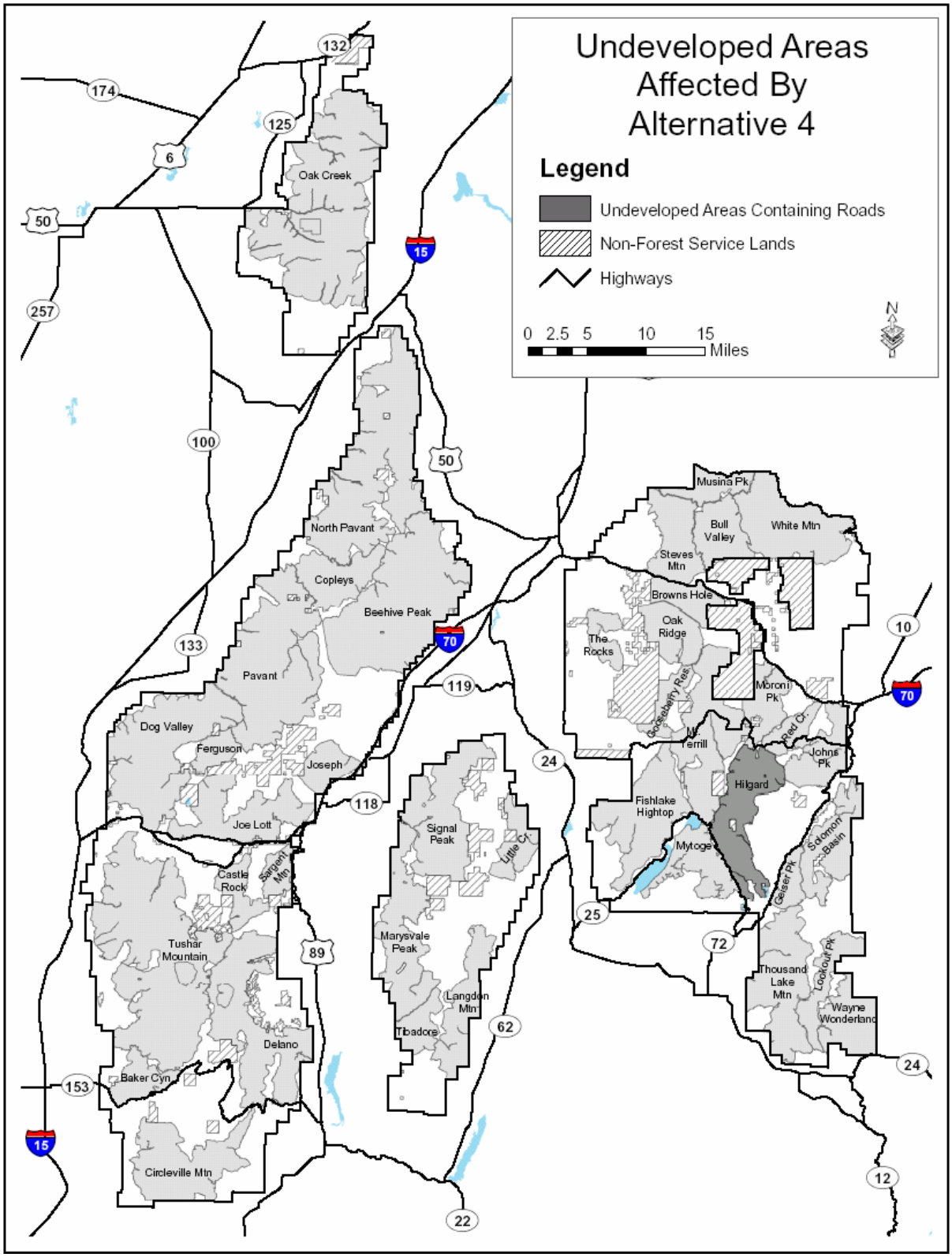


Table 3-21. Undeveloped Areas, Alternative 4 - Acres by Area and Motorized Miles by Area

Undeveloped Area Name	Total Acres	Open Use / Designation Acres	% of Total Area	Road Miles	Motorized Trail Miles	Total Motorized
Baker Canyon	9,079	141	2%	0.0	0.0	0.0
Beehive Peak	60,872	466	1%	0.0	0.0	0.0
Browns Hole	8,212	88	1%	0.0	2.4	2.4
Bull Valley	13,273	456	3%	0.0	8.3	8.3
Castle Rock	8,270	318	4%	0.0	2.2	2.2
Circleville Mountain	28,630	351	1%	0.0	1.9	1.9
Copleys	14,843	329	2%	0.0	0.0	0.0
Delano	39,552	466	1%	0.0	0.3	0.3
Dog Valley	45,386	601	1%	0.0	0.0	0.0
Ferguson	5,770	115	2%	0.0	0.0	0.0
Fishlake Hightop	29,278	342	1%	0.0	0.0	0.0
Geiser Peak	6,011	143	2%	0.0	0.0	0.0
Gooseberry Reservoir	6,874	134	2%	0.0	0.0	0.0
Hilgard	24,630	430	2%	0.5	1.4	1.9
Joe Lott	24,358	611	3%	0.0	4.7	4.7
Johns Peak	13,497	263	2%	0.0	0.0	0.0
Joseph	8,101	52	1%	0.0	0.0	0.0
Langdon Mountain	18,184	269	1%	0.0	0.0	0.0
Little Creek	9,529	147	2%	0.0	0.0	0.0
Lookout Peak	11,221	210	2%	0.0	0.7	0.7
Marysvale Peak	27,168	330	1%	0.0	0.0	0.0
Moroni Peak	10,900	165	2%	0.0	0.0	0.0
Mount Terrill	29,955	554	2%	0.0	8.6	8.6
Musina Peak	7,811	0.0	0%	0.0	0.0	0.0
Mytoge	14,884	337	2%	0.0	0.0	0.0
North Pahvant	64,180	780	1%	0.0	0.0	0.0
Oak Creek	78,296	601	1%	0.0	1.3	1.3
Oak Ridge	12,479	241	2%	0.0	6.5	6.5
Pahvant	55,482	845	2%	0.0	0.0	0.0
Red Creek	6,864	108	2%	0.0	0.0	0.0
Sargent Mountain	5,525	93	2%	0.0	0.0	0.0
Signal Peak	29,900	183	1%	0.0	0.0	0.0
Solomon Basin	18,008	208	1%	0.0	0.0	0.0
Steves Mountain	16,451	300	2%	0.0	3.6	3.6
The Rocks	6,232	73	1%	0.0	0.0	0.0
Thousand Lake Mountain	29,257	336	1%	0.0	3.3	3.3
Tibadore	8,074	114	1%	0.0	0.0	0.0
Tushar Mountain	82,094	868	1%	0.0	0.1	0.1
Wayne Wonderland	15,050	68	0%	0.0	0.0	0.0
White Mountain	29,136	242	1%	0.0	0.0	0.0
Total Acres	**933,315**	**12,378**	**1%**	**0.5**	**45.3**	**45.8**

Figure 3-9. Map of undeveloped areas affected by Alternative 5.

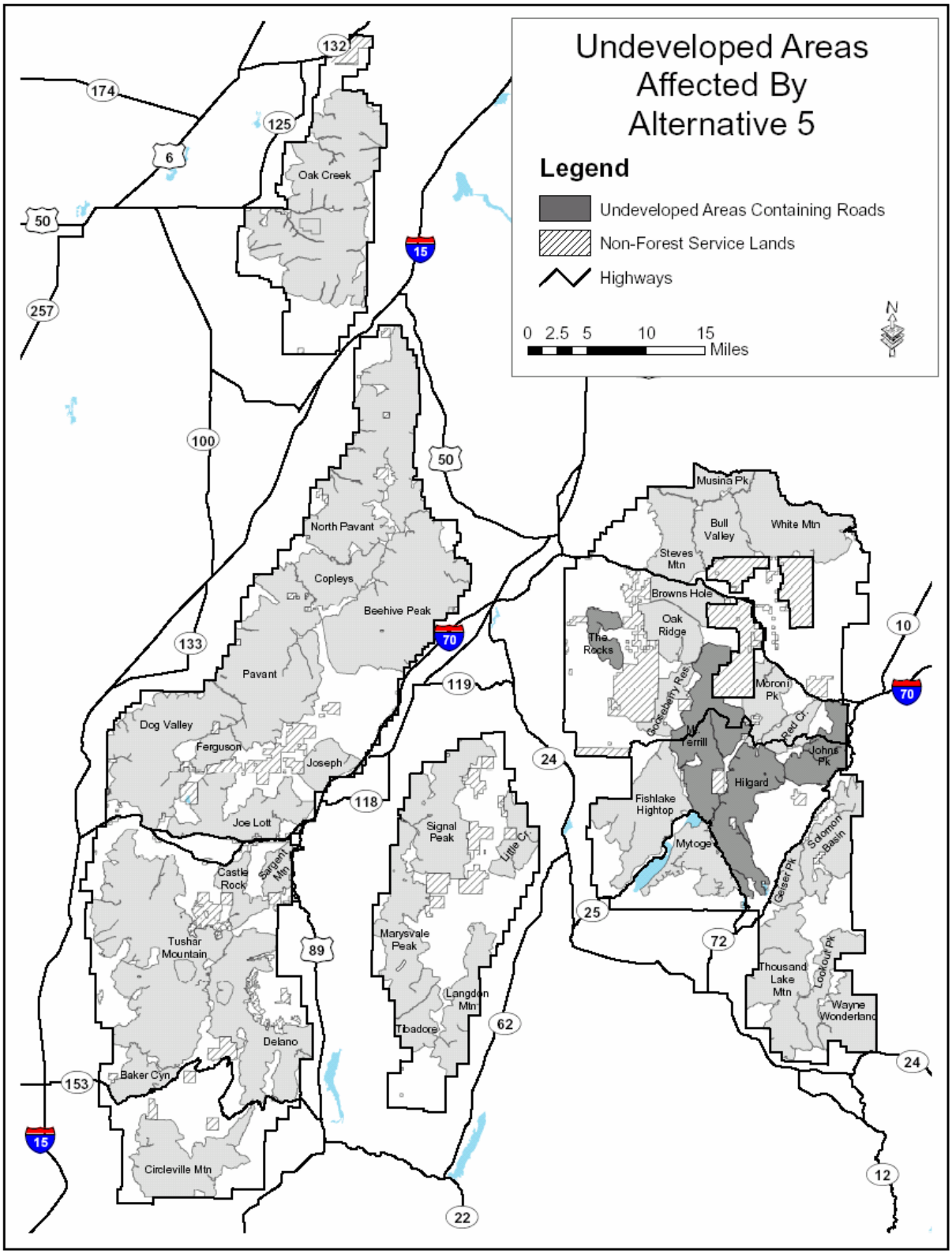


Table 3-22. Undeveloped Areas, Alternative 5 - Acres by Area and Motorized Miles by Area

Undeveloped Area Name	Total Acres	Open Use / Designation Acres	% of Total Area	Road Miles	Motorized Trail Miles	Total Motorized
Baker Canyon	9,079	118	1%	0.0	0.2	0.2
Beehive Peak	60,872	1,253	2%	0.0	21.1	21.1
Browns Hole	8,212	154	2%	0.0	4.0	4.0
Bull Valley	13,273	558	4%	0.0	11.0	11.0
Castle Rock	8,270	324	4%	0.0	2.2	2.2
Circleville Mountain	28,630	677	2%	0.0	11.7	11.7
Copleys	14,843	555	4%	0.0	6.3	6.3
Delano	39,552	434	1%	0.0	0.5	0.5
Dog Valley	45,386	1,239	3%	0.0	17.1	17.1
Ferguson	5,770	133	2%	0.0	0.1	0.1
Fishlake Hightop	29,278	682	2%	0.0	9.4	9.4
Geiser Peak	6,011	159	3%	0.0	0.3	0.3
Gooseberry Reservoir	6,874	354	5%	0.0	6.4	6.4
Hilgard	24,630	720	3%	1.2	6.7	7.9
Joe Lott	24,358	821	3%	0.0	8.8	8.8
Johns Peak	13,497	364	3%	0.5	5.4	6.0
Joseph	8,101	91	1%	0.0	0.7	0.7
Langdon Mountain	18,184	848	5%	0.0	14.1	14.1
Little Creek	9,529	301	3%	0.0	4.3	4.3
Lookout Peak	11,221	314	3%	0.0	5.3	5.3
Marysvale Peak	27,168	839	3%	0.0	12.7	12.7
Moroni Peak	10,900	683	6%	0.0	14.2	14.2
Mount Terrill	29,955	907	3%	1.2	16.4	17.6
Musina Peak	7,811	5	0%	0.0	0.0	0.0
Mytoge	14,884	437	3%	0.0	0.1	0.1
North Pahvant	64,180	1,423	2%	0.0	16.0	16.0
Oak Creek	78,296	1,283	2%	0.0	19.3	19.3
Oak Ridge	12,479	508	4%	0.0	14.2	14.2
Pahvant	55,482	1,484	3%	0.0	15.8	15.8
Red Creek	6,864	135	2%	0.0	0.2	0.2
Sargent Mountain	5,525	78	1%	0.0	0.0	0.0
Signal Peak	29,900	323	1%	0.0	2.6	2.6
Solomon Basin	18,008	208	1%	0.0	2.2	2.2
Steves Mountain	16,451	511	3%	0.0	9.1	9.1
The Rocks	6,232	359	6%	3.7	3.5	7.3
Thousand Lake Mountain	29,257	889	3%	0.0	22.4	22.4
Tibadore	8,074	119	1%	0.0	0.0	0.0
Tushar Mountain	82,094	1,091	1%	0.0	5.8	5.8
Wayne Wonderland	15,050	75	0%	0.0	0.0	0.0
White Mountain	29,136	249	1%	0.0	0.0	0.0
Total Acres	**933,315**	**21,706**	**2%**	**6.6**	**290.5**	**297.1**

Effects for Alternative 5 are the same as Alternative 3 with the following exception:

Beehive Peak

In this 60,872 acre undeveloped area, the 1.94 miles of road (U0861) that would be newly authorized in Alternative 3 would be designated as motorized trail in Alternative 5. This trail located above the town of Aurora would be allowed under present rules as discussed earlier in this report. The area would receive some marginal benefit, primarily in natural appearance, by maintaining a route width/prism appropriate for ATVs instead of full-sized vehicles.

Cumulative Effects Summary for Unroaded and Undeveloped Lands

Past and present non-motorized recreation activities in or adjacent to undeveloped areas are relatively non-impactive, such as hunting on foot or by horse, and backpacking. Motorized use, past or present has greater and more lasting effect. In the last decade, the use of OHVs has greatly increased throughout this area of Utah including the project area, as related earlier. This overall increase generally affects to a corresponding degree ones sense of remoteness and naturalness within undeveloped areas.

Existing developments including user-developed roads and trails, in or near undeveloped areas contribute to reducing primitive character. Generally, with the exception of cross-country motorized travel allowed in Alternative 1, the types of activities, facilities, recreational experiences, and scenery available in the greater area would remain the same for all alternatives.

Some management activities or projects near undeveloped areas may indirectly affect the area's undeveloped character especially in terms of apparent naturalness, solitude or remoteness due to noise or presence in distant views. This could also be true for associated reasonably foreseeable actions or activities as detailed in Appendix C of this FEIS.

Alternative 4 would have the least amount of cumulative effects to undeveloped character as it newly authorizes only a half-mile of road in one undeveloped area and eliminates many existing motorized routes in many other areas. Alternative 1 would have the greatest effect. Alternatives 2, 3, and 5 would have relatively similar cumulative effects, but would be much less than what is expected from No Action. All action alternatives would eliminate non-system routes and would prohibit motorized use of non-motorized trails, which would generally improve undeveloped character over time.

Motorized and Non-motorized Recreation

Affected Environment

The forest has expanses of wild landscapes that engage visitors seeking adventure, challenge, risk and exploration in motorized and non-motorized settings. Forest roads and trails are a means to access dispersed opportunities such as hunting, fishing, and viewing. Dispersed camping is often family oriented and transforms forest settings into mini-communities during peak seasons of use during the summer and fall hunts. The Paiute and Great Western loop trails provide challenging and scenic riding opportunities that connect the forest to local and regional communities.

Currently, the forest officially maintains about 2,302 miles of motorized routes and 892 miles of non-motorized routes, however a substantial portion of use also occurs on 1,239 miles of unauthorized motorized routes and 128 miles of unauthorized non-motorized trails. Large expansions to motorized or non-motorized route networks are not deemed necessary by the forest

based on current configurations and resources available to manage and maintain the systems. However, the need for refinements such as relocating routes, improving the design, or creating connections is anticipated. It is important to note, that public perception of what constitutes the existing legal system does not always match what the Forest Service prescribes. This is evident in the public scoping and comment documents that are located in the project file and on the project website. About two-thirds of the forest is technically open to wheeled, motorized cross-country travel and proportionally, about two-thirds of the unauthorized routes occur in the unrestricted areas on the forest travel plan. Over 3,000 existing dispersed campsites have been inventoried and many more are known to occur across the forest.

The forest boundaries surround narrow mountain ranges that align north to south and have extensive, but concentrated motorized route networks. These factors result in numerous, but relatively small undeveloped areas in terms of continuity. Roughly 72 percent of the forest is within one half mile of a motorized route and only one isolated area adjacent to Capitol Reef National Park is further than 4 miles from a motorized route. Rugged terrain and deep canyon settings that are typical in the undeveloped areas adds to the sense of remoteness one can experience in spite of the generally close proximity to motorized routes. However, the configuration of the forest as mountain islands in the desert does not lend itself to having vast contiguous blocks of remote unroaded areas.

Designating routes and areas for motorized use simultaneously affects the balance of motorized and non-motorized recreational opportunities. The types, amount, and characteristics of the opportunities provided are a key interest to recreationists who use the Fishlake National Forest as it influences the quality of their experience.

Effects Common to All Alternatives

Forest users will have to use a Motor Vehicle Use Map to know which routes and areas are legally open to motorized use.

The existing inventory of dispersed campsites indicates that roughly 16 percent have no legal access under the current travel plan. Reasons for this include 1) that the use of some of the sites has been illegal, 2) some sites are located along routes that no longer exist, 3) the camp may have been created and used by non-motorized users, and 4) some existing routes are not in the current GIS inventory. If access is desired and can be provided consistent with Forest Plan direction it may be designated for use in the future. Similarly, routes with access may be closed if necessary for resource protection. However, it is likely that many of these sites would remain inaccessible to a motorized vehicle under any alternative for reasons 1, 2, and 3.

Popular dispersed use sites that are causing adverse impacts to natural resources that are not being changed by the route designation project, would be addressed independently in future management actions. Appendix B identifies many of the areas of concern, but a comprehensive plan will emerge from the dispersed recreation management strategy that is currently being developed by the forest.

Winter travel planning opportunities and resource impacts will be evaluated and redefined as necessary in a future assessment once the Forest Plan revision is completed.

The forest does not currently manage or designate single-track trails for motorcycle or mountain bikes. None of the action alternatives designate single-track trails for the reasons described in

Chapter 2 under Alternatives Considered, although the option for designated single-track trails is left open for future consideration.

Effects Common to the Action Alternatives

All of the action alternatives result in a travel plan that more accurately reflects current motorized and non-motorized use on the forest, and reduces the number of potential and existing use conflicts. The same is true for dispersed camping opportunities because their access is linked directly to the route network in most cases. The action alternatives provide access to some dispersed campsites, some that are used frequently, that currently have no legal access.

All of the action alternatives create a travel plan that is inherently simpler to understand and easier to enforce.

Motorized area designations for summer and winter use will be shown on separate maps.

Motorized use on non-motorized trails would no longer occur legally. The current travel plan implies that such use is allowed when non-motorized trails are located in unrestricted areas and is not signed or barriered closed. This means that motorcyclists that have used non-motorized trails may have fewer single-track opportunities, although ATV use on these same trails has often created dual track anyways. Much of the motorized single-track usage that the forest is aware of occurs illegally based on the current travel plan. This change would benefit non-motorized recreation.

Wheeled, motorized cross-country through unroaded and undeveloped areas would no longer be allowed. Also, all of the action alternatives include obliteration of unneeded or impactive routes. Both actions would improve opportunities for remote and quiet recreation associated with non-motorized use.

Alternative 1 – No Action Consequences

Table 3-23 shows the proportion of the forest within varying distances from motorized routes. About 72 percent of the forest is located within one half mile of a motorized route and only 0.1 percent is further than 3 miles. Not all of these routes are open to public access, but most are. This alternative would not change this existing condition. In addition, a large proportion of unroaded and undeveloped areas across the forest would remain open to motorized cross-country, which reduces their value for non-motorized recreation, but provides some additional motorized opportunities.

Table 3-23. Alternative 1 – Cumulative percent of area within the Fishlake National Forest that is within a specified distance from motorized routes.

	Distance from a motorized route			
	½ mile	1 mile	2 miles	3 miles
Percentage of area within the forest boundary	71.8 %	91.1 %	98.9 %	99.9 %

Motorized travel opportunities are affected by changes in route and area designations and/or changes in route types. These changes can occur individually or in combination. For example,

converting a route from Open Yearlong to Open Seasonally *potentially* results in a shorter season of motorized use. It is only a potential change because the route may not realistically be accessible year round to begin with. Converting from Open Seasonally to Street Legal Only lengthens the season of use, but results in fewer types of motorized vehicles that are allowed to use the route. These are all examples of changes in use designations. Changing management of a route from road to trail or vise versa also affects the types of motorized use that are allowed on a given route.

Table 3-24. Alternative 1 – Mileage summary of proposed changes in motorized and non-motorized use.

Route Type	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
More Motorized Opportunities	0	0	0	-
Neutral or Same	0	0	0	4,560.3
Fewer Motorized Opportunities	0	0	0	-
More Non-motorized Opportunities	0	0	0	-
Neutral or Same	0	0	0	4,560.3
Fewer Non-Motorized Opportunities	0	0	0	-

* includes State, Federal, and County Roads located on forest.

Table 3-24 shows that No Action does not make any of these changes to motorized or non-motorized opportunities. Therefore, existing recreation opportunities would be maintained, although public perception of "existing" often differs from what is shown. An important point to remember when reviewing this table is that a decrease in miles available to motorized use does not automatically translate into a loss of access because many routes on the forest are redundant. This table also does not reflect loss of non-motorized opportunities that have resulted from current and anticipated continuation of motorized use on non-motorized trails. Non-motorized users would be likely be disproportionately impacted under this alternative.

Alternative 1 would continue to provide motorized access to about 84 percent of inventoried dispersed campsites, although seven percent of these are located in unrestricted areas that do not have designated access routes. This alternative is the least responsive to public concerns, because in many areas on the forest, it does not match current use patterns by motorized or non-motorized users. This alternative provides the most opportunities for single-track motorized use, however the degree of difference between Alternative 1 and the action alternatives cannot be quantified because the forest does not manage for single-track trail. There are no such trails in the existing forest travel atlas.

Alternative 2 – Proposed Action Consequences

Table 3-25 shows the proportion of the forest within varying distances from motorized routes for Alternative 2. Under this alternative, about 65 percent of the forest would be located within one half mile of a motorized route and 0.2 percent would be further than 3 miles. These changes would result in a 7 percent increase in areas located further than one half mile from a motorized route so areas available for remote non-motorized experiences would increase to some degree. Unroaded and undeveloped areas across the forest would no longer be open to wheeled, motorized cross-country travel, which would improve their value for non-motorized recreation.

Table 3-25. Alternative 2 – Cumulative percent of area within the Fishlake National Forest that is within a specified distance from motorized routes.

	Distance from a motorized route			
	½ mile	**1 mile**	**2 miles**	**3 miles**
Percentage of area within the forest boundary	65.1 %	87.4 %	98.2 %	99.8 %

Table 3-26 shows projected changes in motorized and non-motorized opportunities that would *potentially* result from implementing Alternative 2. As discussed previously, this table lumps several circumstances. For example, "fewer motorized opportunities" can mean fewer types of motorized vehicles such as what would occur by converting a road to a motorized trail, or by making a road open to street legal vehicles only, or by creating a shorter season of use. A decrease in miles available to motorized use, even for a route that is obliterated, does not automatically mean that access to an area is being lost because many routes on the forest are redundant (compare Table 3-25 to Table 3-23). Obliterating or changing a closed motorized route to a non-motorized trail is an example of a neutral change to motorized use resulting from designation. Adding an unauthorized route in an unrestricted area is an example of a neutral motorized opportunity that results from changes in authorization.

Table 3-26. Alternative 2 – Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
More Motorized	110.0	0	104.6	-
Neutral or Same Motorized	210.0	158.8	234.4	2,781.2
Fewer Motorized	815.7	18.8	126.8	-
More Non-motorized	9.3	0	29.3	-
Neutral or Same Non-motorized	1,096.2	177.6	431.3	2,781.2

Table 3-26. Alternative 2 – Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
Fewer Non-Motorized	30.2	0	5.3	-

* includes State, Federal, and County Roads located on forest.

As shown in Table 3-26, most opportunities provided by roads and trails are being maintained as is. This alternative makes designation or authorization changes to roughly 39 percent of the total mileage of motorized and non-motorized routes. Most of the 815.7 miles of "Fewer Motorized" come from seasonal closures and from obliterating unauthorized routes in unrestricted and closed areas. Therefore, the loss of motorized opportunities is not as severe as the table would suggest.

Table 3-27 shows similar information as Table 3-26, but differentiates between changes in motorized opportunities caused by new restrictions on vehicle types and also the season of use. These data are presented by district and summed for the forest.

Table 3-27. Alternative 2 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	**From Season of Use Changes**	**Fillmore**	**Beaver**	**Richfield**	**Fremont River**	
Neutral Change	Neutral Change	291.4	309.9	329.5	285.4	1,216.3
	Same Season	0	0	0	0.3	0.3
No Types	No Season	137.0	124.9	245.2	146.4	653.6
Fewer Types	Neutral Change	0	0	0	0	0
	No Season	0.2	6.7	1.0	0	7.8
	Shorter Season	0	0	2.7	0	2.7
	Same Season	14.0	47.7	7.3	6.9	76.0
	Longer Season	0	0	0	0	0
Same Types	Neutral Change	0	10.3	13.9	5.4	29.6
	No Season	0	1.1	0	0	1.1
	Shorter Season	6.3	2.4	125.0	86.5	220.2
	Same Season	684.3	423.9	729.7	300.2	2,138.2
	Longer Season	18.0	3.7	41.8	0.5	64.1
More Types	Same Season	0	0.5	1.3	11.6	13.4
	Shorter Season	0	0	0	0	0
New Use	Neutral Change	0.3	0.5	3.3	13.6	17.6
	New Season	38.5	14.6	44.9	21.5	119.5

Alternative 2 would continue to provide motorized access to about 77 percent of inventoried dispersed campsites, which would be roughly 7 percent less than what is available to motorized

users currently. This alternative was developed based on corporate knowledge and past public participation efforts so it does not fully incorporate user preferences that were expressed during scoping and comment periods for the route designation project.

Alternative 3 – Modified Proposed Action Consequences

Table 3-28 shows the proportion of the forest within varying distances from motorized routes for Alternative 3. Under this alternative, about 65 percent of the forest would be located within one half mile of a motorized route and 0.2 percent would be further than 3 miles. These changes would result in a 7 percent increase in areas further than one half mile from motorized routes so areas available for remote non-motorized experiences would increase to some degree. Unroaded and undeveloped areas across the forest would no longer be open to wheeled, motorized cross-country travel, which would improve their value for non-motorized recreation.

Table 3-28. Alternative 3 – Cumulative percent of area within the Fishlake National Forest that is within a specified distance from motorized routes.

	Distance from a motorized route			
	½ mile	**1 mile**	**2 miles**	**3 miles**
Percentage of area within the forest boundary	65.2 %	87.4 %	98.2 %	99.8 %

Table 3-29 shows projected changes in motorized and non-motorized opportunities that would *potentially* result from Alternative 3. As discussed previously, this table lumps several circumstances. For example, "fewer motorized opportunities" can mean fewer types of motorized vehicles such as would occur by converting a road to a motorized trail, or by making a road open to street legal vehicles only, or by creating a shorter season of use. And, a decrease in miles available to motorized use, even for a route that is obliterated, does not automatically translate into a loss of access because many routes on the forest are redundant (compare Table 3-28 and Table 3-23).

Table 3-29. Alternative 3 – Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
More Motorized	129.2	0	120.4	-
Neutral or Same Motorized	189.1	158.5	239.4	2,762.2
Fewer Motorized	802.8	19.1	139.5	-
More Non-motorized	14.6	0	36.9	-

Table 3-29. Alternative 3 – Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
Neutral or Same Non-motorized	1,060.4	177.6	449.6	2,762.2
Fewer Non-Motorized	46.1	0	12.7	-

* includes State, Federal, and County Roads located on forest.

Evident in Table 3-29 is that most opportunities provided by roads and trails would be maintained as is. This alternative makes designation or authorization changes to about 39 percent of the total mileage of motorized and non-motorized routes. This table indicates that the degree of impacts on motorized and non-motorized use from designation and authorization changes are similar in type and magnitude as what is described for Alternative 2. Unfortunately, Table 3-29 does not reveal critical changes to route designations made to reflect public interests expressed in comment letters to scoping. A document that contains the public responses is located in the project file and website.

Table 3-30 shows similar information as Table 3-29, but differentiates between changes in motorized opportunities caused by new restrictions on vehicle types and also the season of use. These data are presented by district and summed for the forest.

Table 3-30. Alternative 3 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	**From Season of Use Changes**	**Fillmore**	**Beaver**	**Richfield**	**Fremont River**	
Neutral Change	Neutral Change	282.2	303.2	327.2	267.7	1,180.4
	Same Season	0	0	0	0	0
No Types	No Season	151.1	123.1	269.2	122.4	665.6
Fewer Types	Neutral Change	0	0	0	0	0
	No Season	1.3	7.7	0	0	9.0
	Shorter Season	0	0	2.6	0	2.6
	Same Season	12.6	49.8	6.7	6.4	75.4
	Longer Season	0.8	0	0	0	0.8
Same Types	Neutral Change	0	9.3	13.9	5.4	28.6
	No Season	0	1.1	0	0	1.1
	Shorter Season	6.3	4.8	104.9	92.1	208.1
	Same Season	671.4	420.9	728.8	318.4	2,139.5
	Longer Season	16.4	4.1	40.6	0.9	62.0
More Types	Same Season	0	0.5	2.1	11.9	14.5
	Shorter Season	0	0	0	0	0

New Use	Neutral Change	0.3	1.1	1.8	5.8	9.0
	New Season	47.8	20.7	48.7	46.9	164.1

Alternative 3 would continue to provide motorized access to about 69 percent of inventoried dispersed campsites, which would be roughly 15 percent less than what is available to motorized users currently. This alternative was developed in response to public and other government entity concerns that were expressed with regards to the Proposed Action, Alternative 2. Thus, this alternative better accommodates user preferences and provides a better balance between non-motorized and motorized use than Alternative 2, although it would be less desirable for providing motorized dispersed camping opportunities.

Alternative 4 – Non-motorized Emphasis Consequences

Table 3-31 shows the proportion of the forest within varying distances from motorized routes for Alternative 4. Under this alternative, about 58 percent of the forest would be located within one half mile of a motorized route and 0.4 percent would be further than 3 miles. This alternative results in the largest increases in areas available for remote non-motorized experiences of any alternative considered in detail. Unroaded and undeveloped areas across the forest would no longer be open to wheeled, motorized cross-country travel or motorized trails, which would improve their value for non-motorized recreation. Opportunities for semi-primitive motorized recreation would decrease commensurate with the increase in semi-primitive non-motorized recreation opportunities.

Table 3-31. Alternative 4 – Cumulative percent of area within the Fishlake National Forest that is within a specified distance from motorized routes.

	Distance from a motorized route			
	½ mile	**1 mile**	**2 miles**	**3 miles**
Percentage of area within the forest boundary	57.6 %	82.3 %	97.0 %	99.6 %

Table 3-32 shows projected changes in motorized and non-motorized opportunities that would potentially result from Alternative 4. As with the other action alternatives, most opportunities provided by roads and trails would be maintained as is. This alternative makes designation or authorization changes to about 42 percent of the total mileage of motorized and non-motorized routes. As discussed previously, this table lumps several circumstances. For example, "fewer motorized opportunities" can mean fewer types of motorized vehicles such as would occur by converting a road to a motorized trail, or by making a road open to street legal vehicles only, or by creating a shorter season of use. A decrease in miles available to motorized use, even for a route that is obliterated, does not automatically translate into a loss of access because many routes on the forest are redundant (compare Table 3-31 to Table 3-23). Unlike Alternatives 2, 3, and 5, "fewer motorized" does translate more directly to a loss of motorized access in Alternative 4. Many routes seasonally restricted in the other action alternatives are obliterated in Alternative 4. This alternative also removes all motorized trails from unroaded and undeveloped areas, including side-trails of the Paiute and Great Western systems.

Table 3-32. Alternative 4 - Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
More Motorized	92.4	0	15.5	-
Neutral or Same Motorized	268.0	111.8	56.0	2,661.9
Fewer Motorized	1,199.3	13.7	141.8	-
More Non-motorized	140.7	0	108.7	-
Neutral or Same Non-motorized	1,392.0	125.5	96.5	2,661.9
Fewer Non-Motorized	27.0	0	8.0	-

* includes State, Federal, and County Roads located on forest.

Table 3-33 shows similar information as Table 3-32, but differentiates between changes in motorized opportunities caused by new restrictions on vehicle types and also the season of use. These data are presented by district and summed for the forest.

Table 3-33. Alternative 4 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	**From Season of Use Changes**	**Fillmore**	**Beaver**	**Richfield**	**Fremont River**	
Neutral Change	Neutral Change	318.0	316.5	368.7	299.8	1,303.0
	Same Season	0	0	0	0	0
No Types	No Season	330.8	156.2	465.9	182.2	1,135.1
Fewer Types	Neutral Change	0	0	0	0	0
	No Season	4.9	9.9	0	0	14.8
	Shorter Season	0	0	2.0	0	2.0
	Same Season	3.1	42.8	6.3	4.1	56.4
	Longer Season	0	0	0	0	0
Same Types	Neutral Change	0	9.3	13.9	5.4	28.6
	No Season	0	1.1	0	0	1.1
	Shorter Season	6.3	3.7	64.2	71.3	145.6
	Same Season	504.5	394.5	584.2	282.9	1,766.0
	Longer Season	10.3	3.2	30.3	0.4	44.1
More Types	Same Season	0	0.5	1.3	11.6	13.4
	Shorter Season	0	0	0	0	0

Table 3-33. Alternative 4 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	From Season of Use Changes	Fillmore	Beaver	Richfield	Fremont River	
New Use	Neutral Change	0.3	0.8	0.5	10.0	11.6
	New Season	12.0	7.7	8.5	10.6	38.8

Alternative 4 would continue to provide motorized access to about 53 percent of inventoried dispersed campsites, which would be roughly 31 percent less than what is available to motorized users currently. This would create a significant reduction in dispersed camping opportunities and is more than double the reduction associated with the next closest alternative, Alternative 3. This alternative was developed in response to public and other government entity concerns that represent a sub-set of the total comments received. Thus, by definition it is less inclusive of user preferences, in this case motorized users. This alternative would eliminate some of the most popular motorized trails on the forest, including some that are part of the Paiute and Great Western systems. Alternative 4 provides the best accommodation of non-motorized user preferences, except perhaps for individuals who also participate in motorized recreation.

Alternative 5 – Final Preferred Alternative Consequences

Table 3-34 shows the proportion of the forest within varying distances from motorized routes for Alternative 5. Under this alternative, about 66 percent of the forest would be located within one half mile of a motorized route and 0.2 percent would be further than 3 miles. These changes would result in a 6 percent increase in areas further than one half mile from motorized routes so areas available for remote experiences would increase to some degree. Unroaded and undeveloped areas across the forest would no longer be open to wheeled, motorized cross-country travel, which would improve their value for non-motorized recreation.

Table 3-34. Alternative 5 – Cumulative percent of area within the Fishlake National Forest that is within a specified distance from motorized routes.

	Distance from a motorized route			
	½ mile	1 mile	2 miles	3 miles
Percentage of area within the forest boundary	65.6 %	87.6 %	98.3 %	99.8 %

Table 3-35 shows projected changes in motorized and non-motorized opportunities that would *potentially* result from Alternative 5. As before, this table lumps several circumstances. For example, "fewer motorized opportunities" can mean fewer types of motorized vehicles such as would occur by converting a road to a motorized trail, or by making a road open to street legal vehicles only, or by creating a shorter season of use. A decrease in miles available to motorized use, even for a route that is obliterated, does not automatically translate into a loss of access because many routes on the forest are redundant (compare Table 3-34 to Table 3-23).

Table 3-35. Alternative 5 – Changes to motorized and non-motorized opportunities caused by revised use designations and route type authorizations (miles).

Opportunity	Change in Use Designation Only	Change in Authorization Only	Change in Use Designation and Authorization	No Changes
More Motorized	128.2	0	155.1	-
Neutral or Same Motorized	160.6	166.0	279.6	2,714.0
Fewer Motorized	714.4	39.5	202.9	-
More Non-motorized	11.2	0	35.1	-
Neutral or Same Non-motorized	942.8	205.5	587.7	2,714.0
Fewer Non-Motorized	49.3	0	14.8	-

* includes State, Federal, and County Roads located on forest.

As with the other action alternatives, most opportunities provided by roads and trails would be maintained as is. This alternative makes designation or authorization changes to about 40 percent of the total mileage of motorized and non-motorized routes. Alternative 5 would have similar types and magnitudes of changes to recreation opportunities in terms of overall numbers. However, Alternative 5 is the only option that fully considers public concerns expressed in the DEIS. Table 3-35 does not easily show critical changes to route designations made to reflect public concerns, although the response to DEIS comments document and the route changes database in the project file do provide such information. The response to comment document is also located on the project website.

Table 3-36 shows similar information as Table 3-35, but differentiates between changes in motorized opportunities caused by new restrictions on vehicle types and also the season of use. These data are presented by district and summed for the forest.

Table 3-36. Alternative 5 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	**From Season of Use Changes**	**Fillmore**	**Beaver**	**Richfield**	**Fremont River**	
Neutral Change	Neutral Change	277.0	298.7	320.8	249.6	1,146.2
	Same Season	0	0	0	0	0
No Types	No Season	159.2	101.3	251.8	81.5	593.9
Fewer Types	Neutral Change	0	0	0	2.2	2.2
	No Season	0.5	25.2	0.1	0.4	26.2

Table 3-36. Alternative 5 – Changes to motorized opportunities caused by changes to vehicle type restrictions and season of use (miles).

Changes in Motorized Opportunities		Ranger District				Forest Total
From Vehicle Type Changes	From Season of Use Changes	Fillmore	Beaver	Richfield	Fremont River	
	Shorter Season	0	0	2.2	0	2.2
	Same Season	19.0	37.2	13.6	22.1	91.9
	Longer Season	0.8	0	0	0	0.8
Same Types	Neutral Change	0	9.3	13.9	4.9	28.2
	No Season	0	1.1	0	0	1.1
	Shorter Season	6.3	4.7	113.5	117.0	241.5
	Same Season	658.8	436.6	730.6	319.3	2,145.3
	Longer Season	14.8	5.0	39.6	0.9	60.3
More Types	Same Season	0.3	0.7	2.5	12.0	15.2
	Shorter Season	0	0	0.4	0	0.4
New Use	Neutral Change	0	3.0	2.6	15.2	20.8
	New Season	53.2	23.3	54.3	53.5	184.3

Alternative 5 would continue to provide motorized access to about 82 percent of inventoried dispersed campsites, which would be roughly 2 percent less than what is available to motorized users currently. Even so, this alternative has the most designated routes to existing dispersed campsites of any of the alternatives including No Action. This alternative was developed in response to public and other government entity concerns that were expressed with regards to all of the alternatives included in the DEIS. Thus, this alternative is the most inclusive and best reflects public and other government entity comments in their entirety.

Cumulative Effects Summary for Motorized and Non-motorized Recreation Opportunities

The biggest increment for potential cumulative impacts to motorized and non-motorized recreation uses comes directly from the Fishlake OHV Route Designation project rather than from past and foreseeable actions (see Appendix C). Those impacts are described above. There are always potential use conflicts where attainment of desired recreation opportunities may be hampered by "sharing roads with logging trucks or campsites with cows". The action alternatives address most of the known existing use conflicts that would remain in the No Action alternative so there would be less potential for cumulative impacts. Most of the transportation projects are designed to enhance motorized opportunities or reduce conflicts with other resources and uses. Therefore, those projects would usually result in improved recreation opportunity for motorized use with fewer impacts.

At a minimum, the action alternatives are designed to maintain or enhance the quality of recreation experiences by adapting to current and desired use patterns, and by incorporating public comments. The quantity of opportunities varies. Generally, No Action maintains the most motorized use, but not always in the locations that users or the Forest Service would prefer, and much of the access is redundant. Alternative 4 would provide the least opportunity for motorized use and the most for non-motorized. This alternative would have the greatest cumulative impacts to current recreation activities of any of the alternatives. Motorized users would likely consider Alternative 4 to have adverse impacts, while non-motorized users would likely consider the same

actions as favorable. Of the action alternatives, Alternative 5 provides the most motorized routes and the least miles of non-motorized routes. Although, Alternative 5 increases total mileage of non-motorized trails by about 110 miles and eliminates existing motorized use of non-motorized trails. Based on public responses from the DEIS, Alternatives 2, 3, and 5 provide the best "balance" if measured by having favorable and opposing opinions expressed from all users.

Alternative Comparison Summary

A consistent result from the analyses conducted for the FEIS is that each of the action alternatives improve the existing condition, in most cases drastically so, relative to the concerns identified in the Purpose of and Need for Action. In no situation is Alternative 1, No Action, a preferable course of action to meet the desired conditions. The initial proposed action, Alternative 2, makes the largest increment of improvement from current conditions. However, Alternatives 3, 4 and 5 provide additional resource protection and enforceability by specifying a 150-foot distance designation for dispersed camping rather than the 300 feet that is used in Alternative 2. Contrasting alternatives 2, 3, and 5, there are individual routes where each has an advantage over the other from the perspective of a given resource. However, overall Alternative 5 provides greater resource protection and is inherently easier to enforce. At the time the DEIS was produced, Alternative 3 was the most inclusive and responsive to the full range of public comments. Now Alternative 5 holds that status. Alternative 4, developed around a more non-motorized theme, would be the most beneficial for protection of biophysical resources provided it could be successfully implemented. Limitations of Alternative 4 are that it would create management inconsistencies with adjacent lands, and it would reverse both recent and long standing decisions about how and where to provide motorized recreation on the forest.

Short-Term Uses and Long-Term Productivity

NEPA requires consideration of "the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity" (40 CFR 1502.16). As declared by Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

The preceding text in this chapter, Appendices C and D, and the resource specialist reports provide the required disclosure of effects from anticipated use associated with the existing and proposed motorized travel plans.

Alternative 1 – No Action Consequences

No Action allows the most short-term use of the environment and will cause the greatest amount of impact to long-term productivity. Soil productivity losses will come from compaction and erosion of the soil surface because of continued overuse of OHVs. The losses of productivity are very long-term or permanent without very expensive intervention to replace lost soils and, as such, are essentially permanent. The effects on water resources, aquatic habitat, and wilderness character are similar but are to a degree repairable. Sedimentation and mechanical adjustments to stream channels, streambeds and riparian vegetation can take several decades to repair where broad-scale impacts occur. Alternative 1 negatively impacts wildlife, plants, and fish in numerous cases and this may reduce the success of their populations.

Alternatives 2, 3, 4, and 5 – Action Alternative Consequences

The action alternatives attempt to strike a balance between providing for motorized use and long-term productivity on the Fishlake National Forest. As disclosed in the effects analyses, each action alternative reduces actual and potential impacts to long-term productivity relative to No Action. However, the Forest Supervisor acknowledges that the process of meeting this mandate from Congress requires adaptive management over time. Nothing in the action alternatives limits future choices to meet the continued challenges of providing for motorized recreation while protecting other uses and resource values.

Unavoidable Adverse Effects

All alternatives of the FEIS have the risk that OHVs could be used in trespass against rules and policy. The proportion and possibly numbers of persons who cause resource damage may decline with policy that is more consistent and rules that are simpler and better communicated to the public. More effective law enforcement may also reduce the incidence of trespass activity. However, some level of intentional and unintentional violations of the motorized travel plan is inevitable. Not all illegal OHV use will result in adverse resource impacts, but certainly some will.

There is the possibility that actions related to distance designations for dispersed camping and the cross-country travel exemptions specified in 36 CFR part 212.51 could lead to adverse resource impacts. The potential for these impacts is the least in the action alternatives because much less area would be open to motorized travel off designated routes than is open currently. Also, the forest will generally be aware of administrative uses and emergencies so that damages could be repaired if they occur.

While impacts from roads and motorized trails and open use areas can be minimized, they cannot be eliminated. There is no natural equivalent to roads and motorized trails in terms of normal aquatic or terrestrial ecosystem processes and functionality. Properly functioning watersheds and ecosystems can still be maintained, but the natural potential is usually altered to some degree by the presence of roads and motorized trails (Gucinski 2001). As illustrated in this FEIS and in the accompanying specialist reports, transportation issues on the Fishlake National Forest are many and complex. Not all transportation related management issues and impacts could be reconciled in one project, especially at the forest scale. Even if the project analysis and design could be done, the forest has limited human and financial resources to work with. A desired result from this project is to provide ample motorized recreational opportunities while minimizing the potential for user conflicts and resource impacts, and to create a system that can be maintained over time with the resources available to the forest. The forest intends to meet these objectives. The biophysical, fiscal, and socio-political reality is that progress will be incremental. A route network that has taken over 130 years to create cannot be instantaneously transformed to meet all idealized objectives. The proposed actions represent practical and measurable progress towards the desired ends, but transportation facility, and use related impacts would remain under all of the alternatives.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time, such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or road.

The environmental effects discussions above describe the irreversible losses of soil that would occur from continuation of current management. All of the action alternatives reduce the percentage of land that is affected by motorized cross-country travel and the soil impacts that result. None of the alternatives, except perhaps Alternative 1, would lead to jeopardy of a wildlife or plant species and would, therefore, not result in the irreversible loss of genetic diversity. Undeveloped areas impacted by motorized use in all alternatives could be dropped, in part or whole, for future consideration as undeveloped areas that are potentially suitable for wilderness. Cultural and historic sites and information can be permanently impacted by vandalism or lost through collection of artifacts. Alternative 1 has the most impacts in these regards while Alternative 4 has the least.

Irretrievable losses of resources and their use would occur in all alternatives. Alternative 1 results in the greatest losses of soil productivity and impacts to water quality, aquatic and wildlife habitats. The action alternatives cause some recreation opportunities to be foregone to protect other uses and resource values, but also add options not currently available. Alternatives 2, 3, and 5 are similar in their resource effects and on how they impact recreational opportunities. Alternative 4 provides the most potential resource protection, and has the least opportunities for motorized recreation.

Cumulative Effects Summary

The cumulative effects from each alternative are disclosed in the above discussions, in Appendix D, and in the original resource specialist reports. The impacts from reasonably foreseeable projects listed in Appendix C have been factored into these analyses. Supporting documents such as the forest Roads Analysis and supplement also provide relevant context and effects information.

Activities such as timber management, livestock grazing, mining, wildfire and wildfire suppression have affected the environment extensively and have created situations where the incremental impacts from motorized routes and use are important in certain areas for certain resource values on the forest. These various types of management actions interact through a myriad of direct and indirect pathways. The Fishlake OHV Route Designation Project is addressing existing routes and uses whose impacts are already occurring. No new route construction would occur. Proposed actions would thus maintain or reduce existing cumulative impacts. Closing the forest to wheeled motorized cross-country travel would remove potential for off-route interactions, which is where most other types of resource management activities occur. This act alone reduces the potential for direct and indirect impacts to accumulate into significant adverse cumulative impacts. Installing physical barriers to motorized use and obliterating unneeded and impactive routes would further reduce existing direct, indirect, and cumulative impacts. Implementing seasonal route and area restrictions would also benefit resource protection.

For actions within the scope of this project, resource protection requirements, such as those mandated by the Clean Water Act, the Endangered Species Act, and the National Historic Preservation Act are generally being met currently (see the specialist reports, 10-year Forest Plan

monitoring reports, and Rodriguez 2006 for sample documentation). Exceptions are noted and are being addressed through the proposed actions or in other projects. Resource values being maintained under the existing conditions and current management would benefit from the action alternatives that reduce current and future levels of direct, indirect, and cumulative impacts from motorized use. Remember, that the existing conditions are reflective of past and ongoing cumulative impacts. The FEIS and supporting documents discuss at length how impacts associated with motorized facilities and use would be reduced by the action alternatives. In the short- and long-term, this would reduce actual and potential cumulative impacts with other activities. Impacts from the anticipated growth of motorized use would be largely offset for several years by restricting use to designated routes and areas, and would meet transportation planning goals in FSM 7710. The forest will be able to stem the growth of the motorized network through enforcement and obliteration of future user-created routes.

The project analyses show that cumulative impacts are beginning to affect critical resource values and that trend will become significant if actions are not taken. Therefore, No Action would be expected to result in increased cumulative impacts over time. Under the action alternatives, incremental direct and indirect impacts from foreseeable projects are expected to be minimal and temporary, or non-existent, therefore significant cumulative impacts are not anticipated (see Appendix C for more details). However, if a future project or management action has significant environmental impacts, then those impacts would be the same or in most cases, less than if no action is taken. As describe in the Unavoidable, Irreversible, and Irretrievable sections above, motorized route and use impacts will still occur under any alternative. However, the ability to manage the system adaptively and to respond to unforeseen and unintended consequences reduces the likelihood that cumulative impacts will be significant, provided an action alternative is chosen.

Under the action alternatives, movement to simpler, more consistent travel policies that require motorized travel on designated routes and areas should eventually reduce cumulative impacts across administrative boundaries on public lands in Utah. Proceeding with No Action would exacerbate current inconsistencies and would increase potential for adverse cumulative impacts across boundaries.

Cumulatively, the action alternatives improve protection of critical winter range habitat, Last Chance townsendia habitat, soil productivity, wetland and riparian condition, and aquatic habitats. The character of undeveloped areas would be maintained or improved by eliminating unrestricted wheeled cross-country travel, even though “The Rocks” would be too small to qualify for future consideration as wilderness.

Motorized use is unsustainable in the long-term under the current travel plan, and associated impacts jeopardize non-motorized recreation. The action alternatives cumulatively result in greater sustainability for both forms of recreation, especially when compared to what would occur with No Action. Though some of the individual route and area decisions are controversial, public response to the action alternatives as a whole does not indicate that the overall magnitude of changes in opportunities for motorized and non-motorized use would be significant.

Other Required Disclosures

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with …other environmental review laws and executive orders.” The Forest Service has consulted with several State and Federal agencies in preparation of the DEIS and FEIS. The U.S. Department of Interior, Bureau of Land Management, and Fish and Wildlife Service have been contacted and participated in

coordinating this proposed action. The State of Utah has participated through the Department of Parks and Recreation, Division of Wildlife Resources, Division of Water Quality, and the State Lands office. Formal coordination will continue using established procedures of the various agencies. A Programmatic Agreement between the Fishlake National Forest and the Utah State Historical Preservation Office has been signed and will be implemented to assure that the National Historic Preservation Act is followed. The Fish and Wildlife Service concurred with the findings in the wildlife and plant Biological Assessments as required by the Endangered Species Act. This document, and accompanying project file, discloses numerous effects required by Federal Executive Orders such as EO's 11988, 11989, 11990, and 11664 that relate to OHVs, flood plains, and wetlands.

Chapter 4. Consultation and Coordination

Preparers and Contributors

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of the draft and final environmental impact statements.

Table 4-1. Forest Leadership Team Members

Name	Assigned Unit	Position
Mary C. Erickson	Supervisors Office	Forest Supervisor
Robert Gardner (now retired) Lydia Allen (acting) Mel Bolling	Fillmore Ranger District	District Ranger
Marv Turner (now retired) Kurt Robins	Fremont River Ranger District	District Ranger
Dayle Flanigan (transferred) Terry Krasko	Beaver Ranger District	District Ranger
Fred Houston	Richfield Ranger District	District Ranger
Max Reid	Supervisors Office	Public Services Staff
Steve Rodriguez	Supervisors Office	Engineering Staff
Cornell Christensen (transferred) Diane Freeman	Supervisors Office	Ecosystem Staff
Davida Carnahan	Supervisors Office	Public Affairs Officer
Rick Higginbotham (now retired) Kim Soper	Interagency Fire Organization	Forest Fire Management Officer
Glen Heaten	Supervisors Office	Administrative Officer
Rich Persons	Supervisors Office	Budget Officer

Most permanent district personnel across the forest were involved in the route and area designation and review processes for each alternative.

Table 4-2. Interdisciplinary Team Members

Name	Assigned Unit	Area of Expertise
Dale Deiter	Supervisors Office	Team Leader, Watershed Specialist, Writer/Editor
Bill Wright	Fillmore Ranger District	Recreation Specialist & Special Uses
Dave Bell	Fremont River Ranger District	Recreation Specialist
Cindy Mackelprang	Beaver Ranger District	Recreation Specialist & Special Uses
Max Larsen (now retired)	Richfield Ranger District	Recreation Specialist
Ralph Smith	Richfield Ranger District	Recreation Specialist
Dave Christensen	Richfield Ranger District	Special Uses / Recreation

Table 4-2. Interdisciplinary Team Members

Name	Assigned Unit	Area of Expertise
Kevin Draper	Supervisors Office	Recreation, Visual Resources, Roadless
Ron Rodriguez	Dixie Supervisors Office	Wildlife
Steve Flinders	Beaver/Fillmore Districts	Wildlife
Kreig Rasmussen	Richfield Ranger District	Wildlife
JoAnn Stenten	Fremont River Ranger District	Wildlife
Jim Whelan	Supervisors Office	Fisheries & Aquatics
Bob Campbell	Supervisors Office	Vegetation, Weeds, TE & S Plants, Fuels
Michael Smith	Supervisors Office	Soils and Geology
Bob Leonard	Supervisors Office	Heritage Resources
Maggie Williams	Supervisors Office	Law Enforcement
Davida Carnahan	Supervisors Office	Public Affairs – FS & BLM & Tribal Relations
Dan Bond	Supervisors Office	Transportation & Engineering
Ellen Row (now retired) Megan Bird	Supervisors Office	Project Records
Craig Harmon	Richfield BLM	Tribal Relations

Table 4-2. Additional Ranger District and Supervisors Office Employees Who Helped Develop and/or Review the Proposed Alternatives or the EIS

Name	Assigned Unit	Area of Expertise
Bob Stevens	Fillmore Ranger District	Range and Recreation
Del Barnhurst	Fillmore Ranger District	Range Specialist
Boyd Hatch	Fillmore Ranger District	Range Specialist
Doug Oyler	Fremont River Ranger District	Timber Sale Administrator
Kendall Nelson	Fremont River Ranger District	Range Specialist
Mike Spisak (transferred)	Fremont River Ranger District	Forester
Pace Ellett	Fremont River Ranger District	Recreation Technician
Rick Oyler	Fremont River Ranger District	Range Specialist
Rob Hamilton	Fremont River Ranger District	Special Uses
Robert Fillmore	Fremont River Ranger District	Range Technician
Cory Norman	Beaver Ranger District	Fire Specialist

Table 4-2. Additional Ranger District and Supervisors Office Employees Who Helped Develop and/or Review the Proposed Alternatives or the EIS

Name	Assigned Unit	Area of Expertise
Dandy Pollock	Beaver Ranger District	Fire and Fuels Specialist
Esther Benson	Beaver Ranger District	Business Management & Public Affairs
Kourtney Bradshaw	Beaver Ranger District	Timber Technician
Lee Freeman	Beaver Ranger District	Fire Management Officer
Monty Cartwright	Beaver Ranger District	Timber Technician
Pat Joseph	Beaver Ranger District	Timber Technician
Steve Winslow	Beaver Ranger District	Dixie/Fishlake Minerals Specialist
Doug Sorensen	Beaver Ranger District	Range Specialist
Von Gillies	Beaver Ranger District	Recreation Technician
Allen Henningson	Richfield / Fremont River R.D.	Forest Silviculturist
Bob Tuttle	Richfield Ranger District	Range Specialist
Jason Torgerson	Richfield Ranger District	Business Management
Chris Wehrli	Fishlake S.O.	NEPA
David Bolsover	Dixie National Forest	Writer Editor

Public Affairs Team: Providing outreach to people and organizations

Davida Carnahan – Fishlake National Forest & Richfield BLM Public Affairs Officer

Glen Cassamasa (transferred) – WO Legislative Affairs Coordinator

Sue Spear – WO Legislative Affairs Coordinator

Interforest / Interagency Planning Coordination Team:

Kenton Call – Dixie-Fishlake Forest Plan Revision Public Affairs Officer

Tony Erba (transferred) and Frank Fay – Dixie-Fishlake Forest Plan Revision Shared Team Lead

Noelle Meier – Dixie National Forest Motorized Travel Plan Revision Team Leader

Stan Adams and Bert Hart – Richfield BLM Motorized Travel Plan Revision Team Leader

Regional Support:

Andy Godfrey (now retired) – NEPA
Barb Schuster – NEPA / Legal Support
Joe Gallagher – Motorized and Dispersed Recreation
Lee Jacobson – Threatened and Endangered Program Manager – Wildlife & Fish
Lis Novak – Landscape Architect / Recreation Planning
Liz Close – Director of Recreation
Ken Paur – Legal Support, Office of General Council
Randy Welsh – Roadless, Wilderness, Trails, Caves
Richard Kennedy –Transportation Planning
Teresa Prendusi – Botanist, T & E & S Plant Program Manager
Will Reed – Regional Heritage Program Manager

Public Participation

The Notice of Intent (NOI) was published in the Federal Register on June 7, 2004. The NOI asked for comments on the proposed action by July 30, 2004. Prior to release of the NOI, the Forest Service briefed county and city governments and groups such as Utah Environmental Congress, Utah Forest Network, Red Rock Forests, Back Country Horsemen, Utah Shared Access Alliance, Blue Ribbon Coalition, Escalante Wilderness Project, Sportsmen for Wildlife, Southern Utah OHV Club, Mayor of Annabella, Utah, Mayor of Kanosh, Utah, Mayor of Redmond, Utah, Mayor of Lyman, Utah, Mayor of Junction, Utah, Mayor of Bicknell, Utah, Mayor of Monroe, Utah, Mayor of Koosharem, Utah, Mayor of Hanksville, Utah, Mayor of Meadow, Utah, Mayor of Torrey, Utah, Fremont Indian State Park, Piute County Sheriff, Washington County Public Works, Veteran's Service Alliance, Wayne County Economic Development, Piute County Economic Development, Six County Association of Governments, Sevier County Sheriff, Millard County Sheriff, Beaver City Travel Council, and the Blue Ribbon Coalition. Press releases were sent to local newspapers representing the affected communities. The efforts following the NOI included public open houses in Richfield, Fillmore, Beaver, Loa, Junction, Salina and Salt Lake City, Utah. Subsequent to those open houses, comments on the project were reviewed and the proposed action was revised. The forest developed a modified proposed action based on public comment and incorporation of the new route inventory data from the summer of 2004.

The project web site http://www.fs.fed.us/r4/fishlake/projects/ohv.shtml, press releases, and postings at some trailheads were used to disseminate information and gather comments. About 198 scoping responses from individuals, advocacy groups, State and other federal agencies were received and analyzed for content prior to issuing the DEIS (see project file or project web page). Public open houses were held in Richfield, Fillmore, Loa, and Beaver Utah in August of 2005 following release of the DEIS. Twenty-four comments were received between the formal scoping period and the formal DEIS comment period. Fifty comments were received during the formal DEIS comment period and an additional 15 comments arrived after the formal comment period. Thus, 89 written comments were received between release of the DEIS and the Final EIS (FEIS). District staff and forest specialists evaluated all of the individual route or area specific comments [regardless of when the comment was received] to determine what if any changes should be made to the final preferred alternative. This process took months to complete, in part because some of the comments necessitated updates to and additional review of the route inventory. Response to formal comments is included with the FEIS as a separate document that accompanies the FEIS and can be found on the project web page.

Distribution of the Final Environmental Impact Statement

Distribution List

State Agencies

Governor of Utah,
Utah Department of Parks and Recreation
Utah Division of Wildlife Resources
Utah Department of Environmental Quality
Utah SITLA
Utah State Historic Preservation Office
Utah Department of Agriculture
Utah Department of Emergency Services
Utah Division of Forestry, Fire & State Lands
Utah Department of Transportation
Utah Public Lands Coordinating Office

Congressional

Senator Robert Bennett
Senator Orrin Hatch
Representative Bradley T. Johnson
Congressman Chris Cannon
Congressman Bishop
Congressman Matheson

Federal Agencies

USDA Bureau of Land Management
U.S. Army Corps of Engineers
USDA Farm Services Agency
USDA Natural Resource Conservation Agency
USDA Wildlife Services
USDI Bureau of Indian Affairs
USDI Fish and Wildlife Service
USDI National Park Service (including Capitol Reef)
EPA-NEPA Program Director-Denver, Colorado

Tribes

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Persons and Organizations Requesting Paper or Electronic Copies of the FEIS

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Wiley, R. Craig
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Woo, Tim

References Cited (FEIS & Specialist Reports)

General and Shared References

Gucinski, H., M. Furniss, R. Ziemer, and M. Brookes. 2001. Forest Roads: A synthesis of scientific information. General Technical Report PNW-GTR-509, Portland, OR: USDA Forest Service, Pacific Northwest Research Station. 103 p. http://www.fs.fed.us/pnw/pubs/gtr509.pdf

Marion, J. 1996. Recreation Ecology Research Findings: Implications for Wilderness and Park Managers. In: Proceedings of the National Outdoor Ethics Conference, April 18-21, 1996, St. Louis, MO. Gaithersburg, MD: Izaak Walton League of America. pp. 188-196. http://www.cnr.vt.edu/forestry/cpsu/rececol.html

McCool, S. 2002. Principles and Concepts for Managing Visitor Impacts in Protected Areas. In: "Conference on Carrying Capacity and Visitor Management in Protected Areas, May 31-June 1, 2002, Athens, Greece, 9 pp. http://www.cfc.umt.edu/departments/socn/publications/greece.pdf

Petty, J. 2002-2005. Reports and Data from Level 2 Integrated Riparian Evaluations for the Fishlake National Forest. Shell Valley Consulting contract numbers 43-84N8-1-0236, 43-84N8-3-0040, 43-84N8-3-0219, and 43-84N8-4-0190.

Rodriguez, R. L. (compiler). 2006. Life History and Analysis of Endangered, Threatened, Candidate, Sensitive, and Management Indicator Species of the Fishlake National Forest, Version. 4.1. USDA Forest Service, Fishlake National Forest, Richfield, UT. [Note: This document has also been referred to as Rodriguez 2005 version 4.1 in portions of the project file. It is the exact same report.]

USDA Forest Service. 1986. Land and Resource Management Plan for the Fishlake National Forest, Richfield, Utah

USDA Forest Service. 2002. Beaver River Watershed Assessment. Fishlake National Forest Supervisors Office, Richfield UT. http://www.fs.fed.us/r4/fishlake/projects/nepa/beaver_river/beaver_eaws_startup.pdf.

USDA Forest Service. 2003. Roads Analysis Report – Forest-wide Roads Analysis. Dixie and Fishlake National Forest Supervisors Office, Cedar City and Richfield Utah. Report dated January 10, 2003.

USDA Forest Service. 2004. Fremont River Watershed Assessment. Fishlake National Forest Supervisors Office, Richfield UT. Internal Report.

USDA Forest Service. 2005. Travel Management: Designated Routes and Areas for Motor Vehicle Use final rule and response to comments, Federal Register / Vol. 70, No. 216 / Wednesday, November 9, 2005 / Rules and Regulations.

USDA Forest Service. 2006. Roads Analysis Report – 2006 Supplement – Forest-wide Transportation Analysis for the Fishlake OHV Route Designation Project. Fishlake Roads Analysis Supplement. Fishlake National Forest Supervisors Office, Richfield Utah. Document was completed prior to release of the proposed action, but was left unpublished until the ROD is signed so that public comments could further inform this process.

Engineering

Bond, D. 2006. Engineering analysis of motorized mixed-use on forest system roads. Fishlake National Forest Supervisors Office, Richfield UT. Specialist report and risk spreadsheet was substantially complete prior to release of the proposed action and was "finished" before release of the DEIS, but was left unpublished until completion of the FEIS so that public comments and further internal review could further inform this process.

Forest Service Handbook 7709.59 Chapter 50 Supplement 7709.59-2004-1

USDA Forest Service. 2005. Guidelines for Engineering Analysis of Motorized Mixed Use on National Forest System Roads. EM-7700-30, 23 p.

Heritage

Deiter, D. and R. Leonard. Logistic Regression Model to Predict Pre-historic Site Occurrence on the Fishlake National Forest. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 17 March 2006. 10 p.

Leonard, R. 2006. Heritage Resource Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 24 August 2006. 17 p. plus confidential surveys

SHPO Concurrence, Programmatic Agreement Agreement 06-MU-11040800-030

Recreation & Undeveloped Lands

Draper, K. 2006. Undeveloped Lands Character Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 13 September 2006. 35 p.

Fisher, A., D. Blahna, and R. Bahr. 2002. Off highway vehicle uses and owners preferences in Utah – Revised Final Report. Institute for Outdoor Recreation and Tourism. Department of Forest Resources, Utah State University. Logan, UT. Professional Report IORT PR2001-02. 73 pp.

Hayes, F. 2005. Historic Department of Motor Vehicle tracking of OHV registrations in Utah. Microsoft Excel spreadsheet. Utah Division of Parks and Recreation.

Motorcycle Industry Council, Inc. 2001. PowerPoint Presentation to OHV Management Workshop. Richfield, UT. May 14-18, 2001.

Motorcycle Industry Council, Inc. 2002. MIC Retail Sales Report, based on actual sales registrations from Arctic Cat, Bombardier, Honda, Kawasaki, KTM, Polaris, Suzuki, and Yamaha. Off-highway includes dual motorcycles.

Reid, M. 1995. 1995 ATV Use Report Fishlake National Forest. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 12 p.

Reid, M. 1996. 1996 OHV Use Report. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 15 p.

Reid, M. 1997. 1997 Trail Use: Paiute and Great Western. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 26 p.

Reid, M. 1998. Paiute and Great Western Trails 1998 Use Report. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 34 p.

Reid, M. 1999. 1999 Trail Use Report. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 12 p.

Reid, M. 2000. 2000 - Paiute – GWT Trail Use Summary. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 31 p.

Reid, M. 2001. Paiute and GWT Use Report 2001. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 40 p.

Reid, M. 2002. Paiute and Great Western Trails 2002 Use Report. Internal Report. Fishlake National Forest Supervisors Office, Richfield, UT. 42 p.

Reid, M. 2003. Paiute and Great Western Trails 2002 Use Report. Fishlake National Forest Plan Monitoring Report. Forest Supervisors Office. Richfield, UT, 42 pp.

Reid, M. 2004a. Motorized Trail Use on the Paiute Trail and Great Western Trail 2003. Fishlake National Forest Plan Monitoring Report. Forest Supervisors Office. Richfield, UT, 44 pp.

Reid, M. 2004b. Paiute ATV Trail Economic Outcomes. Internal Memo, Fishlake National Forest, Richfield, UT. 3 p.

Reid, M. 2005. Motorized Trail Use – 2004, Paiute ATV Trail, Great Western Trail. Fishlake National Forest Plan Monitoring Report. Forest Supervisors Office. Richfield, UT, 28 pp. plus attachments

Kocis, S., D. English, S. Zarnoch, R. Arnold, and L. Warren. 2003. National Visitor Use Monitoring Results – July 2003 – USDA Forest Service Region 4 – Fishlake National Forest. 23 pp.

Hayes, F. 2005. Utah OHV Registration Data. Excel Spreadsheet created by Utah Division of Parks and Recreation, located in project file.

Marion, J. 1996. Recreation Ecology Research Findings: Implications for Wilderness and Park Managers. In: Proceedings of the National Outdoor Ethics Conference, April 18-21, 1996, St. Louis, MO. Gaithersburg, MD: Izaak Walton League of America. pp. 188-196. http://www.cnr.vt.edu/forestry/cpsu/rececol.html

McCool, S. 2002. Principles and Concepts for Managing Visitor Impacts in Protected Areas. In: "Conference on Carrying Capacity and Visitor Management in Protected Areas, May 31-June 1, 2002, Athens, Greece, 9 pp. http://www.cfc.umt.edu/departments/socn/publications/greece.pdf

USDA Forest Service. 2000a. OHV Management for Utah – A challenge for the next Century. Internal Report, Fishlake National Forest Supervisors Office, Richfield, UT. 5 p.

USDA Forest Service. 2001. Roadless Area Conservation; Final Rule. 36CFR Part 294; 66 Federal Register 3244. 12 January

USDA Forest Service. 2004. A Protocol for Identifying and Evaluating Areas for Potential Wilderness (updated 10/28/2004). Intermountain Region Planning Desk Guide. Ogden, UT, 26 pp.

USDA Forest Service. 2005. Final Rule for State Petitions for Inventoried Roadless Area management. 36CFR Part 294; RIN 0596-AC10. 5 May

USDA Forest Service. Evaluation of Roadless Areas, 36 CFR 219.17

USDA Forest Service. Land and Resource Planning Handbook 1909.12, Wilderness Evaluation, Chapter 7

USDA Forest Service. Wilderness Evaluation, Forest Service Manual (FSM), 1923

Utah Wilderness Act of 1984, U.S. Public Law 98-428

Wilderness Act of 1964, (16 U.S.C. 1131-1136) Public Law 88-577, September 3, 1964

Soils

Belnap, J., J. H. Kaltenecker, R. Rosentreter, J. Williams, S. Leonard, and D. Eldridge. 2001. Biological soil crusts: ecology and management: Technical Reference 1730-2. Bureau of Land Management. Denver, CO. 119 p.

Fishlake National Forest – GIS Plot / ATV Interpretations, 05-14-2003 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes.

Fishlake National Forest – GIS Plot / Geologic Map, 01-06-1998 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes in cooperation with the Utah Geological and Mineral Survey Map of 1980.

Fishlake National Forest – GIS Coverage / Fremont – Monroe – Salina / Soil Survey Area # 649, 1995 – 2005 … on-going project, continues to be developed by Michael D. Smith and Wanda Bennett.

Fishlake National Forest – GIS Plot / Potential for Water Erosion, 09-19-2002 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes.

Fishlake National Forest – GIS Plot / Potential for Wind Erosion, 10-30-2003 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes.

Fishlake National Forest – GIS Plot / Puddling and Compaction, 03-30-2004 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes.

Fishlake National Forest – GIS Plot / Topsoil Thickness, 03-16-2004 developed by Michael D. Smith, Wanda Bennett and Jenneka Jewkes.

Fishlake National Forest – GIS Coverage / Tushar – Pahvant – Canyon / Soil Survey Area # 651, 1995 – 2005 … on-going project, continues to be developed by Michael D. Smith and Wanda Bennett.

Paiute ATV Committee / Trail Guiding Handbook, 2000.

Smith, M. 2006. Soils Resource Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 9 November 2006. 39 p. plus maps

USDA Forest Service. 2003. Region 4 Soil Quality Standards (FSH 2509.18 R4 Supplement 2003). http://www.fs.fed.us/im/directives/field/r4/fsh/2509.18/2509.18_2.doc

USDA - NRCS / Soil Survey Manual, Agriculture Handbook # 18, 10-1993.

Vegetation

Belliston, Nathan D., Joel Merritt, Ralph Whitesides, and Steven A. Dewey. 2004. Noxious weed field guide for Utah. Utah State University Extension, Logan, Utah. 89 pp.

Campbell, R. 2006. Vegetation Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 12 November 2006. 25 p. plus maps

Fishlake National Forest. 2003. Environmental assessment for noxious weed management, Fishlake National Forest. Richfield, UT.

Fornwalt, Paula J., Merrill R. Kaufmann, Laurie S. Huckaby, Jason M. Stoker, and Thomas J. Stohlgren. 2003. Non-native plant invasions in managed and protected ponderosa pine/Douglas-fir forests of the Colorado Front Range. Forest Ecology and Management 177:515-527.

Gelbard, Jonathan L., and Jayne Belnap. 2003. Roads as conduits for exotic plant invasions in a semiarid landscape. Conservation Biology 17(2): 420-432.

US Fish and Wildlife Service. 1993. Last Chance townsendia recovery plan. Region 6, US Fish and Wildlife Service, Lakewood, CO. 18 pp.

Watkins, Radley Z., Jiquan Chen, Jim Pickens, and Kimberley D. Brosofske. 2003. Effects of forest roads on understory plants in a managed hardwood landscape. Conservation Biology 17(2): 411-419.

Watershed / Fisheries and Aquatics

Almy, J. 1978. Summarization and analysis of water quality samples collected on the Beaver Ranger District Fishlake National Forest, 1971 – 1977. Specialist Report dated 18 April 1978. 48 p.

Belt, G.H., J.O. O'Laughlin, and T. Merrill. 1992. Design of forest riparian buffer strips for the protection of water quality: Analysis of scientific literature. http://www.uidaho.edu/cfwr/pag/pagr8.html Idaho Forest, Wildlife, Range Policy Group, Rept. 8, Univ. Idaho, Moscow, 35 pp.

Chamberlain, C. B. and D. K. Hepworth. 2003. A Study of the Lake Trout Population of Fish Lake, Utah During 1989-2002. Utah Division of Wildlife Resources. Publication No. 03-11. Salt Lake City, Utah. 25pp.

Chronic, H. 1990. Roadside Geology of Utah. Mountain Press Publishing Company. Missoula, Montana. Pg. 117

Clarkin, Kim. 2006. Personal communication on a literature review she conducted for a San Dimas publication on forded crossings that is nearly completed for publishing.

Deiter, D. 2001. Watershed Report for the OHV Event Environmental Assessment. Fishlake National Forest Supervisors Office, Richfield UT. Specialist Report dated 2 March 2001. 23 p.

Deiter, D. 2002a. Watershed Monitoring Report for 2001 Fillmore ATV Jamboree. Fishlake National Forest Supervisors Office, Richfield UT. Specialist Report dated 24 September 2002. 11 p.

Deiter, D. 2002b. Watershed Monitoring Report for 2001 the Rocky Mountain ATV Jamboree. Fishlake National Forest Supervisors Office, Richfield UT. Specialist Report dated 24 September 2002. 11 p.

Deiter, D. 2002c. FY 2001 Watershed Monitoring Report. Fishlake National Forest Supervisors Office, Richfield UT 84701. Specialist Report dated 27 September 2002. 9 p.

Deiter, D. 2003. Watershed Ten-Year Monitoring Report. Fishlake National Forest Supervisors Office, Richfield UT 84701. Specialist Report dated 31 July 2003. 28 p.

Deiter, D. 2005. Unpublished ATV Event Monitoring Data and Analyses for the Fillmore and Rocky Mountain Jamboree Events for 2002 through 2006. Fishlake National Forest Supervisors Office, Richfield UT 84701. located in project file.

Deiter, D. 2006a. OHV Stream Crossing Monitoring 2001 – 2006 – Fishlake National Forest, updated presentation from R4 – Integrated Workshop. Ogden, UT, PowerPoint Presentation.

Deiter, D. 2006b. Unpublished ATV Event Monitoring Data and Analyses for the Fillmore and Rocky Mountain Jamboree Events for 2002 through 2006. Fishlake National Forest Supervisors Office, Richfield UT 84701. located in project file.

Deiter, D. and J. Whelan. 2006. Watershed and Aquatics Resource Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Reports dated 16 August 2006 & 1 December 2006. 160 p. plus analyses spreadsheet

Dissmeyer, G. 2000. Drinking water from forests and grasslands: a synthesis of the scientific literature. Gen. Tech. Rep. SRS-39. Asheville, NC: USDA Forest Service, Southern Research Station page 78

Federal Highway Administration. 2005. Environmental Assessment and Section 4(f) Evaluation for Utah Forest Highway 29/Beaver to Junction. Lakewood Colorado. `

Gropp, R. 2006. Utah forest water quality monitoring guidelines audit report. Utah Department of Natural Resources – Division of Forestry, Fire, and State Lands. 40p http://www.ffsl.utah.gov/ForestryAssist/FWQG/Monitoring.php

Hepworth, D. K., M. J. Ottenbacher, C. B. Chamberlain. 2002. A review of a quarter of a century of native trout conservation in Southern Utah. Intermountain Journal of Sciences. Vol. 8, No. 3: 125-142.

Hepworth, D. K., M. J. Ottenbacher, C. B. Chamberlain, and J. E. Whelan. 2003. Abundance of Bonneville Cutthroat Trout In Southern Utah, 2001-2002, Compared to Previous Surveys. Utah Division of Wildlife Resources. Publication No. 03-18. 11pp. plus appendices.

Ketcheson, G. and W. Megahan. 1996. Sediment production and downslope sediment transport from forest roads in granitic watersheds. Res. Pap. INT-RP-486. Ogden, UT: USDA Forest Service, Intermountain Research Station. 11p.

Lentsch, L., Y. Converse, and J. Perkins. 1997. Conservation Agreement and Strategy for Bonneville Cutthroat Trout (Onchorhynchus clarki utah) in the State of Utah. Publication No. 97-19. Utah Division of Wildlife Resources, Salt Lake City, UT.

Lentsch, L. and Y. Converse. 1997. Conservation Agreement and Strategy for Colorado River Cutthroat Trout (Onchorhynchus clarki pleuriticus) in the State of Utah. Publication No. 97-20. Utah Division of Wildlife Resources, Salt Lake City, UT.

MacDonald, L. 1989. Cumulative watershed effects: The implications of Scale. Paper presented at the 1989 Fall Meeting of the American Geophysical Union, San Francisco, CA.

Mangum, F. A. various dates. Aquatic Ecosystem Inventory Macroinvertebrate Analysis, Fishlake National Forest for 1986-1997. USDA Forest Service, Intermountain Region, National Aquatic Ecosystem Analysis Laboratory, Brigham Young University, Provo, UT.

Mangum, F. A. 1986. Macroinvertebrates, p. 661-675 *in* Cooperrider, A. Y., R. J. Boyd, and H. R. Stuart, eds. Inventory and monitoring of wildlife habitat. U.S. Dept. Inter., Bureau of Land Mange Service Center. Denver, CO. xviii, 858 pp.

Meehan, W - editor. 1991. Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats. American Fisheries Society Special Publication 19. Bethesda, Maryland. pages 7, 43-44, 496-497.

Petty, J. 2002-2005. Reports and Data from Level 2 Integrated Riparian Evaluations for the Fishlake National Forest. Shell Valley Consulting contract numbers 43-84N8-1-0236, 43-84N8-3-0040, 43-84N8-3-0219, and 43-84N8-4-0190.

Rieman, B., D. Lee, J. McIntyre, K. Overton, and R. Thurow. 1993. Consideration of Extinction Risks for Salmonids. Fish Habitat Relationships Technical Bulletin, No. 14. USDA Forest Service, Intermountain Research Station, Boise, ID. 12pp.

Seyedbagheri, K. 1996. Idaho Forestry Best Management Practices: Compilation of Research on Their Effectiveness. General Technical Report INT-GTR-339. Ogden, UT, USDA Forest Service Intermountain Research Station, 89p. http://www.fs.fed.us/rm/main/pubs/newpubs/np01_1jm.html

Smith, M. 2006. Soils Report for the Fishlake OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 9 November 2006. 39 p. plus maps

Solt, A. 2004. Hydrologist Report for the Richfield-Loa Districts Wildlife Habitat Improvement and Fuels Reduction Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 8 July 2004. 4 p.

USDA Forest Service. 1987. Water quality on the Fishlake National Forest Status Report – 1987. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 1987. 69 p.

USDA Forest Service. 2002. Beaver River Watershed Assessment. Fishlake National Forest Supervisors Office, Richfield UT. http://www.fs.fed.us/r4/fishlake/projects/nepa/beaver_river/beaver_eaws_startup.pdf.

USDA Forest Service. 2003. Roads Analysis Report – Forest-wide Roads Analysis. Dixie and Fishlake National Forest Supervisors Office, Cedar City and Richfield Utah. Report dated January 10, 2003.

USDA Forest Service. 2004. Fremont River Watershed Assessment. Fishlake National Forest Supervisors Office, Richfield UT. Internal Report, finalization in progress.

USDA Forest Service. 2006. Roads Analysis Report – 2006 Supplement – Forest-wide Transportation Analysis for the Fishlake OHV Route Designation Project. Fishlake Roads Analysis Supplement. Fishlake National Forest Supervisors Office, Richfield Utah.

Vinson, M. various dates. Aquatic Macroinvertebrate Monitoring Report, Fishlake National Forest for 1998-2004. National Aquatic Monitoring Center, Utah State University, Logan, UT.

Whelan, J. 2001a. Fisheries Specialist Report for the BLM/FS Environmental Assessment – FS/BLM OHV Events. Fishlake National Forest Supervisors Office, Richfield, UT 84701. Specialist Report dated 1 May 2001. 14 p.

Whelan, J. 2001b. Biological Evaluation for Sensitive Aquatic Species for the BLM/FS Environmental Assessment – FS/BLM OHV Events. Fishlake National Forest Supervisors Office, Richfield, UT 84701. Specialist Report dated 1 May 2001. 15 p.

Whelan, J. 2002. Macroinvertebrate Monitoring Results of the 1995 and 1996 Rotenone Treatment of Manning Creek, Utah. Utah Department of Natural Resources – Division of Wildlife Resources. Publication Number 02-04, Salt Lake City, UT. 34 p.

Whelan, J. 2003. Summary of Aquatic Biota Management Indicator Species (MIS) and Aquatic Habitat Forest Plan Monitoring 1986-2002. Fishlake National Forest Supervisors Office, Richfield, UT 84701. Specialist Report dated 23 August 2003. 30p.

Winget, R. N. and F. A. Mangum. 1979. Biotic Condition Index: Integrated Biological, Physical, and Chemical Stream Parameters for Management. USDA Forest Service, Intermountain Region. 51pp.

Wisseman, R. 2006. Dixie National Forest Benthic Biomonitoring Results, 2005. Aquatic Biology Associates, Inc. Corvallis, OR.

Wildlife

de Vos, Jr. J.C, M.R. Conover, N.E. Headrick. 2003. Mule Deer Conservation: Issues and Management Strategies. Berryman Institute Press, Utah State University, Logan.

Federal Register, Vol. 64, No. 164, Wednesday, August 25, 1999. Endangered and Threatened Wildlife and Plants; Final Rule to Remove the American peregrine falcon from the Federal list of endangered and threatened wildlife, and to remove similarity of appearance provision for free-flying peregrines in the conterminous United States.

Federal Register, Vol. 66, No. 11, Wednesday, January 17, 2001. Executive Order 13186 of January 10, 2001; Responsibilities of Federal Agencies to Protect Migratory Birds.

Flinders, Steve. 1996. Elk calf bedsite selection in an aspen dominated ecosystem. M.S. Thesis, Brigham Young University, Provo, UT.

Goggans, R. 1986. Habitat use by flammulated owls in northeastern Oregon M S. Thesis, Oregon State University, Corvallis, OR. 54 pp. (Pages 17-25)

Graham, R.T., R. L. Rodriguez, K. L. Paulin, R. L. Player, A. P. Heap, and R. Williams. 1999. The Northern Goshawk in Utah: Habitat Assessment and Management Recommendations. Gen. Tech. Rep. RMRS-GTR-22. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 48 p.

Linkhart, B. D., R. T. Reynolds, and R. A. Ryder. 1998. Home range and habitat of breeding flammulated owls in Colorado. Wilson Bull. 110: 342-351.

Lyon, L. J. 1979. Habitat Effectiveness for Elk as Influenced by Roads and Cover. Journal of Forestry. 77:658-660.

Parrish, J.R., F.P. Howe, R.E. Norvell. 2002. Utah Partners in Flight Conservation Strategy Version 2.0. UDWR Publication Number 99-40. Utah Partners in Flight Program, Utah Division of Wildlife Resources, Salt lake City, UT 291 pp., pages 6-10, 91-96, 135-141.

The Peregrine Fund: World Center for Birds of Prey [web application]. 2004. California Condor Releases. Available: http://www.peregrinefund.org/

Rodriguez, R., S. Flinders, K. Rasmussen, and J. Stenten. 2006. Wildlife Specialist Report - OHV Route Designation Project. Fishlake National Forest Supervisors Office, Richfield, UT. Report dated 22 August 2006. 173 p. plus maps

Romin, L.A. and J. A. Muck. 1999. Utah field office guideline for raptor protection from human and land use disturbances. Utah Field Office, Salt Lake City. Page 29.

UDWR. 2005. Deer and Elk Herd Status and Antlerless Permit Recommendations.

USDA Forest Service. 2003. Addition of Greater Sage-Grouse, Pygmy Rabbit and Slickspot Peppergrass to Regional Sensitive Species List. Intermountain Region. November 17th.

USFWS. 2005. Concurrence on the Species list for the Fishlake National Forest. Letter dated May 4, 2005 from Henry Maddux, Utah Field Supervisor, Salt Lake City Field Office.

Glossary

This glossary defines terms used by the Forest Service to explain natural resource concepts and management activities specific to the final environmental impact statement.

Adequate Snow: Sufficient depth, density, and continuity of snow to prevent direct disturbance of ground cover when using a over-snow vehicle to travel cross-country.

Affected Environment: The natural, physical and human-related environment that is sensitive to changes from the alternatives.

Air Pollutant: Any substance in air that could, if in high enough concentration, harm humans, animals, vegetation, or material. Air pollutants may include almost any natural or artificial matter capable of being airborne, in the form of solid particles, liquid droplets, gases, or a combination of these.

Air Quality: Refers to standards for various classes of land as designated by the Clean Air Act, P.L. 88-206: Jan. 1978.

Alternative: A mix of management prescriptions applied to specific land areas to achieve a set of goals and objectives. Each alternative represents a different way of achieving a set of similar management objectives. Sometimes the term "action alternative" is used when it is desirable to recognize that there is a "no action alternative" under which the proposed activity would not take place.

Amenity: Resource use, object, feature, quality, or experience that is pleasing to the mind or senses; typically refers to values for which monetary values are not or cannot be established, such as scenic or wilderness values.

Analysis Area: The geographic area defining the scope of analysis for the project. Sometimes for a particular resource, the analysis area may have to be larger when effects have potential to extend beyond the boundaries of the proposal.

Authorized Road or Trail: A road or trail that is a forest road or trail or a temporary road or trail and that is included in a forest transportation atlas.

Beneficial Uses: Attributes that are considered useful products of the resource. They may include (but are not limited to) recreation, production of salmonid fishes, drinking water, power generation, and irrigation.

Best Management Practices (BMPs): Methods, measures or practices to prevent or reduce water pollution including, but not limited to, structural and nonstructural controls, operation and maintenance procedures, other requirements, scheduling, and distribution of activities. Usually, BMPs are selected on the basis of site-specific conditions that reflect natural background conditions and political, economic, and technical feasibility.

Big Game: Those species of large mammals normally managed as a sport hunting resource.

Biological Diversity: The variety of life and its processes, including bacteria and fungi as well as higher forms of life, such as plants, insects, birds, fish and mammals.

Class I Area: Under the 1977 Clean Air Act and amendments, all international parks, national parks greater than 6,000 acres, and national wilderness areas greater than 5,000 acres which

existed on August 7, 1977. This class provides the most protection to pristine lands by severely limiting the amount of additional air pollution that can be added to these areas.

Classified Road: A road wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, designated roads, and other roads authorized under a special use authorization or other instruments. The new travel management rule replaced this term with "authorized", but it is included in the glossary because it is still used by some members of the public and because it is also used in project file documentation that predates the new travel rule.

Classified Trail: A trail wholly or partially within or adjacent to National Forest System lands that is determined to be needed for long-term access, recreational use, or resource management, including National Forest System trails, designated trails, and other trails authorized under a special use authorization or other instrument. The new travel management rule replaced this term with "unauthorized", but it is included in the glossary because it is still used by some members of the public and because it is also used in project file documentation that predates the new travel rule.

Climate: The composite or generally prevailing weather conditions of a region throughout the year, averaged over a series of years.

Closed Road: A road or segment that is restricted from certain types of use during certain seasons or all of the year. The prohibited use and the period of closure must be specified.

Code of Federal Regulations (CFR): The official, legal tabulation or regulations directing Federal government activities.

Community: A group of one or more populations of plants and animals in a common spatial arrangement; an ecological term used in a broad sense to include groups of various sizes and degrees of integration.

Conifer: Any of a group of needle- and cone-bearing evergreen trees.

Cover: Vegetation used by wildlife for protection from predators, breeding and rearing of young (hiding cover), or to ameliorate conditions of weather (thermal cover).

Cultural Resources: The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) having scientific, prehistoric, or social values.

Cumulative Effect: The impact on the environment, which results from the incremental impact of the action when added to other actions over time and space. Individual impacts can either amplify or negate each other depending on the location, timing, and types of interactions involved. Individually minor but collectively significant actions can result from cumulative effects.

Cumulative Effects Area (CEA): A mappable boundary defined as an area where individual impacts can accumulate and result in cumulative effects. CEAs are often different for each resource or plant and animal species, and often require consideration of more than one spatial or temporal scale.

Deciding Officer: The Forest Service employee who has the authority to select and carry out a specific planning action. For this project, the Fishlake Forest Supervisor is the deciding officer.

Demographic: Related to the vital statistics of human populations (size, density, growth, distribution, etc.) and the effect of these on social and economic conditions.

Designated Road, Trails, or Area: A National Forest System road, a National Forest System trail, or an area on National Forest System lands that is designated for motor vehicle use pursuant to 212.51 on a motor vehicle use map.

Direct Effects: Effects on the environment, which occur at the same time and place as the initial cause or action.

Desired Future Condition: A portrayal of an objective state for the land or resource conditions, which are expected to result if goals and objectives are fully achieved.

Dispersed Campsite: Temporary undeveloped campsites that are typically created and maintained by forest users. Existing temporary campsites can be distinguished by evidence of rock fire rings, old tent sites, and tracks from earlier vehicle access. On the Fishlake National Forest, motorized vehicles are used to access most of these sites.

Developed Recreation: Outdoors recreation requiring significant capital investment in facilities to handle a concentration of visitors on a relatively small area. Examples are ski areas, resorts, and campgrounds.

Dispersed Recreation: Outdoors recreation in which visitors are diffused over relatively large areas. Where facilities or developments are provided, they are more for access and protection of the environment than for the comfort or convenience of the people.

Diversity: The relative distribution and abundance of different plant and animal communities and species within an area.

Ecosystem: The complete system formed by the interaction of a group of organisms and their environment.

Ecotone: An ecological community of mixed vegetation formed by the overlapping of adjoining communities.

Effects (or Impacts): Environmental consequences (the scientific and analytical basis for comparison of alternatives) because of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, or indirect, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable or cumulative.

Emission: A release into the outdoor atmosphere of air contaminants.

Endangered Species: Any plant or animal species that is in danger of extinction throughout all or a significant portion of its range (Endangered Species Act of 1973).

Environment: The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

Environmental Analysis: An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; direct, indirect, and cumulative effects.

Environmental Impact Statement (EIS): A detailed statement prepared by the responsible official when a major Federal action that significantly affects the quality of the human environment is described, alternatives to the proposed action provided, and effects analyzed.

Ephemeral Streams: Streams that flow only as a direct response to rainfall or snowmelt events. They have no baseflow.

Erosion: Detachment or movement of soil or rock fragments by water, wind, ice, or gravity. Accelerated erosion is much more rapid than normal, natural, or geologic erosion, primarily because of the influence of activities of people, animals, or natural catastrophes.

Existing Route: A road or trail that currently exists on the ground, but that may or may not be a designated as open to motorized travel. Included are constructed roads and trails maintained by the Forest Service or cooperating agencies. Constructed roads and trails are often characterized by a road or trail prism with cut and fill slopes or throughfills. An existing route may also be an evident two-track and single-track route with regular use that has resulted from continuous passage of motorized vehicles over a period of years where perennial vegetation is devoid or scarce.

Federal Land Policy and Management Act of 1976 (FLPMA): Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides the majority of the BLM's legislated authority, direction, policy and basic management guidance.

Federal Register: A daily publication that reports Presidential and Federal agency documents.

Fish Habitat: The place where a population of fish species lives and its surroundings; includes the provision of life requirements such as food and cover.

Fishery: The total population of fish in a stream or body of water and the physical, chemical, and biological factors affecting that population.

Floodplain: The lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

Flora: The plant life characteristic of a region, period, or special environment.

Forage: Vegetation used for food by wildlife, particularly big game wildlife, and domestic livestock.

Forb: Any herbaceous (herb-like) plant, other grass or grass-like plants.

Forest Cover Type: A descriptive classification of forestland based on the present vegetative species composition or locality (i.e., lodgepole pine, mixed conifer). Most stands are given a classification based on soil or aerial photo interpretations or field inventory that includes the forest cover type, size class, density class, and stand development phase.

Forest Plan: Refers to the land and resource management plans that provide strategic guidance to management activities on National Forest System lands.

Forest Road or Trail: A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration and utilization of the National Forest System and the use and development of its resources. [36 CFR 212.1]

Forest Transportation Atlas: A display of the system of roads, trails, and airfields of an administrative unit. [36 CFR 212.1]

Forest Travel Atlas: An inventory, description, display, and other associated information that includes the forest transportation atlas and use map.

Four Key Threats: Management issues identified by the Chief of the Forest Service as the greatest threats to the Nation's Forests and grasslands. The four key threats are hazardous fuel reduction, invasive species, loss of open space, and unmanaged recreation. These program areas are currently receiving the highest priority and funding emphasis in the Forest Service. See http://www.fs.fed.us/projects/four-threats/ for more information.

Fragmentation: Process by which aquatic or terrestrial habitats are increasingly subdivided into smaller units, resulting in their increased insularity as well as losses of total habitat area.

Geographic Areas (GAs): Sub-divisions of the forest defined by topographic, climatic and geologic features, or special habitats or uses that provide a sense of place. The revised forest plan will use geographic areas to refine management strategies and priorities for specific areas. Clear Creek and Monroe Mountain are examples of geographic areas.

Habitat: The sum total of environmental conditions of a specific place occupied by a wildlife species or a population of such species.

Habitat Type: An aggregation of all land areas potentially capable of producing similar plant communities at climax.

Hardwoods: A conventional term for the wood of broadleaf trees. In the decision area, these trees are generally confined to areas near water.

Indirect Effects: Secondary effects which occur in locations other than the initial action or significantly later in time.

In-Migration: The movement of new residents into an area.

Interagency Guidelines: A recovery plan that identifies important, specific management measures regarding the conduct of multiple-use activities in goshawk habitat, and parameters for identifying the sensitivity of goshawk habitat to human activities.

Interdisciplinary Team (IDT): A group of resource professionals with different expertise that collaborate to develop and evaluate resource management decisions.

Intermittent Stream: A stream that flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow.

Irretrievable Impact: Commitment of a resource would be considered "irretrievable" when the project would directly eliminate the resource, its productivity, and/or its utility for the life of the project.

Irreversible Impact: The commitment of a resource would be "irreversible" if the project started a "process" (chemical, biological, and/or physical) that could not be stopped. As a result, the resource or its productivity, and/or its utility would be consumed, committed, or lost forever.

Issue Indicators: A "yardstick" for measuring or comparing any changes associated with each issue or concern by alternative. The indicator should have a correlative or definable cause and effect relationship with the issue of concern.

Invasive Plants: Nonnative aquatic and terrestrial species have the capacity to dominate, overwhelm, and replace native vegetation. A species is considered invasive if it is nonnative to the ecosystem under consideration, and if its introduction causes or is likely to cause economic or environmental harm or harm to human health. Noxious weeds are a subset of invasive plants.

Landscape: The aspect of the land that is characteristic of a particular region or area.

Lower Montane: A terrestrial community that generally is found in drier and warmer environments than the montane terrestrial community. The lower montane community supports a unique clustering of wildlife species.

Management Area: Zoned areas, not necessarily contiguous, which have common management direction.

Management Direction: A statement of multiple use and other goals and objectives, along with the associated management prescriptions and standards and guidelines to direct resource management.

Management Indicator Species (MIS): A species of wildlife, fish, or plant whose health and vigor are believed to accurately reflect the health and vigor of other species having similar habitat and protection needs to those of the selected indicator species.

Mitigation: Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

Monitoring and Evaluation: The evaluation, on a sample basis, of management practices to determine how well objectives are being met, as well as the effects of those management practices on the land and environment.

Montane: Inhabiting the cool, moist ecological zone located near the timberline and usually dominated by evergreen trees.

Motor Vehicle: Any vehicle which is self-propelled, other than: (1) A vehicle operated on rails; and (2) Any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area. [36 CFR 212]

Motor Vehicle Use Map: A map reflecting designated roads, trails, and areas on an administrative unit or a Ranger District of the National Forest System. [36 CFR 212.1]

National Environmental Policy Act (NEPA): A law which encourages productive and enjoyable harmony between man and his environment; promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding of the ecological systems and natural resources important to the Nation; and establishes a Council on Environmental Quality. NEPA requires public disclosure of impacts from federal actions and provides for public involvement in defining issues and alternative management schemes.

National Forest Management Act (NFMA): A law passed in 1976 as amendments to the Forest and Rangeland Renewable Resources Planning Act that requires the preparation of regional and forest plans and the preparation of regulations to guide that development.

National Forest System: All national forest lands reserved or withdrawn from the public domain of the United States, all national forest lands acquired through purchase, exchange,

donation, or other means, the national grasslands and land utilization projects administered under Title 111.

National Forest System Road: A forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority. [36 CFR 212.1]

National Forest System Trail: A forest trail other than a trail which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority. [36 CFR 212.1]

Native Fish: Fish species that are indigenous to a region's waters, as opposed to introduced or exotic fish.

Native Species: Species that normally live and thrive in a particular ecosystem.

NEPA Process: An interdisciplinary and environmental effects disclosure process, mandated by the National Environmental Policy Act, which concentrates decision making around issues, concerns, alternatives and the effects of alternatives on the environment.

No Action Alternative: The No Action Alternative is required by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The No Action Alternative provides a baseline for estimating the effects of other alternatives. Where a project activity is being evaluated, the No Action Alternative is defined as one where no action or activity would take place.

Nongame Species: All wild animals not subject to sport hunting, trapping or fishing regulations.

Non-motorized: Modes of travel that include hiking, equestrian, and mountain bikes and excludes all motorized use.

Nonpoint Source Pollution: Pollution whose source is not specific in location; the sources of the pollutant discharge are dispersed, not well defined or constant. Examples include sediments from logging activities and runoff from agricultural chemicals.

Noxious Weeds: A plant species designated by Federal or State law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed is one that causes disease or has other adverse effects on people or their environment and therefore is detrimental to the agriculture and commerce of the United States and to the public health.

Off-Highway Vehicles or Off-Road Vehicles: Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. [36 CFR 212.1] Vehicle types include but are not limited to sport utility vehicles, jeeps, ATVs, minibikes, amphibious vehicles, over-snow vehicles, off-highway motorcycles, go-carts, motorized trail bikes, and dune buggies. Wheelchairs that are designed solely for use by a mobility-impaired person for travel are not included in this definition. *Most issues associated with over-snow vehicles are outside the scope of this project. However, exceptions are noted and addressed where necessary.*

Off-Route Vehicle Designations (FS):

Open: Areas and trails on which all types of motorized vehicles may be operated off roads and motorized trails without restrictions.

Restricted: Areas and routes on which motorized vehicle use is restricted by times or season of use, types of vehicles, vehicle equipment, designated areas or trails, or types of activity specified in orders issued under the authority of 36 CFR 361.

Closed: Areas and routes on which all motorized vehicle use is prohibited, except by permit, under authority of 36 CFR 261 or by law.

Open to Public Travel: Except during scheduled periods, extreme weather conditions or emergencies, is open to the general public for use with a standard passenger auto, without restrictive gates or prohibitive signs or regulations, other than general traffic control or restrictions based on size, weight, or class of registration (23 CFR 660).

Over-snow Vehicle: A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow.

Perennial Streams: Streams that flow continuously throughout the year.

Plan Amendment: The system that provides a step-by-step process for considering multiple resource values, resolving conflicts, and making resource management decisions.

Population: In statistics - the aggregate of all units forming the subject of study. Otherwise, a community of individuals that share a common gene pool.

Preferred Alternative: The agency's preferred alternative, one or more, that is identified in the impact statement (40 CFR 1502.14).

Prescribed Burning: The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as to allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives (i.e., silviculture, wildlife management, reduction of fuel hazard, etc.)

Programmatic Direction: An environmental impact statement or other document that establishes a broad management direction for an area by establishing a goal, objective, standard, management prescription, and monitoring and evaluation requirement for different types of activities that are permitted. It also can establish what activities are not permitted within the specific area(s). This document does not mandate or authorize the permitted activities to proceed.

Project Area: The spatial boundary that envelops the proposed actions and alternatives.

Project File: An assemblage of electronic and hard copy documents that contain all the information developed or used during project development and environmental analyses. This information may be summarized and incorporated by reference in the environmental impact statement. The project file is part of the administrative record for judicial review in case of legal action.

Ranger District: An administrative subdivision of the national forest, supervised by a district ranger who reports to the forest supervisor.

Record of Decision (ROD): A concise public document disclosing the decision made following preparation of an EIS and the rationale used to reach that decision.

Recreation Visitor Days (RVD): One 12-hour period of recreation. It can be one person for 12 hours, 2 people for 6 hours, 12 people for 1 hour, etc.

Recreational Opportunities: The combination of recreation settings, activities and experience provided by the forest.

Recreational Opportunity Spectrum: An inventory that defines the types of potential recreational experiences that can be provided by a given environmental setting. The type and amount of access to an area is a primary determinant of the available recreational opportunity.

Redd: Spawning nest made by fish in the gravel bed of a river.

Restricted Route: A national Forest road or trail which is restricted from a certain type of use or all uses during certain seasons of the year or yearlong. The use and period being restricted must be specified. The closure is legal when the forest supervisor has issued an order and posted that order in accordance with 36 CFR 261.

Riparian Areas/Habitats: Land areas where the vegetation and microclimate are influenced by perennial or intermittent water.

Road: A motor vehicle route over 50 inches wide, unless identified and managed as a trail. A road may be authorized, unauthorized, or temporary.

Road Construction or Reconstruction: Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road. [36 CFR 212.1]

Roadless Area: A national forest area which: 1) is larger than 5,000 acres, or if smaller than 5,000 acres, contiguous to a designated wilderness or primitive area; 2) contains no roads or developments; and 3) has been inventoried for possible inclusion in the wilderness preservation system.

Route: A generic term that includes roads and trails as defined in this glossary.

Scoping: The procedures by which the Forest Service determines the extent of analysis necessary for a proposed action, i.e., the range of actions, alternatives, and impacts to be addressed, identification of significant issues related to a proposed action, and establishing the depth of environmental analyses, data, and task assignments needed.

Seasonal Closure: Area or route closed part of the year. The season of closure is defined by the reason for the closure (e.g. winter range, snow, etc.).

Sediment: Any material carried in suspension by water, which will ultimately settle to the bottom. Sediment has two main sources: from the channel area itself and from disturbed sites.

Semiarid: Moderately dry; region or climate where moisture is normally greater than under arid conditions but still definitely limits the production of vegetation.

Sensitive Species: Those species identified by the regional forester for which population viability is a concern as evidenced by significant current or predicted downward trends in population numbers or density, or habitat capability that would reduce a species' existing distribution.

Shrink-Swell Potential: The susceptibility of soil to change in volume due to a loss or gain in moisture content. A shrink-swell potential is typically associated with soils that have a high percentage of clay.

Shrub: A plant with persistent woody stems and relatively low growth form; usually produces several basal shoots as opposed to a single bole; differs from a tree by its low stature and nonarborescent form.

Significant: As used in NEPA, requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts, such as society as a whole and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27).

Snowmobile: see over-snow vehicle.

Special Status Species: Refers to federally listed Threatened or Endangered species, federal candidate species, species recognized as requiring special protection by state agencies, and species managed as sensitive species by the Forest Service.

Special Use Permit: A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest System lands for some special purpose.

Species: A unit of classification of plants and animals consisting of the largest and most inclusive array of sexually reproducing and cross-fertilizing individuals, which share a common gene pool.

Specified Road: A Forest System Road, including related transportation facilities and appurtenances.

Standard: A particular action, level of performance, or threshold specified by the forest plan for resource protection or accomplishment of management objectives. Unlike "guidelines" which are optional, standards specified in the forest plan are mandatory.

Subalpine: A terrestrial community that generally is found in harsher environments than the montane terrestrial community. Subalpine communities are generally colder than montane and support a unique clustering of wildlife species.

Summer Range: A range, usually at higher elevation, used by deer and elk during the summer; a summer range is usually much more extensive than a winter range.

Temporary Campsite: See the definition for dispersed campsite.

Temporary Road or Trail: A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas. [36 CFR 212.1] These routes are not considered necessary for long-term access, recreational use, or resource management.

Thermal Cover: Vegetation used by animals to modify the adverse effects of weather. A forest stand that is at least 40 feet in height with tree canopy cover of at least 70 percent provides thermal cover. These stand conditions are achieved in closed sapling-pole stands and by all older stands unless the canopy cover is reduced below 70 percent. Deciduous stands may serve as thermal cover in summer, but not in winter.

Threatened Species: Any species of plant or animal that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Tiering: The use of a previously written environmental document with a broad scope to cover discussion of issues common to both.

Trail: A route 50 inches or less in width, or a route over 50 inches wide that is identified and managed as a trail. A trail may be authorized, unauthorized, or temporary.

Tribe: Term used to designate a federally recognized group of American Indians and their governing body. Tribes may be comprised of more than one band.

Unauthorized Road or Trail: A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas. [36 CFR 212.1] These routes are often called user-created, but the Forest Service built many.

Understory: Vegetation (trees or shrubs) growing under the canopy formed by taller trees.

Undesignated Roads and Trails: Roads and trails that have not yet gone through site-specific travel planning to determine if they should be open, closed, or restricted to motorized vehicle use or roads and trails that have gone through travel planning and determined that motorized vehicle use is not appropriate and is not allowed.

Upland: The portion of the landscape above the valley floor or stream riparian area.

Viable Populations: A wildlife population of sufficient size to maintain its existence over time in spite of normal fluctuations in population levels.

Watershed: A region or area bounded peripherally by a water parting and draining ultimately to a particular location on a watercourse.

Weed: A plant considered undesirable, unattractive, or troublesome, usually introduced and growing without intentional cultivation.

Wilderness: All lands included in the National Wilderness Preservation System by public law; generally defined as undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation.

Wilderness Character: Characteristics of undeveloped and unroaded areas related to manageability, natural integrity, natural appearance, opportunities for solitude, opportunities for primitive recreation or challenging experiences, special features, and remoteness.

Winter Range: A range, usually at lower elevation, used by migratory deer and elk during the winter months; usually better defined and smaller than summer ranges.

Appendix A – Executive Orders

Executive Order 11644

Use of Off-Road Vehicles on the Public Lands

An estimated 5 million off-road recreational vehicles motorcycles, minibikes, trail bikes, snowmobiles, dune buggies, all-terrain vehicles, and others are in use in the United States today, and their popularity continues to increase rapidly. The widespread use of such vehicles on the public lands often for legitimate purposes but also in frequent conflict with wise land and resource management practices, environmental values, and other types of recreational activity has demonstrated the need for a unified Federal policy toward the use of such vehicles on the public lands.

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States by the Constitution of the United States and in furtherance of the purpose and policy of the National Environmental Policy Act of 1969 (42 U.S.C. 4321), it is hereby ordered as follows:

SECTION 1. Purpose. It is the purpose of this order to establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.

SEC. 2 Definitions. As used in this order, the term:

(1) Public lands means (A) all lands under the custody and control of the Secretary of the Interior and the Secretary of Agriculture, except Indian lands, (B) lands under the custody and control of the Tennessee Valley Authority that are situated in western Kentucky and Tennessee and are designated as Land Between the Lakes, and (C) lands under the custody and control of the Secretary of Defense;

(2) Respective agency head means the Secretary of the Interior, the Secretary of Defense, the Secretary of Agriculture, and the Board of Directors of the Tennessee Valley Authority, with respect to public lands under the custody and control of each;

(3) Off-road vehicle means any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain; except that such term excludes (A) any registered motorboat, (B) any military, fire, emergency, or law enforcement vehicle when used for emergency purposes, and (C) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract; and

(4) Official use means use by an employee, agent, or designated representative of the Federal Government or one of its contractors in the course of his employment, agency, or representation.

SEC 3. Zones of Use. (a) Each respective agency head shall develop and issue regulations and administrative instructions, within six months of the date of this order, to provide for administrative designation of the specific areas and trails on public lands on which the use of off-road vehicles may be permitted, and areas in which the use of off-road vehicles may not be permitted, and set a date by which such designation of all public lands shall be completed. Those regulations shall direct that the designation of such areas and trails will be based upon the protection of the resources of the public lands, promotion of the safety of all users of those lands, and minimization of conflicts among the various uses of those lands. The regulations shall further require that the designation of such areas and trails shall be in accordance with the following:

(1) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands.

(2) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats.

(3) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

(4) Areas and trails shall not be located in officially designated Wilderness Areas or Primitive Areas. Areas and trails shall be located in areas of the National Park system, Natural Areas, or National Wildlife Refuges and Game Ranges only if the respective agency head determines that off-road vehicle use in such locations will not adversely affect their natural, aesthetic, or scenic values.

(b) The respective agency head shall ensure adequate opportunity for public participation in the promulgation of such regulations and in the designation of areas and trails under this section.

(c) The limitations on off-road vehicle use imposed under this section shall not apply to official use.

SEC. 4. Operating Conditions. Each respective agency head shall develop and publish, within one year of the date of this order, regulations prescribing operating conditions for off-road vehicles on the public lands. These regulations shall be directed at protecting resource values, preserving public health, safety, and welfare, and minimizing use conflicts.

SEC. 5. Public Information. The respective agency head shall ensure that areas and trails where off-road vehicle use is permitted are well marked and shall provide for the publication and distribution of information, including maps, describing such areas and trails and explaining the conditions on vehicle use. He shall seek cooperation of relevant State agencies in the dissemination of this information.

SEC. 6. Enforcement. The respective agency head shall, where authorized by law, prescribe appropriate penalties for violation of regulations adopted pursuant to this order, and shall establish procedures for the enforcement of those regulations. To the extent permitted by law, he may enter into agreements with State or local governmental agencies for cooperative enforcement of laws and regulations relating to off-road vehicle use.

SEC. 7. Consultation. Before issuing the regulations or administrative instructions required by this order or designating areas or trails as required by this order and those regulations and administrative instructions, the Secretary of the Interior shall, as appropriate, consult with the Atomic Energy Commission.

SEC. 8. Monitoring of Effects and Review. (a) The respective agency head shall monitor the effects of the use of off-road vehicles on lands under their jurisdictions. On the basis of the information gathered, they shall from time to time amend or rescind designations of areas or other actions taken pursuant to this order as necessary to further the policy of this order.

(b) The Council on Environmental Quality shall maintain a continuing review of the implementation of this order.

RICHARD NIXON

THE WHITE HOUSE

February 8, 1972

Executive Order 11989

Off-Road Vehicles on Public Lands

By virtue of the authority vested in me by the Constitution and statutes of the United States of America, and as President of the United States of America, in order to clarify agency authority to define zones of use by off-road vehicles on public lands, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), Executive Order No. 11644 of February 8, 1972, is hereby amended as follows:

SECTION 1. Clause (B) of Section 2 (3) of Executive Order No. 11644, setting forth an exclusion from the definition of off-road vehicles, is amended to read (B) any fire, military, emergency or law enforcement vehicle when used for emergency purposes, and any combat or combat support vehicle when used for national defense purposes, and.

SEC. 2. Add the following new Section to Executive Order No. 11644:

SEC. 9. Special Protection of the Public Lands. (a) Notwithstanding the provisions of Section 3 of this Order, the respective agency head shall, whenever he determines that the use of off-road vehicles will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat or cultural or historic resources of particular areas or trails of the public lands, immediately close such areas or trails to the type of off-road vehicle causing such effects, until such time as he determines that such adverse effects have been eliminated and that measures have been implemented to prevent future recurrence.

(b) Each respective agency head is authorized to adopt the policy that portions of the public lands within his jurisdiction shall be closed to use by off-road vehicles except those areas or trails which are suitable and specifically designated as open to such use pursuant to Section 3 of this Order.

JIMMY CARTER

THE WHITE HOUSE

May 24, 1977

Appendix B – Implementation Plan

Transportation Planning and Management Strategies

The proposed action includes an implementation plan that includes recommended strategies and tactics for:

- managing the designated system,
- eliminating unauthorized growth of the route network,
- signing and implementing routes and area designations,
- enforcing the new motorized travel plan,
- involving and educating the public in access and travel management,
- planning future travel management decisions,
- monitoring and adaptive management.

These recommendations are not obligatory but should be applied where practical to implement as budget and priorities allow. The recommendations inform but are not a substitute for the assessment of broader transportation issues being covered in the ongoing Forest Plan revision process. The Roads Analysis Process and public input have helped determine the list and content of these items. These measures have been finalized using additional public comments and review received from the DEIS. Signing standards designed for uniform use by State and Federal agencies in Utah will continue to be applied.

Problems and Risks Posed by the Current Road and Trail Systems & Opportunities for Addressing Important Problems and Risks

Lack of Adequate Funding for Road and Trail Maintenance. The current funding level for roads and trails fall short of what is needed to fully maintaining the route systems on the forest. Future program funding is not expected to increase more than inflation and deferred maintenance needs will accumulate. The forest needs to look at options to fund and more efficiently manage the maintenance costs of the road and trail system or reduce the number of miles. The forest also needs to prevent user created expansion of the motorized road network. The Fishlake OHV Route Designation Project is a significant first step towards this end. Some options are:

1. Designate a motorized travel plan to provide greater certainty as to which routes are part of the motorized and non-motorized systems.

2. Promptly obliterate existing and future user created routes that are not part of the designated motorized travel plan.

3. Barrier or rehabilitate non-motorized routes to prevent conversion to motorized use through encroachment. Use barriers to prevent full sized vehicles from converting motorized trails to roads. Restore non-motorized trails to single tracks where possible to eliminate the impression that the route is open to motorized vehicles.

4. Gate or harden running surfaces on roads and trails that are susceptible to damage from motorized use during wet periods.

5. Prioritize available budgets based on maintenance needs and the relative importance of at-risk resource values. Not all routes require the same level or frequency of maintenance nor do they have the same potential for resource impacts.

6. Look for other funding sources to supplement the roads budget (e.g. cooperative dollars from interested road agencies, publics, or user groups, or the use of Gas tax dollars through the Public Roads program).

7. Look for opportunities to reduce the road system (e.g. Converting roads to other uses such as trails, transferring roads to other road agencies, reducing maintenance levels, or obliterating unneeded roads and motorized trails).

8. Convert roads that primarily serve private in-holding access to special use roads with permittees maintenance responsibility.

9. Consider using Recreation Enhancement Act authorities to collect user fees for motorized and non-motorized trails on the forest. Use the funds collected for trail maintenance and improvements.

Invasive Plants. Roads and trails, and cross-country travel facilitate the introduction and spread of invasive plants. The following actions would help to prevent establishment or provide early detection of invasive plants:

1. Designate a motorized route system to provide greater certainty about where invasive plants are likely to be introduced, perpetuate, spread, and require treatment.

2. Implement the Coordinated Weed Management Agreements for treatment and to facilitate internal and external weed education, including the development of weed management Best Management Practices. Follow the priorities listed in the Fishlake Noxious Weed Management Environmental Assessment.

3. Educate and strongly recommend to the public that all OHVs be washed and free of any weed seed before coming onto the forest. This is especially critical for vehicles coming in from outside the seven counties that encompass the forest [Beaver, Juab, Millard, Piute, Sanpete, Sevier, and Wayne] because new species could be introduced

4. Improve monitoring for weed outbreaks. Maintain maps of species occurrence, the timing and type of treatments applied, and status of the infestation.

5. Training of permanent and seasonal employees on weed identification and weed management Best Management Practices should become standard procedure. Implement a reward system for location of new populations.

6. Create wash stations at each District to facilitate the removal of mud and seeds from OHVs owned and operated by the Forest Service. Require regular washing of highway vehicles, especially if the rig has been in potential infestation areas off-forest.

7. Extend weed training and education to OHV user groups and public schools. Include weed management education signs at OHV kiosks and at trailheads.

8. Prioritize monitoring and treatments on high use recreation areas especially trail heads.

9. Require commercial equipment used for Forest Service contracts to be washed free of noxious weed seeds prior to entering National Forests and be washed at designated locations between work sites if working within 1 mile of known infested areas.

10. Follow the national invasive plant strategies for the Forest Service.

11. Recommend that all vehicles be washed and free of weed seed before traveling on the forest's designated motorized roads or trails.

12. Proactively use posters and public service announcements for this education campaign. Feature Taz as the poster child and the voice of prudent and responsible recreation. Use a theme: "WW"—'be Weed Warriors,' and 'Wash before you ride!' Continue giving free coupons for OHV washes at local car washes as was done in 2006 for the Rocky Mountain ATV Jamboree.

13. Develop a program to provide mud flaps imprinted with "weed warrior" or "wash and ride" themes to people who purchase ATV's or other OHV equipment.

14. The new cooperative weed management areas in the counties will have networks that could be used to provide information and education. Such activities would help create a sense of awareness with the public.

Protection of rare plants. The following measures would help reduce potential impacts to rare plants and their habitat.

1. Relocate routes that have individuals of Last Chance townsendia growing within close proximity of the routes' tracks.

2. Restrict motorized access to dispersed use areas, on a case-by-case basis, where occupied or potential for Last Chance townsendia and other rare plant habitats occur.

3. Do not permit fuel wood gathering or special forest products collection in areas of occupied or potential habitat for Last Chance townsendia in accordance with recovery plan (US Fish and Wildlife Service 1993).

4. Designate distinct boundaries for the open use areas that area clearly discernable on the ground for all users of the areas. This is particularly important for the Flat Canyon open use area near Richfield.

5. Mitigate possible impacts to rare plants or their habitats for populations that are discovered after this plan is approved and implemented in accordance with recovery plan (US Fish and Wildlife Service 1993).

6. Do not designate areas for firewood or special forest product collection where a population of any Forest Service sensitive or Federally listed Threatened or Endangered species is known to occur.

7. Update the GIS layer of the known locations for dispersed use sites that have allowable motorized access. This can be the baseline for dispersed use sites, and thus the basis to preclude the continual addition of new dispersed use sites in areas of potential rare plant habitat.

8. Coordinate route obliteration and physical barrier installation with the forest rare and invasive plants program manager and the forest botanist.

Managing Seasonal Closures. Public compliance with seasonal closures has been poor in the past. Offenders often willfully violate the closure or are unaware of the travel plan requirements. A recommendation from this analysis is that seasonal closures should be gated where feasible. Gates should improve compliance, plus they offer an added benefit that the season of closure can be extended past April 15th if the snow, route, or habitat conditions warrant extra protection in a given year.

Managing Dispersed Recreation. Dispersed recreation needs to be better managed in select areas across the forest. This issue can be addressed in the Forest Plan revision effort for affected Geographic Areas. Problem areas include the UM Creek drainage, Tidwell slopes, Big Flat, Big John Flat, Mill Creek, Salina Creek near Beaver Creek, and the area from Koosharem Creek south and west to Bean Hill on Monroe Mountain. Dispersed camping and access is also an issue in boreal toad habitat near Barney Reservoir. Potential needs include designating dispersed camping sites, adding bathroom facilities, hardening or closing sites, building alternate sites, relocating sites and placing barriers to keep campers a minimum distance from perennial streams, and possibly using rest rotations for sites. Displacement effects should be studied and considered prior to improving or closing sites. Follow recommendations developed for the dispersed recreation strategy once completed. The strategy is based on a forest-wide assessment that was conducted in the summer of 2006.

Managing Temporary Routes. Several of the currently unauthorized routes that have been converted to motorized roads and trails by users started out as temporary access roads for Forest Service timber sales, juniper chainings, Dixie harrow treatments, water pipelines and improvements, fence lines, mining, powerline corridors, and firelines. The forest should assure that temporary roads and treatment areas are rehabilitated and do not encourage or allow the use or creation of new motorized routes.

Public Forest Service Roads (PFSR). The original Dixie and Fishlake Roads analysis report recommended numerous roads to include into the PFSR program, which allows for expenditures of gas tax funds for road maintenance costs. Contrary to what is claimed in that report; those roads were never discussed and brought forward as an interdisciplinary team recommendation. There are numerous potential management, resource, and recreation impacts that need to be evaluated before pursuing any of the options identified. An example of a hydrologic and aquatics concern is that many of these roads currently impact riparian zones and streams given their current locations in and adjacent to channels. The road prism template may need to be enlarged and reconstructed in order to qualify as a PFSR, which would lead to greater resource impacts. In addition, the Forest Service would lose some of the discretionary authority over the road use and management, which could lead to creating or perpetuating adverse resource impacts. Therefore, adding roads to the PFSR program should be applied with these considerations in mind and should rely on an interdisciplinary process.

Aquatic Restoration. Reducing or eliminating the alteration of normal slope hydrology and stream hydraulics by roads and motorized trails is an important prerequisite to protect aquatic systems across the forest. Actions that need to be taken includes the following:

1. Roads and trails that encroach on stream channels, riparian areas and wetlands that cannot be relocated or realigned should be redesigned to minimize impacts to the fullest practical extent. Encroaching and riparian routes should be obliterated when excess to long-term transportation needs, or if the route cannot be redesigned to prevent undue resource damages. Relocate routes out of wetland areas, where possible or use measures to restore the hydrology of the wetland. Examples include raised prisms with diffuse

drainage such as French drains and setting road-crossing bottoms at natural levels of wet meadow surfaces. The normal slope hydrology should be restored in riparian areas and wetlands that have been dewatered by the road system.

2. Numerous road and trail surfaces and ditchlines on the forest currently drain directly into ephemeral, intermittent, and perennial streams. It is a standard Best Management Practice to safely drain intercepted water before reaching channels, which includes having enough undisturbed slope between the end of the drainage structure and the channel to allow re-infiltration of water, and the filtering and detainment of sediment.

3. Stream crossings should be designed to safely pass streamflow and debris associated with the 100-year floods. This includes aligning the crossings consistent with the channel pattern, using inlet control, and not appreciably widening or narrowing the active channel dimensions as the stream flows through the structure. It is also important to drain the route surface and ditchlines prior to reaching the crossing. Route crossings should be constructed so that they do not have potential to divert streamflow down the driving surface, or so that intercepted water can quickly and safely be returned to the channel. The impacts from sediment or contamination related to direct vehicle contact with water on forded crossings should be weighed against the risk of catastrophic failure that a constructed structure would create. For streams with wide floodplains, it is often not feasible or desirable to pass all of the Q100 flow through one structure. A structure can also be designed to pass the Q100 flows and debris over the crossing in addition to through – vented fords are an example. Wet crossings should generally not be forded if the stream has or is at risk of having aquatic nuisance species introduced or becoming infected with whirling disease. Uses of structural designs that result in natural or simulated stream bottoms are preferred to promote fish passage. The number of channel crossings should be reduced when possible to minimize the potential for adverse impacts to aquatic resources. Natural channels should always be restored on routes that will be obliterated or where a barrier will close an area to all use.

4. Routes should not be allowed to intercept, concentrate, or reroute excessive amounts of water and sediment on or below the road or trail. Cross drainage on ditched and outsloped routes should be frequent enough that the normal downslope movement of water is essentially uninhibited. This helps prevent the loss of route surface materials and prevents the creation of gullies below the culvert or cross-drain outlets. Motorized routes that are obliterated or closed with a barrier should have frequent self-maintaining cross drainage installed as part of the closure.

5. Routes above or on slopes sensitive to mass failures should be evaluated to determine if relocation, redesign, or obliteration is needed to prevent the route from triggering mass slope failures.

Obliteration methods should use passive and active restoration techniques. Passive techniques rely on removing the human induced disturbance mechanisms and then relying on natural recovery. Active restoration techniques potentially include use of a Dixie Harrow in sagebrush or a disc or seed drill in grass vegetation types. Steeper slopes and larger prisms typically require the use of excavators and dozers. Regardless of the method used, stream crossings should be restored and self-maintaining drainage installed where needed. All obliterations should use signs, barriers, or front-end obliteration to prevent motorized use from reestablishing on the obliterated prism. Obliteration and barrier installation within the rare plant study area will require coordination with the forest rare and invasive plants program manager, and the forest botanist. The following design criteria should be applied:

During obliteration, stream crossings should be restored using the following design criteria:

1. Timing restrictions for cutthroat and important recreational fisheries will be coordinated with the Division of Water Rights through the stream alteration permit process where necessary and with the forest fisheries biologist.

2. The width of the excavated channel must include the natural channel bankfull width and floodplain features as indicated above and below the crossing. This restores the natural stream hydraulics and reduces the potential for eroding and rejuvenating the channel side slopes.

3. The slope of the channel must match the stream grade that existed prior to construction of the route. The stream grade above and below the crossing, old soil organic layers and stumps, and the presence of streambed materials that are courser than the road fill can be used as indicators (to supplement topographic cues) of the original terrain. Restoring the channel gradient reduces the potential for channel downcutting (scouring) and rejuvenation of channel side slopes.

4. The channel side slopes (breaklands) to the crossing must be returned as closely as practical to natural contour. This helps promote revegetation and minimizes the potential for sediment production and delivery to the channel.

5. As much fill as possible should be removed before displacing and removing the crossing structure. This reduces the volume of fine sediment that can be entrained by the stream.

6. Silt fences, straw bales, stream diversion or pumping water around crossings should be used to minimize turbidity increases. Sediment captured by traps should be removed before dismantling the traps. This reduces the volume of sediment delivered downstream.

7. Uprooted vegetation, logs, weed-free straw, seeding and fertilization, plantings, and geotextiles (as needed) should be used to reduce surface erosion and promote revegetation on the recontoured slopes.

8. Rock or log grade control structures should be used if desired for fisheries enhancement or to prevent downcutting in situations where the original stream gradient is difficult to determine or re-establish. Log and rock structures must be keyed into the banks a minimum of 3 feet. Logs should be at least 14 inches in diameter. The top of the grade control structures should be the same elevation as the bottom of the restored channel. For log structures on perennial streams, a minimum 3-foot wide piece of filter cloth should be placed and nailed to the upstream side of the log and sealed with bed material.

Road obliteration between stream crossings will be done using the following criteria:

1. The brushing of roads and trails grown in with vegetation should avoid cutting below the route surface and should be the minimum width necessary for safe passage of support vehicles. If a dozer is used, the brush should be pushed for at least 200 feet before sidecasting to prevent creating a continuous windrow or berm of slash on the outside edge of the route.

2. Natural contours should be restored on all route segments that have unstable fill or cutslopes. The bench portion of the road (usually the inner-half of the total road width including the ditch if present) should be de-compacted by ripping to a minimum depth of 12 to 18 inches before placing excavated fill against the cutslope and on the prism. Fill material should not be stacked against seeps that are still present during the summer and fall. Though not anticipated, if end hauling of material is needed, the Forest Service will

approve safe disposal sites. The topographic features of swales and draws will be reestablished if crossed by the existing route prism. These measures reduce the potential for route related mass erosion.

3. The ditchline will be drained across the road or trail by waterbars that will be no further than 50 feet apart on route segments where the route cut and fill slopes are stable. The waterbars should be constructed so that they drain the water off the route at roughly the same grade as the ditchline and the prism. This often requires that the skew of the waterbar be greater than 30 degrees relative to a direction perpendicular to the direction of travel. The depth between the top of the berm and the bottom of the waterbar will be about 3 feet. The intent of this measure is to assure that the down slope drainage is restored and that the waterbars are self-maintaining.

4. Uprooted vegetation, and existing available logs and slash should be scattered on the road prism to reduce surface erosion and promote revegetation, but should not be placed so that it slows the drainage of waterbars.

Conversion of Motorized Routes to Non-motorized Trail. Any road or trail to be converted to non-motorized use should be made hydrologically inert prior to closing the route to motorized use. This includes installation of self maintaining drainage, stabilizing unstable cut and fill slopes, and removing structured stream crossings as described above in the BMPs for route obliteration.

Barriers to Aquatic Species Migration. Route crossings that create barriers to migration of aquatic organisms and small mammals should be inventoried at the site scale. These data should be assessed at fine and broad scales to determine which structures need to be maintained to avoid hybridization of native species with non-natives, and which structures should be redesigned or removed to accommodate passage and reduce the potential risk of catastrophic failure. The inventory should be used to assign priorities for mitigation and restoration. The desired species, life stages, and seasons of passage must be identified as well as detailed site surveys conducted so that the crossing structure can be properly designed to allow aquatic species passage. [NOTE: Road crossings in native cutthroat watersheds were surveyed and assessed for aquatic organism passage in the summer of 2006.]

Invasive Plants and Aquatic Nuisance Species. Maps displaying known and suspected whirling disease positive water bodies or other aquatic nuisance species should be developed and made available to resource managers and the public. Management tactics and behaviors need to be modified in locations where whirling disease or other aquatic nuisance species are a concern. New infections could be present even in waters thought to be clean, however, so all waters should be treated with caution. Spreading whirling disease or other aquatic nuisance species can have disastrous ecological and economic effects. Management requirements include:

1. Dedicating equipment such as engines, water tenders, and helicopter bambi buckets to infected or uninfected water bodies, but not both.

2. In general, water should not be transferred between any drainage, but particular care should be given to not transfer water from an infected stream, lake, or reservoir to uninfected water bodies.

3. In general, thorough cleaning, and drying of water-handling equipment before being released from the road maintenance, fire, or other water use activities. If equipment cannot be thoroughly dried, disinfect with bleach solutions or other measures. This includes finding a location to safely dispose of the bleach and rinse water. Additional

measures may be necessary under certain circumstances, such as equipment coming from areas near Zebra mussel infestations.

4. Replace low water fords in infected water bodies with bridges or culverts. Structured crossings should also be used where there is potential for introducing whirling disease into the uninfected waters.

5. There are numerous other aquatic plants and animals that can be spread directly by automobiles, boats, wildlife and livestock, or humans. The occurrences of these species and pathways through which they can disseminate should be identified so that management actions can be adjusted as needed, and so that the public can be informed as to how they can help prevent new infestations.

6. Machinery used for obliteration or to install large signs, gates, and barriers should be washed and inspected before being hauled to the project area. This aids equipment inspections and helps prevent new infestations of invasive species. If the equipment works in weed-infested areas or waters with aquatic nuisance species, then equipment should be washed in a suitable designated location prior to moving to the next site. Treatment of equipment that has been used in whirling disease positive water bodies should follow the guidelines established by the forest. These requirements should be coordinated with the forest invasive plants coordinator and fisheries biologist. Routes proposed for obliteration within 1 mile of inventoried invasive plant locations are noted in the fishlake_travel_plan_changes.mdb Microsoft Access database, which is located in the electronic project file.

Maintenance Level (ML) 2 and unauthorized Roads. The data presented in Appendix C of the Dixie and Fishlake Roads Analysis consistently indicate that the greatest potential for impacting water resources is associated with the maintenance level 2 system roads and unauthorized roads that are much more abundant than ML 3, 4, and 5 roads. Most of the total number of stream crossings, and encroaching or riparian roads are associated with level 2 and unauthorized roads. Therefore, it is important that the condition and needs for this portion of National Forest transportation systems be evaluated and addressed over time. The trail system is another key component of the transportation system that should be considered.

Maintenance Level 1 Roads. The forest has a yet unidentified number of roads listed as maintenance level 1 or "stored" that have simply been overgrown with vegetation or abandoned. These roads may pose a risk to aquatic resources. Roads should only be managed at level 1 if they are hydrologically inert and have an adequate number of self-maintaining drainage structures such as dips and waterbars. This especially means that the road should have no stream crossing structures present and that the natural channel dimensions and contours be restored. Also, any remaining cut or fill slopes should not be prone to mass failure.

Route Designation Implementation Considerations

The full transition to a new travel plan will take several years due to the size and complexity of the existing motorized and non-motorized route network, and due to the inherent number of tasks involved in implementing public education, signing requirements, gate and barrier installation, physical route closures, and updating INFRA and ATM. Following are recommended actions or items that should be considered during project planning and implementation.

1. The forest should continue considering funding for the out year budget cycles that will be needed to implement the enforcement, public education, signing, barriers, gates, road closures, and INFRA and ATM updates that will be required to fully implement the new

motorized travel plan. Multiple sources of federal, State, and private funding are potentially available for the various tasks that will be required.

2. The Motor Vehicle Use Map (MVUM) will show where it is legal to ride, but will not indicate what skill level is required on a given route or area. The current version of MVUM will be difficult to use for navigation. The forest should develop partnerships to print and distribute free recreation maps that show more geographic references, that include environmental protection and safety messages, and that show route difficulty levels. The Forest Service should communicate to the public that having a travel map is as necessary for motorized travel as having game proclamations is when going hunting or fishing. The forest should develop partnerships to fund and publish the annual updates to the Motor Vehicle Use Map.

3. The forest should prioritize and manage its use of law enforcement to make sure that the most coverage is given when the likelihood of travel violations are greatest such as on State and National holidays, during antler collection and rifle hunting seasons, and on weekends. The forest should also prioritize enforcement based on the importance of at-risk resource values that require protection.

4. Penalties for travel plan violations should be increased to the maximum extent practical. The Forest Service will continue to work with local officials and court jurisdictions to support these efforts.

5. Given the continued rise in use and availability of GPS technology, the Forest Service should provide the motorized travel plan, dispersed campsites, and designated areas for forest products collection as GPS background files for common GPS file formats. The background files should be made available on the forest Internet web page. The travel plan should include a UTM grid to facilitate use with GPS technology. Also, the NRCC signing option to include a UTM location on trail signs should be implemented.

6. A portion (16 to 47 percent depending on the alternative) of existing dispersed campsites is located further than 150 or 300 feet from designated open routes. Some of these may need to be reevaluated to determine whether a route needs to be designated to the site or if the site should be reclaimed. The general assumption used in the Fishlake OHV Route Designation Project is that most dispersed camping issues will primarily be dealt with in separate NEPA analyses and through Forest Plan revision. Route designation should consider that significant changes in existing dispersed recreation opportunities would broaden the project scope.

7. None of the alternatives, including No Action, create single-track routes for exclusive use by motorcycles or mountain bikes. Based on project scope, most of the focus for the route designation project is to determine if a route should be open or closed to motorized use. Assigning multiple refinements in the designations of vehicle types beyond the 50-inch rule would expand the project scope and create unnecessarily delay to closing the forest to motorized cross-country travel. However, the forest is open to evaluating the merits of single-track proposals on a case-by-case basis.

8. Side-by-side ATVs, Utility machines, Type II ATVs reference motorized ATVs that are designed for operation over unimproved terrain. They drive like a car or golf cart and have a steering wheel. They are designed with a front seat in which two or more people can sit side by side. On the Fishlake National Forest, we have seen an increase in the use of these machines over the past 12 to 18 months. Our trail patrol and field going officers estimate that approximately 2-3% of the use on the forest is via these machines. Under the new OHV rule, the definition of a motorized trail is a route 50 inches or less in width,

or a route that is over 50 inches wide that is identified and managed as a trail. Most motorized trails have been designated for vehicles 50 inches or less in width. As time permits, the forest will conduct an on-the-ground review of each motorized trail and identify which routes can be safely navigated by side-by-side vehicles. In future printing of the MVUM those routes will be identified as being managed as a trail for use by motorized vehicles in excess of 50", provided resource impacts are not an issue. A special designation will be used if the forest decides to allow Type II ATVs on a trail, but not full sized vehicles.

9. It is important that the travel plan contain a clearly worded disclaimer that states that many of the designated routes, especially those that were previously non-system routes, are not engineered to any given design standard for any particular use. Ultimately the forest should assign NRCC difficulty levels to the designated route system to better advise the public as to the conditions that they are likely to encounter on a given route. For safety reasons, the expert routes should be the first priority for signage.

10. Implement the recommendations from the mixed-use safety assessment for routes that allow mixed use of licensed and unlicensed vehicles. Recommendations from that report include site-specific hazard assessments on a few routes, and improved signing and sight distance requirements on mixed-use roads.

11. Secure Utah Department of Transportation permits for any routes that use State highway systems or right-of-ways.

12. The forest needs to maintain an Accident Surveillance Program that complies with Manual direction (FSM7731.52) and aggressively work to correct safety deficiencies. OHV accident data collected should especially include accidents that involve cross-country travel or collisions with full size vehicles.

13. The motor vehicle use map will be the legal document that designates the open motorized travel network and use areas, along with the accompanying travel rules and restrictions. Signage on the ground will be used to help the public and reinforce the travel map, but is not the enforcement mechanism. Except for roads that are signed as open to street legal vehicles only, physical closures such as gates, barriers, or obliteration are preferred over signs as the primary means to indicate which routes are closed to motorized use.

14. Use of Unmanned Aerial Vehicle (UAV) platforms should be explored to aid with enforcement of the travel plan, especially during high use periods such as holidays and hunting seasons. UAVs could be used jointly with other enforcement agencies and national forests, and for other natural resource management purposes. A proposal for a feasibility study can be submitted to San Dimas Technology Center for consideration.

15. Use barriers and create adequate parking and turnarounds at the end of motorized routes that transition to non-motorized trails. These measures are needed for public service and to prevent the conversion of non-motorized trails to motorized routes. Physical barriers are also recommended to clearly indicate where a motorized road transitions to a motorized trail.

16. When feasible, sign future closures on site at the entry points for the route being affected. Include a contact name, number and address, and reason for closure. Ideally, this should be done during the planning stage before the project is implemented. This improves the opportunity for public comments and may catch users that would be missed through normal public notifications.

17. Census points should be added at motorized and non-motorized trailheads and kiosks to collect motorized and non-motorized user comments on system safety, needed improvements, and customer satisfaction.

18. To reduce the potential for user conflicts, the forest should increase education (including maps) of areas that emphasize non-motorized recreation and areas that emphasize motorized recreation so that the public can anticipate the type of opportunities available prior to arriving on-site.

19. Districts should consider maintaining a time stamped inventory and photo log of travel restriction signs. These data can be very useful in court when prosecuting violators.

20. The forest should consider drafting management plans for the proposed open use areas. The plans should anticipate the types and levels of management and monitoring the Forest Service is going to need to provide. Special hazards such as potential for flashfloods in Flat Canyon, treacherous terrain, or other safety hazards should be identified. Emergency contacts and procedures could also be outlined. At a minimum, this information could then be used to build a disclosure statement for the travel map regarding the inherent hazards. How the forest will manage user created features such as jumps, high-marking areas, and motocross type loops should also be addressed.

21. The travel rules and travel map should be seamless (i.e. consistent) across other land ownerships and as simple to understand as possible. This very important element improves understanding, acceptance, adherence, and enforcement of the new travel rules. The forest will need to validate and possibly adjust the motorized travel plan and travel rules in order to be consistent with the Bureau of Land Management and other National Forests in Utah. The travel map and rules on the Teasdale portion of the consolidated Fremont River district should be consistent with the remainder of the Fishlake National Forest.

22. The monitoring plan should evaluate and document the implementation and effectiveness of the project design requirements and resource protection measures. This information should supplement and not duplicate information collected for INFRA and EMS. The forest should conduct statistically designed samples that will allow extrapolation of violation rates and unauthorized trail use.

23. The forest should update maps that display where gathering of special forest products is allowed to reflect resource protection needs, especially for rare plants and heritage resources.

Known Needs for Future Transportation Planning Projects

Accord Lakes Private Lands Through-route: Private landowners in the Accords Lake inholding desire an ATV permissible travel way to access the forest route network to the south and west. Similarly, the Forest Service desires public right-of-way through Accord Lakes so that motorized users can access the forest route network to the east of the private lands. The SUFCO mine heavily uses State Highway 10 for coal transport restricts ATV access. An existing closed motorized route above Dam 4 on Salina Creek could be used to make a motorized loop. However, opening this route would be contingent on obtaining right-of-ways through private lands in order to be in the public's best interest. This project is located on the Richfield Ranger District.

Barney Lake Dispersed Camping and Road Relocation: Barney Lake is stocked with native Bonneville cutthroat trout and is important boreal toad habitat. Motorized vehicle use has been

identified as a problem due to shoreline use which is increasing sedimentation and reducing water quality in the reservoir which may impact the fisheries, eliminating or damaging riparian, wetland, and shoreline vegetation, reducing cover for boreal toads, and causing direct mortality of boreal toads. Vehicle use has created a maze of trails that creates the impression to users that any vehicle use is acceptable. Access needs to be evaluated and managed to eliminate vehicle use on shorelines, reduce the potential for boreal toad mortality, and provide a clearly defined access route for vehicle users to use to and past Barney Lake, while clearly indicating areas where motorized use is unacceptable.

Black Flat Crossing: The Right Fork of UM Creek on the Fremont River Ranger District is currently whirling disease free, but is put at risk by a forded crossing at Black Flat. Based on internal and public scoping and input from livestock permittees, the forest anticipates building a bridge that will allow ATV passage, but that will close the Right Fork to full sized motorized use. Another potential alternative would close the Right Fork to all motorized use, which would require a reroute of the Great Western Trail through Sheep Valley.

Chalk Creek Trail 326 Reroutes: A potential trail realignment upslope could eliminate the second and third crossings on Chalk Creek below Copleys Cove. A section of road with vertical fillslopes that fall into the creek could then also be bypassed and obliterated. There are also several opportunities to harden the trail prism and improve the cross-drainage.

Daniels Canyon Trail 129 Reroute: The portion of the motorized trail in Daniels Canyon that follows the private land boundary is poorly located. This access is a desired part of the transportation plan, but needs to be relocated to reduce wetland and water quality impacts and to improve safety.

Danish Meadows Private Land Access: There is a need to provide at least ATV access to private inholding located in section 28, T25S, R3E. This could be accomplished by obliterating the last ½ mile of the road, which travels down steep valley side slopes, and then extending Forest Road 1509 down the ridge contours as a motorized trail for roughly 1 mile (or less) towards the private land.

Forest Access to Junction, Utah: The current access route from National Forest lands to Junction, Utah is very rough. The town would like alternate or improved access.

Great Western Trail Reroutes: Short route relocations are needed on the Fremont River District to reduce potential impacts to Last Chance townsendia, which is a Threatened plant.

Kents Lake Road cutoff / loop: The Kents Lake road on the Beaver Ranger District is a main arterial access route that closed to ATVs. This restriction creates some discontinuities in the motorized network available to ATVs. Some new construction or reopening of abandoned routes may be needed to more the system more manageable and to provide better ATV riding opportunities.

Sevenmile Creek Trail Reroute: The final phase of the Gooseberry highway construction project will pave the Sevenmile Creek road that is located on the Fremont River Ranger District. This project will disconnect contiguous access for some OHV routes, which may necessitate the need to provide alternate access. The 640 road along the west side of lower Sevenmile Creek will and should be obliterated in either case, which will require that a new access to the Tasha horse and foot trail be constructed from the parking are just off Highway 25. Cattle movement can be facilitated along the new Sevenmile road location along the east side of the creek.

Quitchupah Creek Trail Route: The GIS inventory of routes will need to be updated to reflect the access decisions from the final selected alternative, which was Alternative D. Upon completion of the project, ATV will be allowed to use the constructed cattle trail that will parallel the main road.

Public Right-of-Ways / Easements: There are numerous roads and motorized trails on the forest that travel through or from private inholdings where the forest does not currently have a legal right-of-way. This situation affected many of the proposed route designations. The patented lands in the Tushar Mountains are a good example. Districts need to determine and prioritize routes where public right-of-ways are needed to make the forest route network more logical and manageable, and are needed to provide desired motorized recreation opportunities.

Access Related Planning: Suitability assessments for dispersed camping and collection of firewood collection of other forest products may need to be conducted in some areas to protect sensitive plant and cultural resources or critical wildlife habitats. This could result in closing additional segments of routes to dispersed camping, firewood gathering, or collection of other forest products.

Public Education Strategies

Objectives

1. To increase awareness among forest visitors and local publics of how motorized and non-motorized access to the Fishlake National Forest will be changing and why.
2. To encourage and promote responsible and appropriate visitor behavior while using motorized trails and roads.
3. To encourage stewardship of public lands through partnerships with organized motorized and non-motorized user groups.

Communication Tools

Objective 1: Increase awareness among forest visitors and local publics of how motorized and non-motorized access to the Fishlake National Forest will be changing and why.

- Submit news releases to newspapers in affected communities explaining the new motorized travel plan. Solicit ideas from local paper publishers on how best to communicate these changes to the public.
- Hold open houses in affected communities to unveil and explain the new motorized travel plan.
- Make presentations to chapter meetings of organized motorized and non-motorized user groups.
- Continue to maintain a web page on the Forest World Wide Web site that communicates critical information about the motorized travel plan and provides hotlinks to National Map.
- Provide content for webmasters of sites that feature Fishlake National Forest motorized recreation to include on their sites and ask that they provide hotlinks to the forest web page.
- Include key education points on the motorize use map since motorized users will have to consult this map to know what routes and areas are designated as open.
- Consider hosting a media day to show the current situation and contrast it with the desired condition. Contact Chad Booth of "At Your Leisure," a TV program on local channel 4 that presents opportunities for outdoor recreation. Elements of the story may include the demand for places to ride OHVs and how we are meeting the demand for the future, as well as the fact that appropriate motorized use can be an enjoyable, family experience.

- ✯ Enlist the aid of Kelly Rigby, videographer in the BLM State Office, to film locally and edit an 8-12 minute video that would be suitable for presentation to school and community groups.
- ✯ Make sure that kiosks are provided at major forest entry points that have copies of the motorized use map available for review.
- ✯ Provide paper tablemats for use at local restaurants. The mats could include contact and travel plan information users need to "Know before you go". The map could also feature the Paiute Trail System and encourage proper trail etiquette and resource protection.
- ✯ Traveler Information Stations could be used to inform the public of the need to have a motorized use map and to inform them of current route conditions. Travel Information Systems are AM frequency radio stations that broadcast information to travelers, tourists, etc. The long-range system is called a 1610 AM Traveler Station and has a range in our area of +10 miles. This is comes with 7 minutes of airtime but can be upgraded to 15 minutes. The cost is about $7,000 and could be placed in the S.O. to broadcast information to I-70 travelers. There is also an Info Max Station that is a short-range system that transmits on the 530 AM frequency. The range is only ¼ mile but the idea is for people to pull into the parking lot at the Supervisors Office or one of the districts, see the directional sign, and turn on their radios for information. This system comes with 5 minutes of airtime and costs $695 but is upgradeable to $1,095.
- ✯ Have partners purchase billboard space on the north and south ends of the Sevier Valley on Interstate 70. The boards could advertise "Got Map?", "Stay on the trail!", or some other slogan that conveys the message that a motorized use map is needed to know which routes are open to motorized use. The billboard could be used to compliment the 1610 AM station.
- ✯ Make free pamphlets that are available outside at the S.O. and district offices and to supplement the radio station information. They could also be placed in motels, Bed and Breakfasts, gas stations and restaurants. Trail Rangers could hand them out to trail users.
- ✯ Making the motorized use maps free would greatly enhance the likelihood that the public would be aware of the new travel plan. The maps should be available outside of our offices and trail rangers and field-going personnel should give them to forest users.

Objective 2: "To encourage and promote responsible and appropriate visitor behavior while using motorized trails and roads.

- ✯ Prepare news releases for print and electronic media that will focus on how access designation may reduce damage to land and resources. Prepare a letter to be sent to all key contacts in the OHV community.
- ✯ Develop a brochure, (or a less expensive pamphlet), specifically targeted at organized user groups to increase awareness of the proposed trail system, explaining how access designation will meet their needs while protecting resources.
- ✯ Buy and distribute Tread Lightly brochures and messages. Make them available at the Supervisor's Office, all district offices, visitor centers, trailheads and all kiosks on the forest.
- ✯ Install Tread Lightly signposts on the forests near trailheads and staging areas, wherever none currently exist.
- ✯ Attend meetings of organized user groups to maintain good rapport and to reiterate Tread Lightly and Leave No Trace messages.
- ✯ Call on the user groups themselves to help police one another. Provide them with Tread Lightly brochures and litterbags.
- ✯ Host an educational event on the forest for motorized users to highlight a specific trail. We might have an educational "treasure hunt" or a "poker run," when users have to follow certain trails to get to each station to collect points. All those completing the trail will receive a special gift, such as a Tread Lightly bandana, license plate, or other trinket.

- ✯ Partner with local radio stations to run "Right Riding" spots to reach visitors and local publics.
- ✯ Continue to work with jamboree events organizers and the Paiute ATV Club to stress proper trail etiquette.
- ✯ Continue grade school and high school programs that present ATV safety and trail etiquette.
- ✯ Develop a program for the Twin Creeks Campfire presentations at Fish Lake.
- ✯ Highlight non-motorized recreation opportunities on brochures and maps so that these users can avoid motorized areas and reduce the potential for conflicts.

Objective 3: "Encourage stewardship of public lands through partnerships with organized motorized and non-motorized user groups."

- ✯ Hold an event on Trails Day or Public Lands Day in September that focuses on maintaining a trail or improving a staging area.
- ✯ Continue offering opportunities for user groups to recognize their inherent "ownership" of public lands by scheduling work days when they may participate by maintaining and cleaning up trails.
- ✯ Work with the Dedicated Hunters program to implement improvements or restoration that reduces resource impacts associated with motorized and non-motorized recreation.
- ✯ Partner with other agencies with who we share common borders, to sponsor events when users may come together to volunteer on the trails that they use.
- ✯ Continue "Adopt a Trail" maintenance agreements with organized user groups and individuals to maintain specific trails. As part of the agreement, allow them to name their trail. Officially adopt these trail names and use them on signs marking them on the forest.
- ✯ Work with Paiute Trail Webmaster to develop a web page dedicated to safety, etiquette and preservation. Ask other user groups who may have a website to provide a link to National Forest sites, and Leave No Trace.

Monitoring Plan

The monitoring plan will evaluate and document the implementation and effectiveness of the project design requirements and resource protection measures. This information should supplement and draw from information that has to be collected for INFRA and the Environmental Management System. To help gauge compliance, the forest should consider conducting a statistically designed sample that would allow extrapolation of violation rates and unauthorized trail use. The following table includes items that will be monitored for a minimum of three years after the new motorized travel plan is implemented. Findings should be reviewed by the Forest Leadership Team (FLT) annually and summarized in a report in year 3. The FLT will modify this plan as needed based on the annual findings from EMS and this monitoring.

Table B-1. Monitoring Plan for the Fishlake OHV Route Designation Project

Task	Type of Monitoring	Responsible Staff Area
Continue motorized use monitoring on the Paiute ATV Trail and the Great Western Trail systems.	Trend and Validation	Public Services
Track implementation and timing of route obliteration, installation of gates and barriers, and signage. Revisit at least 5 to 10 percent of the projects within three years to determine the effectiveness of the closures and signage.	Implementation, Effectiveness	Forest & District Recreation, Watershed, Engineering

Summarize travel plan violations by type and number and by user demographics and locations.	Trend and Effectiveness	Forest & District Recreation, Law Enforcement, Public Services
Accident summaries from the surveillance program specified in Manual direction (FSM7731.52) should be summarized and reported.	Baseline and Trend	Engineering and Law Enforcement
Summarize user comments from trailhead census locations and from comments submitted by the public.	Effectiveness	Forest & District Recreation, Public Services
Catalog and review photos from past and future aerial photo flights and digital orthophotos of the open use areas to monitor for changes in the presence of vegetation and to determine if use is remaining contained within the assigned boundaries. Conduct the same process for a sample of heavily used dispersed camping areas to verify whether the designation is effective and/or abused.	Trend, Effectiveness	Watershed, Vegetation, Public Services
Update issue indicators for the EIS primary issues in year 3 to determine trend and proportion of the project implemented.	Implementation	GIS, Resource Specialists
Resource specific monitoring of motorized route and use impacts should be included in the monitoring summary. The results from monitoring Last Chance townsendia occupied habitats (see plant Biolgical Assessment) and Pine Creek (see fisheries Biological Evaluation) are a required part of this element.	Effectiveness	Resource Specialists

Adaptive Management Process

The forest is aware that the current inventory of roads and trails being used for the route designation project is not 100 percent correct or complete. The forest anticipates that in spite of intensive quality control and review, there will be errors. Some undesirable unintended consequences may result from the final configuration of the travel plan and associated travel rules and definitions. Adjustments may be needed to make the transportation system compatible with adjacent landowners. For example, final edge matching will be required once Richfield BLM completes their motorized travel planning. In addition, roughly 16 to 46 percent of the inventoried dispersed recreation sites are inaccessible from inventoried designated routes, depending on the alternative. Routes currently not in the inventory may need to be added and designated as part of the implementation process. And opportunities for Type II ATVs or single-track designations may be considered. An adaptive management process is outlined below to allow adjustments to the final decision that will maintain the validity and integrity of the analyses and public disclosure presented in the FEIS. This includes pre-defining actions for the disposition of routes discovered after the decision date, for correcting errors, and adjusting the route designations that lead to undesirable, unintended consequences. A screening process is presented below for this purpose. The screens address the relevant subset of roads analysis questions identified in the supplemental roads analysis that was prepared for the route designation project. The screening process would assure that a given addition or closure of a route is consistent with the roads analysis recommendations and NEPA requirements. This screening is designed to be conducted using interdisciplinary input and review and would be documented as supplementary information to the Final EIS project file. As such, Forest Supervisor signatory authority would still be required. The process would only be valid for the first five years of implementation. Being able to manage the route system adaptively is necessary to minimize impacts from unintended and unforeseen consequences and changing conditions.

Implementation Plan Crosswalks to Roads Analysis and Significant Issues*		
Screen	**Addresses Roads Analysis Questions**	**Rationale / Problem Statement**
Is the route subject solely to Forest Service jurisdiction and maintenance?	GT(1), GT(2), GT(3)	The restrictions and use designations are primarily controlled by the agency that has jurisdiction over the route, even if the route is located on National Forest System lands.
Is the route visible on aerial photography taken on or before 2005 and/or can the existence of the route otherwise be verified by the line officer as occurring on or before the decision date?	EC(1)	The FEIS and ROD disclose that user routes created after the decision date will automatically be obliterated, unless a separate NEPA analysis and decision are completed. New digital imagery from 2004 is already available and a new photo flight for the Fishlake National Forest will be flown in 2005. These data provide additional means to verify the validity of pre-existing routes and provide useful baselines for monitoring.
Does the route, use of the route, or potential for dispersed camping or collecting forest products off the designated route have a low potential for impacting historic or pre-historic cultural sites? Does the proposed route action have or not need cultural resource clearance?	PV(2), PV(4), SI(3), SI(4), SI(5), SI(7), SI(9), SI(10), CR(1)	Cultural resource clearances generally must be obtained even when roads analysis or detailed NEPA documentation is not needed.
Does the route, use of the route, or potential for dispersed camping or collecting forest products off the designated route have a low potential to impact populations of or habitat for Species of Interest, Species of Concern, sensitive, threatened, or endangered plants or animals? Does the proposed route occur in an area with adequate surveys for sensitive, and/or threatened or endangered species?	EF(1), EF(2), TW(1), TW(2), TW(3), TW(4), PV(1)	Biological Evaluations and Biological Assessments generally must be obtained even when Roads Analysis or detailed NEPA documentation is not needed.
Is the route located outside of areas with winter travel restrictions?	EF(1), TW(1), TW(2), TW(3), TW(4), UR(2), UR(3), PV(1)	Winter use restrictions are being designated to prevent motorized use in Research Natural Areas and to protect critical mule deer winter range and non-motorized recreation opportunities. The over-snow closure areas are an inherent part of the travel rules and assumptions. Adding routes could change the intent of the closures.

Implementation Plan Crosswalks to Roads Analysis and Significant Issues*		
Screen	**Addresses Roads Analysis Questions**	**Rationale / Problem Statement**
Is the route located outside of critical winter range habitat for mule deer?	TW(1), TW(2), TW(3), TW(4)	Critical mule deer winter range is a significant issue that affected the design of the proposed action and alternatives in the route designation EIS. At a minimum, the need for seasonal closures should be considered if located in critical winter range. However, in general, the forest should strive to reduce route densities in critical mule deer winter range.
Is the route located outside of unroaded and undeveloped areas and areas with semi-primitive non-motorized Recreation Opportunity Spectrum (ROS) settings?	EC(2), EC(3), UR(1), UR(2), UR(4), UR(5), UR(6), RR(1), RR(2), RR(3), RR(4), RR(5), RR(6), PV(1), PV(3), PV(4), SI(1), SI(2), SI(8)	Designating unauthorized roads as open to motorized use when in inventoried roadless areas triggers the need for additional roads analysis and NEPA documentation. Motorized trails are permitted within roadless, but should be evaluated in detail if the trail is located in a semi-primitive non-motorized ROS setting, as this would require a management Area Forest Plan amendment (for management areas, this only applies to the 1986 plan).
Is the route located outside of routes or areas with special designations?	AQ(14), EF(1), PV(1), PV(2), PV(3), RR(5), SI(3), SI(5), SI(8), SI(10), TW(4), UR(5), WP(2)	Forest Plan amendments or consultation with other agencies may be required to make changes to routes or areas with special designations.
Is the route location further than 300 feet from perennial channels, greater than 150 feet from intermittent channels, and more than 50 feet from ephemeral channels except where the route converges on streams at crossings?	AQ(4), AQ(5), AQ(6), AQ(8), AQ(9), AQ(10), AQ(11), AQ(12), AQ(13), TW(1), TW(2), TW(4)	Forest Plan monitoring and the roads analysis reveals that routes located within a riparian influence zone (approximated as 300 feet from channels) create the greatest road and trail related impacts to water resources. To meet the intent of the conclusions from the effects analyses, the forest should have no net increase in riparian routes and should redesign or relocate routes with known impacts. Riparian routes that are excess to transportation system needs or where impacts cannot be mitigated should be obliterated.

Implementation Plan Crosswalks to Roads Analysis and Significant Issues*		
Screen	**Addresses Roads Analysis Questions**	**Rationale / Problem Statement**
Is the route adequately cross-drained, especially prior to crossing channels?	AQ(1), AQ(2), AQ(3), AQ(4), AQ(5), AQ(6)	Adequate cross-drainage minimizes the potential for a route to intercept, reroute, and concentrate surface runoff and groundwater. This minimizes the potential for altering slope hydrology and inducing erosion on or below the route. Frequent cross-drainage, especially prior to channel crossings hydrologically disconnects the route network from the stream network, which reduces the potential for cumulative watershed impacts.
Are the design / capacity of channel crossings adequate to safely pass the sediment and debris associated with 100-year return interval floods?	AQ(3), AQ(4), AQ(6), AQ(9), AQ(10)	Channel crossings with inadequate capacity to pass flood flows and debris can breach or fail catastrophically. This can lead to severe channel widening and deepening that cause impacts to water quality and aquatic habitats. To be consistent with the conclusions from the effects analyses, the forest should reduce the number of existing crossings through road relocation and/or minimize the potential risks where possible.
Do the crossings permit movement of desired aquatic life and small mammals during the desired seasons and animal life stages?	AQ(4), AQ(7), AQ(9), AQ(10), TW(1)	Fragmentation of aquatic habitat is a prevalent concern forest wide. The forest should strive to reduce aquatic migration barriers, except where needed to protect isolated populations of native fisheries from interbreeding and competition with non-native species.
Does the route have minimal risk of elevating or creating unique concerns for the spread of invasive plants or aquatic nuisance species?	EF(1), EF(2), EF(4), AQ(12), AQ(13)	Invasive plants and aquatic nuisance species can adversely impact terrestrial and aquatic habitats. Some such as whirling disease cannot be eradicated once introduced.
Is the route further than 300 feet from jurisdictional wetlands?	EF(1), AQ(1), AQ(6), AQ(8), AQ(10), AQ(13), AQ(14), TW(1), TW(4)	Wetlands must be protected in order to comply with Clean Water Act requirements and to maintain important hydrologic and ecological functions.

Implementation Plan Crosswalks to Roads Analysis and Significant Issues*		
Screen	**Addresses Roads Analysis Questions**	**Rationale / Problem Statement**
Is the route located on stable landforms and not hydrologically above slopes that are inherently prone to mass soil movements?	AQ(3)	Routes that add to inherent landslide risks create the potential for significant environmental impacts that should be field evaluated, documented, and analyzed in detail. Unstable landforms include but are not limited to slopes with soils derived from North Horn formation sediments that have gradients greater than 25 percent?
Is the route design and planned use consistent, particularly with regards to public safety?	GT(4)	The route should be passed through the hazard assessment matrix used for the mixed-use safety analysis (Bond 2006). Doing so may trigger the need to do additional, more site-specific hazard analysis and risk reduction.
Is the route designation and use consistent with the operational control and procedure for OHV Use in the forest EMS?	EF(1), EF(2), AQ(2), AQ(3), AQ(4), AQ(5), AQ(7), AQ(10), AQ(14), TW(1), TW(4), GT(4)	Choosing an action that is not compliant with the EMS would create a non-conformity that would have to be corrected.
* When adding routes, a "No" answer to any question triggers the need for additional evaluation and documentation and possible mitigation. With the exceptions of questions asking if cultural, wildlife, and plant surveys are adequate, a "No" answer for routes being closed generally indicates social or resource values that would be improved by the action.		

Screen for NEPA Sufficiency and Consistency based on the Fishlake OHV Route Designation Project Final Environmental Impact Statement	
Screen	**Rationale**
Does the route pass the Roads Analysis screening process directly or with mitigation if needed?	The roads analysis screens capture the critical issues and questions identified in the original and supplemental roads analysis reports and in the Fishlake OHV Route Designation Project EIS. The screens are a disclosed part of the proposed action that will allow the forest to use adaptive management during implementation of the new travel plan. If a given route has issues that cannot be mitigated then it likely involves complicating factors that fall outside the stated assumptions in the roads analysis and the FEIS. Consequently, further site-specific evaluations and documentation by one or more resource specialists or an interdisciplinary team would be required. Additional scoping may also be needed depending on the specifics of the given situation. The screens incorporate the design elements needed to assure that the potential for cumulative impacts is minimized.
Does the route pass the "Finding of No Significant Impact" tests for significance?	This test for significance is a design feature of the screening process only. The motorized designations for the current inventory of routes are explicitly covered by the original route designation FEIS, where a FONSI is not applicable. The concept of and test for significance is only relevant to the screening process for roads and trails that exist prior to the decision date, but that are inventoried after the decision date. It is important to note that illegally created routes can be obliterated without additional NEPA if the requirements for Biological Evaluations, Biological Assessments, cultural resource clearances, and water quality permits are met.
* This screen is to be used when making the decision on whether to open or close a route to motorized use and if so, with what restrictions or mitigation. A "No" answer to either question indicates that adding or removing the route would lead to adverse resource impacts and/or would be inconsistent with the stated assumptions and disclosures made in the final EIS. Thus, new NEPA documentation is needed.	

Appendix C

Reasonably Foreseeable Activities

Project Name	Unit	Description of the Project and Potential Effects
Cooperative Fisheries Enhancement Projects	D1, D2, D3, D4, & Dixie NF	The Fishlake NF and Dixie NF, in cooperation with the UDWR, are re-establishing native trout populations in 10 streams, which will involve use of rotenone to remove nonnative trout. One marsh located on Utah Division of Wildlife Resources lands will also be treated. Fish migration barriers will be constructed where necessary to prevent reinvasion of streams by nonnative trout. The list of proposed streams on the Fishlake National Forest are North Creek, Pine Creek/Bullion Canyon, Fish Creek, Shingle Creek, Upper Clear Creek, Three Creek/Pole Creek, Willow Creek, and Tasha Creek. The Deer and Cottonwood Creek treatments on the Powell District of the Dixie National Forest are outside the project cumulative effects areas. The proposed activities will use existing access, and motorized cross-country travel is not needed. As such, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Fishlake Oil and Gas Leasing EIS	D1, D2, D3, D4	The O&G leasing EIS process is in the preliminary stages, with a target decision date for December of 2007. Following appeals and litigation, the BLM would be able to offer available National Forest System lands for lease contingent on the stipulations identified in the EIS. Some areas would have "no surface occupancy" stipulations; others would be subject to seasonal timing limitations for O&G activities; some subject to "standard lease terms" only, and so on. The forest has drafted the Reasonably Foreseeable Development Scenario (RFDS) for future O&G exploration and development and it is under review by the BLM. The draft RFDS predicts approximately 24 exploration well drill pads, 22 production well pads, about 60 miles of new roads (for exploration and production), and about 100 miles of light to heavy road reconstruction associated with oil and gas lease activities. Total gross surface disturbance (before reclamation) from all these facilities would be about 1,000 acres. These figures could be refined as the RFDS is developed further. These activities would require O&G leases to be issued. The forest has no existing federal O&G leases at this time. The earliest that exploration and development could take place is at least 2 years away. Future proposed lease exploration and development activities would require a site-specific NEPA analysis, generally either an EIS or EA, less frequently a CE, particularly in the early stages. Future lease proposals do have the potential to impact resource issues tracked in the route designation EIS, although lease stipulations and Best Management Requirements would likely reduce the degree and extent of impacts. Considered cumulatively, the action alternatives still result in a substantial decrease in net motorized route densities and acres open to cross-country travel at the forest scale. The No Action alternative creates the opposite result and would result in greater negative impacts to the primary issues.
Grazing Permit	D1,	The forest will continue to conduct NEPA assessments to

Project Name	Unit	Description of the Project and Potential Effects
Reissuance NEPA	D2, D3, D4	reauthorize existing grazing permits. Currently 1000 Lake, UM, Solomon, and Daniels Allotments are being evaluated to determine if they can be categorically excluded based on Sect. 339, P.L. 108-447, of the 2005 Consolidated Appropriations Act. In SEC. 339 the act states, "For fiscal years 2005 through 2007, a decision made by the Secretary of agriculture to authorize grazing on an allotment shall be categorically excluded from documentation in an environmental assessment or an environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) if: (1) the decision continues current grazing management; (2) monitoring indicates that current grazing management is meeting, or satisfactorily moving toward, objectives in the land and resource management plan, as determined by the Secretary; and (3) the decision is consistent with agency policy concerning extraordinary circumstances. An environmental assessment or EIS will be conducted for allotments that cannot be categorically excluded. No new motorized routes or exemptions permitting cross-country travel would be needed to reissue permits. Therefore, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
OHV Events	D1, D2, D3, D4	The Fillmore ATV Jamboree and the Rocky Mountain ATV Jamboree occur annually. Up to 300 organized riders are allowed on the Fillmore Jamboree and up to 800 organized riders are permitted during the Rocky Mountain ATV event although those numbers have not ever been reached. These multi-day events are under special use permit and have been monitored for several years. Monitoring done to date indicates that the events, which are guided, are being well managed and are providing important opportunities for engaging with and educating the public. A positive example is the "Weed Warrior" program initiated in 2006 that gave riders free tokens to wash their ATVs to prevent the spread of noxious weeds. Some of the monitoring such as that done on forded stream crossing impacts on water quality reveals potential improvements that can be made to the route infrastructure to reduce impacts, but do not indicate that changes are necessary in the management of the events themselves. The needed improvements such as hardening forded crossings and relocating routes that encroach on stream channels were anticipated in the original analysis that authorized the issuance of the special use permit. There is a possibility that additional events could be requested and authorized in the future. Monitoring has shown that the potential for impacts from jamboree events were adequately disclosed and analyzed in the OHV Event Environmental Assessment that was published in 2001. The jamboree events use existing routes that are designated and analyzed as open to motorized use in the action alternatives. The number of riders on any given ride of the event are limited and monitored. Travel off designated routes is not allowed in the special use permit. Future event permits would likely contain similar special use permit provisions as specified for the current events. Therefore, the jamborees do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Utah Forest Highway 39 Sevenmile-Gooseberry	D2, D4	This project involves reconstructing Forest Highway 39 from the intersection with the I-70 frontage road south to the junction with

Project Name	Unit	Description of the Project and Potential Effects
Road [Note: this is not a Forest Service project]		Forest Highway 42 by Johnson Reservoir. The reconstruction activities includes road realignments (and obliteration of the original road alignments), increasing the size of existing stream crossings and the amount of cross-drainage, armoring drainage ditches, adding sub-grade materials, installing sub-surface slope drains, and paving. The project is being implemented in 3 phases. Phase 1 is complete. Phase 2 is scheduled to start in 2007 and phase 3 is scheduled to begin in 2010. Much of the existing road alignment in Phases 1 and 2 are located on North Horn sediments, which are prone to mass failure and surface erosion. The road realignments, obliteration, slope drains, etc. are intended to increase the stability of the road and slopes that it traverses. There is give and take, but overall the completed road in combination with the obliteration of the relocated road segments should result in reduced potential for sedimentation relative to the original road. The road obliteration will reduce the mileage on sensitive soils and will remove a road segment that encroaches on Sevenmile Creek. The action alternatives for the route designation project should further reduce the potential for impacts to resources by reducing motorized route density and eliminating unregulated cross-country travel.
Wolverine Oil and Gas Seismic Exploration DM	D1, D2	This project was a reasonably foreseeable project at the time the DEIS was released. The project has since been completed. A Decision Memo was signed on July 6, 2005. The Forest Service found that no extraordinary circumstances or special conditions were identified in the environmental analysis. The Forest Service evaluated the effects of the proposed operations. Wolverine used helicopter portable drills and rubber-tired drill buggies to drill shot holes at 220' intervals along 9.7 miles of line on NFS land on the Beaver Ranger District. There were short-term impacts associated with the activity, noise and some surface disturbance. After one year, it is difficult to detect residual surface disturbance, and is usually hard to find where the seismic lines were located. Based on follow-up inspections, Wolverine's contracted seismic companies did a good job of "leaving no trace." The activities did not permanently change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Grant Geophysical Oil and Gas Seismic Exploration DM	D1, D3	This project was a reasonably foreseeable project at the time the DEIS was released. The project has since been completed. The Grant geophysical project involved laying out geophones (receivers) on the forest by field personnel. Only foot-travel was used and no drilling was involved. No short- or long-term impacts occurred. The activities did not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
East Kanosh Fuels Reduction Project	D1	This project would treat hazardous fuels east of the town of Kanosh. Only existing motorized access would be needed. About 576 acres are proposed for mechanical treatment using a Dixie harrow. Authorized motorized route densities would not change from existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the

Project Name	Unit	Description of the Project and Potential Effects
		issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
Elsinore Fuels Reduction Project	D1	This project would treat hazardous fuels west of the town of Elsinore. Only existing motorized access would be needed. About 730 acres are proposed for mechanical treatment using a Dixie harrow. Authorized motorized route densities would not change from existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
Horse Hollow Fuels Reduction Project DM	D1	The project would apply prescribed fire to the following vegetation types: sagebrush, pinyon-juniper, mountain mahogany, non-commercial mixed conifer, and Gambel oak. Approximately 40-80 percent of the vegetation will be treated in the 1,234-acre project area. Burning will occur mainly during fall months, but could also occur during the spring or summer depending on weather and fuels conditions. This project will use existing access, and motorized cross-country travel will not needed. As such, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Pioneer Hazardous Fuels Reduction DM	D1	The project will apply prescribed fire to the following vegetation types: sagebrush, pinyon-juniper, mountain mahogany, non-commercial mixed conifer, and Gambel oak. Approximately 40-80 percent of the vegetation will be treated in the 310-acre project area. Burning will occur mainly during fall months, but could also occur during the spring or summer depending on weather and fuels conditions. This project will use existing access, and motorized cross-country travel will not needed. As such, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Wild Goose Hazardous Fuels Reduction DM	D1	The project would apply prescribed fire to the following vegetation types: sagebrush, pinyon-juniper, mountain mahogany, non-commercial mixed conifer, and Gambel oak. Approximately 40-80 percent of the vegetation would be removed in the 1,373-acre project area. Burning would occur mainly during fall months, but could also occur during the spring or summer depending on weather and fuels conditions. This project has been approved and qualified as a categorical exclusion. The proposed activities would use existing access, and motorized cross-country travel would not needed. As such, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Adelaide Campground Reconstruction DM	D1	This project was reasonably foreseeable during the DEIS, but has since been completed. It involved replacing and refurbishing existing developed campsites including tables, grills, fire circles, and restrooms. Trees were planted in some areas. All of the activity was within the existing campground development and did

Project Name	Unit	Description of the Project and Potential Effects
		not increase existing user capacity. Existing access was used to implement this project and motorized cross-country travel was not needed. Thus, the proposed activities did not change the issue indicators and is now part of the existing condition.
Bowery Haven Resort RV Park Expansion DM	D2	The project would allow expansion of existing RV Park, within the permitted area, by adding an additional loop road with 9 parking spurs with water, power and sewer hookups. The project would also authorize the construction of a new laundry, shower and restroom building with an attached pavilion. The new loop road is proposed to be approximately 20 feet wide by 600 feet in length. The parking spurs are proposed to be approximately 30 feet wide and the pavilion approximately 20 feet by 25 feet. These new facilities would be tied into the existing sewer system, which presently services the Fish Lake basin. Water is provided by Bowery Spring. No part of the project is closer than 200 feet from Fish Lake and most is over 300 feet away. The new road construction adds to the miles of route within the riparian influence zone, but the net mileage under the action alternatives for the route designation project is still slightly less than current conditions. ATVs are not allowed in Fish Lake Basin. Therefore, no adverse cumulative impacts are anticipated.
Castle Valley Ranch Water System Project EA	D2	The project is currently in a state of flux and is currently on hold. One possibility would permit an applicant with existing water rights to maintain & operate 4 existing small reservoirs & approximately 20 miles of ditch and pipelines to provide irrigation livestock water to a ranch located on the east side of Thousand Lake Mountain. Another is that the Utah Division of Wildlife and the Forest Service may do varying degrees of maintenance or restoration, and the regulation dam would be built on the private ranch. Some action is necessary to bring the structures into compliance with State and federal regulations. Existing access would be used to maintain the dams, and motorized cross-country travel would not be needed outside of the reservoirs under either scenario. Thus, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Fishlake Basin Cabin Reconstruction Project	D2	Four separate recreation residence special use permit holders have requested permission to replace their cabin with a new one. The existing structures are old and no longer meet their needs. The cabins are and will continue to be found on National Forest Land within areas set aside for recreation residences. The replacement structures would be required to meet current federal, state and county laws and regulations. Existing access would be used to reconstruct the residences and motorized route travel off-route would be limited to existing disturbed sites such as parking areas. As such, the activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Fish Lake Basin Water Systems Reconstruction Project	D2	This project will combine the Twin Creek, Bowery Creek, and Fish Lake Lodge water systems under the Twin Creek spring source and is scheduled for completion by November of 2006. The current spring developments at Bowery Creek and Fish Lake

Project Name	Unit	Description of the Project and Potential Effects
		Lodge Spring will be abandoned and the domestic use water rights will be transferred to Twin Creek Spring. The project includes upgrading the Twin Creek water system to current State and Forest Service standards and will include the replacement of all lines at existing locations (from spring to service) within Twin Creek Administrative Site, Twin Creek Picnic Area and amphitheater, Mackinaw Campground and Bowery Creek Campground. The project will upgrade the system to provide drinking water to the Fish Lake Lodge Resort, Twin Creek summer homes, and Bowery Haven Resort. The new system will follow existing line locations. The project will also combine the Doctor Creek and Lakeside Resort water systems under the Doctor Creek Spring Source. The Lakeside Resort spring will be abandoned and the domestic use water rights will be transferred to the Doctor Creek Spring Source. The project will upgrade the Doctor Creek water system to current State and Forest Service standards and will include the replacement of all lines at existing locations (from spring to service) to and within the Doctor Creek Campground, the Doctor Creek Group Sites, Mallard Bay Overflow Area, and the Trailer Dump Station. The project will upgrade the system to provide drinking water to Lakeside Resort and the Doctor Creek summer homes (18 total). The proposed activities only temporarily affect the cross-country travel indicator and add 1 stream crossing by a buried pipeline. Even so, the action alternatives for the Fishlake OHV Route Designation Project result in a net decrease in motorized route density and acres open to motorized cross-country travel and in the number of stream crossings. Therefore, no adverse cumulative impacts are anticipated.
Fish Lake Cabins Fuels DM	D2	This project would remove fuels hazards directly adjacent to summer homes and administrative facilities in the Fish Lake basin and is considered site maintenance. Most of the treatments around the summer homes involve hand felling. Slash would be hand piled or chipped, and burned. Dixie harrow treatments are also being considered. The project would use existing access. No new road would be needed to conduct the proposed work. The Dixie harrow treatments would involve temporary motorized cross-country travel. Even so, the action alternatives for the Fishlake OHV Route Designation Project result in a net decrease in motorized route density and acres open to motorized cross-country travel. Therefore, no adverse cumulative impacts are anticipated.
Fish Lake – Lake Shore Toilets Installation EA	D2	This project was reasonably foreseeable during the DEIS, but has since been completed. The project installed three single-unit, fully accessible, vault toilets in the Fishlake Basin primarily for ice fishermen, snowmobilers, and other recreationists visiting the Fish Lake basin during winter months. One toilet was located adjacent to the Lakeside Marina parking area, another was located just south of the entrance to Vale Drive, and the third was located at Mackinaw Point across from Bowery Creek Campground. Existing access was used to implement this project and motorized cross-country travel was not needed. Thus, the activities did not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Fish Lake Resorts	D2	The Project would permit Fish Lake Resorts to replace a culinary

Project Name	Unit	Description of the Project and Potential Effects
Culinary Water Line Replacement DM		water line. Current plans are to supply water to resort facilities by connecting about 2500 feet of pipe to an existing Forest Service line. The project would include 2 crossings of Twin Creeks. This project qualified as a categorical exclusion. The proposed activities temporarily affect the cross-country travel issue indicator and add 1 stream crossing by a buried pipeline. Even so, the action alternatives result in a net decrease in acres open to motorized cross-country travel and in the number of stream crossings. Therefore, no adverse cumulative impacts are anticipated.
Garkane Power Special Use Permit Reauthorizations DM	D2	The project would authorize the presence, repair and maintenance of electric power transmission lines, owned by Garkane Power Co, on National Forest System lands. Continued operation and maintenance of existing systems are being proposed with no change in current rules and regulations. Existing access would be used to implement the maintenance. Some temporary motorized cross-country travel within the existing corridor beneath the power line may be needed, but is restricted under the terms and conditions of the Special Use Permit. The action alternatives for the Fishlake OHV Route Designation Project result in a net decrease in acres open to motorized cross-country travel. Therefore, no adverse cumulative impacts are anticipated.
Mytoge Mountain Vegetation Treatment DM	D2	This project was a reasonably foreseeable activity in the DEIS and has since been implemented. The sale has been offered two times with no bids received. This project may not ever sell, but the proposal is to treat insect and disease infested forest stands with attention to the dwarf mistletoe in the Douglas fir trees. Project would also improve the health of aspen stands, and reduce the heavy fuels in the project area. The project would include the harvest of beetle-infested, diseased, mature, and dead trees, including trees susceptible to disease and insects on 245 acres located roughly 0.5 miles southeast of Fish Lake. Basal area would be reduced from 200 to less than 140 square feet per acre and the percentage of conifer species in aspen stands would be reduced to less than 15 percent. All slash would be piled and burned or lopped and scattered. This would be done in a manner that reduces fuel loadings while protecting visual quality. No new road would be constructed to complete the harvest. Motorized route density would not increase if this project were implemented. Acres of motorized cross-country travel would increase only as harvest and site-preparation activities are applied. The action alternatives for the Fishlake OHV Route Designation Project still create a net decrease in motorized route densities and acres open to motorized cross-country travel. Therefore, no adverse cumulative impacts are anticipated.
Neff's Irrigation System Special Use Permit Reauthorization DM	D2	The project would re-authorize a permit for the presence, repair and maintenance of an irrigation water reservoir and ditches on National Forest System lands. No changes in current use or permit requirements are proposed. The maintenance and repair occurs along existing ditches and from existing access. This use is restricted under the terms and conditions of the Special Use Permit. The action alternatives for the Fishlake OHV Route Designation Project result in a net

Project Name	Unit	Description of the Project and Potential Effects
		decrease in motorized route densities and acres open to motorized cross-country travel. Therefore, no adverse cumulative impacts are anticipated.
Sevenmile Dixie Harrow Treatment DM	D2	This project was reasonably foreseeable when the DEIS was prepared. It has since been dropped from consideration.
Sheep Valley Dixie Harrow Treatment DM	D2	This project would treat approximately 600 acres of Big and Silver sage, with the Dixie Harrow, on NFS lands. Authorized motorized route densities would not change from existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
Thousand Lakes Mountain East Dixie Harrow Treatment DM	D2	This project is currently on hold. If pursued, this project would treat approximately 245 acres of Big sage, Silver sage, with the Dixie harrow, on NFS lands. Authorized motorized route densities would not change from existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
Torrey Culinary Water Augmentation Project EA	D2	This project was reasonably foreseeable during the DEIS, but has since been completed. The project developed Sulphur Spring for culinary water purposes. The spring development required removing deep-rooted vegetation, burying perforated pipe and installing a clay cutoff wall to capture available water, installing an overflow/drain pipe with a 3'by 3' concrete headwall, covering the development with a plastic liner, burying it with 2 feet of clean backfill material and installing an area protection fence. About 7400 feet of pipeline was installed to take the captured water to an existing water transmission pipeline. The pipeline was buried under two small creeks, Sand Creek and East Sand Creek. A borrow site less than ¾ of an acre in size was used for the fill dirt needed for the development of Sulphur Spring and to cross a boulder field near the existing water transmission pipeline. About 9.5 acres of land was involved with this part of the project in the short-term and 6.0 acres in the long-term. Ten gallons of water per minute is released below Sulphur Spring and the Sand Creek Irrigation ditch diversion, in order to ensure the long-term maintenance of the existing wetland below Sulphur Spring. This amount will be monitored and adjusted as needed to maintain the wetland. Water from undeveloped springs along the rest of the ditch continues to flow into and through the ditch. The project also installed roughly 3500 feet of new 12-inch diameter pipeline. This pipeline begins at some existing water storage tanks and is placed between an existing waterline and road to the National Forest Boundary near Torrey. About 4.0 acres of land was involved with this part of the project in the short-term and 2.4 acres in the long-term. All areas disturbed during implementation were reclaimed and reseeded with native vegetation. The project allowed temporary motorized cross-country travel and added crossings by buried pipe, but did not permanently change

Project Name	Unit	Description of the Project and Potential Effects
		the issue indicators. Reclamation work has been completed and the disturbed sites are recovering. Cumulatively, net motorized route density and acres open to motorized cross-country travel is reduced under the action alternatives. Therefore, no adverse cumulative impacts are anticipated.
UM Creek Riparian Area Management DM	D2	This project was reasonably foreseeable during the DEIS and is now half completed. The project is constructing 2 watering systems to provide alternate watering sources for livestock that currently water on UM Creek. The project is constructing two watering systems including pipelines and a series of watering troughs away from UM Creek in the Right Fork and Mables areas on the UM Creek allotment. This will provide alternate watering sources for livestock that currently water directly on UM Creek. This will also redistribute livestock use away from the riparian area to enhance the fishery by improving riparian vegetation and stream channel conditions. Existing access is being used although temporary motorized cross-country travel has been needed. The project does not permanently change any of the issue indicators. In actuality, there is still a net reduction in motorized route densities and areas open to motorized cross-country use.
UM Pass Vegetation Management	D2	This project was reasonably foreseeable in the DEIS and has recently been approved in a Decision Memo that has since been remanded under appeal. The project would treat stands being impacted by spruce bark beetle and is intended to reduce fuel loadings. The project consists of the commercial removal of dead and currently infested trees on 210 acres. In addition, commercial intermediate thinning would be implemented to move the stands towards properly functioning condition in terms of composition and density as well as to improve structural diversity. As part of the project, up to ½ mile of temporary road would be constructed. Following implementation, the temporary road would be completely obliterated, restored to a natural slope, covered with slash and debris, and revegetated. This project would result in a temporary increase in motorized route density and cross-country travel. However, motorized route density and acres open to cross-country travel decrease when considered cumulatively with the route designation project. Therefore, no adverse cumulative impacts would be anticipated.
Big Flat Water System Reconstruction	D3	This project would reconstruct the current culinary spring that serves the Big Flat Guard Station and replace a faucet that provides drinking water to the public adjacent to State Road 153. This is the only "tested" drinking water on the top of the mountain for several miles. Currently, the system does not meet State and Federal water quality standards due to the lack of pressure in the system. Since all of the water is not being collected in the spring source, there is currently no way for a chlorination procedure. The proposed project consists of installing a new spring collection box at the Big Flat Spring, solar pump, chlorination box, 2000-gallon fiberglass tank, 2200 feet of HDPE pipe, 2 new hydrants, and all associated valves. The new collection box would be a 4-foot diameter pre-cast concrete pipe with a steel man-way on top. A hypo-chlorinator will be added to the system for potential chlorination in case of poor bacteriological tests, if needed. Much of the work for the project will take place within the SR-153 corridor or within areas that have already been previously

Project Name	Unit	Description of the Project and Potential Effects
		disturbed. This project does not increase existing motorized route density and only temporarily impacts acres used for cross-country travel. Considered cumulatively, net motorized route density would decrease and acres of cross-country travel would decrease slightly. Therefore, no adverse cumulative impacts are anticipated.
Cove Fort-Sulphurdale Geothermal Leasing EA	D3	This project was reasonably foreseeable at the time the DEIS was released. The Utah State Office of the Bureau of Land Management is proposing to lease three parcels of National Forest System land in the Cove Fort-Sulphurdale area for geothermal resources. The analysis for this project, including consideration of cumulative impacts, concluded that there would be no significant impacts. The proposed lease parcels, total 6,097 acres, lying north and south of the existing geothermal lease area and power plant facilities at Sulphurdale. A Reasonably Foreseeable Development Scenario was prepared for this project. Existing roads would be used wherever possible, but it is expected to that some of the existing roads would be upgraded and that new, temporary, and permanent access roads would be constructed in all parcels. Roughly 8 production wells and 4 injection wells with a 2 to 3 acre footprint would likely be needed. One to two miles of geothermal pipeline may also be installed. The power plant would be expected to cover 5 to 10 acres and 1 to 2 miles of transmission lines with 40-foot wide rights-of-way would be needed for each parcel. The Forest Supervisor specified leasing stipulations as mitigation measures in the environmental analysis process. If the parcels are offered and sold, the new leaseholder(s) would have the exclusive right to drill for, extract, produce, use, and dispose of all geothermal resources in the leased lands. The leaseholder(s) would also have the right to build and maintain necessary improvements on the leased lands for a primary term of 10 years, subject to renewal or extension in accordance with the appropriate leasing authority. This action will likely add mileage the motorized route network and result in temporary increases in cross-country travel. The actions from the route designation project reduce the potential for cumulative impacts by eliminating motorized cross-country travel by the public and by removing ATV use off routes that are intended to have non-motorized use only. Thus, no adverse cumulative impacts are anticipated provided an action alternative is implemented.
Elk Meadows Fuel Reduction and Aspen Restoration Project EA	D3	This project was reasonably foreseeable when the DEIS was released, but is no longer a reasonably foreseeable action due to unresolved resource and private property issues. There is no estimate for when or if these issues can be resolved.
Interstate-70 Wireless Communications Site Project EA	D3	This project was reasonably foreseeable when the DEIS was released, but has since been approved for implementation. The analysis for this project, including consideration of cumulative impacts, concluded that there would be no significant impacts. This project designated two wireless telecommunications sites, along I-70 between Cove Fort and Fremont Indian State Park, with primary purpose of serving cellular, personal communications services and enhanced specialized mobile radio. The proposed communications sites will consist of land allocations of about 100 by 100 feet on which equipment building(s) and communication tower(s) will be located. The tower height at each proposed site

Project Name	Unit	Description of the Project and Potential Effects
		will not exceed 199 feet. The proposed wireless system will be designed to meet the technical requirements of all licensed wireless carriers through co-location. Less than ½ of a mile of new road will permanently be needed to access the sites. The project would result in a slight increase in motorized route density that would be more than offset by route obliteration associated with the action alternatives for the route designation project. Cross-country travel may be needed during site construction, and occasionally for powerline maintenance, but this impact will be temporary and will be controlled under the terms of the Special Use Permit. Therefore, no adverse cumulative impacts are anticipated.
Kents Lake Road Reconstruction Project	D3	This project consists of approximately 5.2 miles of road re-construction on Forest Road 137. Work elements include roadway excavation, placing embankments, disposing of excess and unsuitable excavated materials, removal and installations of metal culverts, constructing rock buttresses, installation of underdrains, placing aggregate base and hot asphalt concrete pavement, installing guardrail systems, resetting signs, pavement markings, installation of gates, and related work. The project will be completed this year. The activities do not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Little Reservoir Vegetation Management Project DM	D3	The project will mechanically treat fuels within a 400 feet wide buffer on portions of the west, north, and east boundary of the private land subdivisions adjacent to Little Reservoir. The total amount of area treated will be about 144 acres. The treatment will be limited to hand felling and chipping of trees, brush, logs, and downed woody material within the 400-foot wide area surrounding the private land. The chipper will be used adjacent to properties where the landowner allows access across the private property and it is reasonable to drive a rubber-tired vehicle without construction of roads. In terrain inaccessible to the chipper, thinned vegetation will be hand piled and burned. Leftover slash will also be hand piled and burned in areas where the chipper is used. Trees larger than 12 inches diameter at breast height will not be removed. No new roads or motorized trails would be constructed. Temporary motorized cross-country travel would be permitted for the chipper vehicle. Even so, the action alternatives for the Fishlake OHV Route Designation Project result in a net decrease in motorized route densities and acres open to motorized cross-country travel.
South Fork Vegetation Treatment Project EA	D3	This project would use commercial salvage and thinning to reduce fuels, stand density, and susceptibility to spruce beetle. Roughly 1,824 to 2,040 acres of Engelmann spruce and sub-alpine fir forest currently infested with, or at high-risk of spruce beetle infestation would be treated. About 1.7 to 2.3 miles of temporary road would need to be constructed and 9.0 to 10.1 miles of existing temporary road would need to be reopened. Treatments would occur in five to six units ranging from 207 to 570 acres in size. The temporary roads result in a short-term increase in the stream crossing frequency and riparian route mileage, although the net effect would be only slightly greater if an action alternative is chosen for the route designation project.

Project Name	Unit	Description of the Project and Potential Effects
Utah Forest Highway 29 / Beaver to Junction Road Reconstruction EA [Note: this is not a Forest Service project.]	D3	This project would provide improvements to Segment 3 (mileposts 12.3 to 14.2), Segment 5 (mileposts 21.4 to 31.3), and Segment 6 (mileposts 31.3 to 35.0) of Federal Highway 29. Currently this project is not scheduled to begin until 2010. An existing waste disposal area located adjacent to Segment 2 will be used for disposal of excess fill material from roadway improvements. The proposed action includes reconstructing the road and shoulders in Segment 3, Segment 5, and Segment 6 to a width of 26 feet paved surface, 24 feet of graveled surface, and 24 feet of paved surface, respectively. Segment 3 would consist of two travel lanes, each with a paved width of 11 feet and two paved 2 feet wide shoulders. Segment 5 would consist of a 24 feet wide gravel-base roadway that would accommodate vehicles passing in opposite directions, with each of two lanes having a width of 10 feet and two 2 feet wide shoulders. Segment 6 would consist of two travel lanes, each with a paved width of 10 feet and two paved 2 feet wide shoulders. An estimated total of 0.235 acres of Waters of the U.S. and jurisdictional wetlands would be impacted thereby requiring compensatory mitigation. The route obliteration and closure to unrestricted cross-country travel associated with the route designation project would reduce the potential for adverse cumulative effects relative to No Action.
Tushar Grazing Environmental Impact Statement	D3	The project is evaluating the environmental effects of reissuing 10-year term grazing permits to continue to authorize grazing on eight grazing allotments on the Beaver Ranger District in central Utah. The project does not affect the issue indicators, except on locations where the Forest Service allows permittees administrative motorized access that involves cross-country travel. Even when exemptions are permitted, there would still be a net reduction in potential for motorized cross-country travel under the action alternatives for the route designation project. Annual Operating Plans and Allotment Management Plans are monitored and can be modified to reduce or avoid adverse resource impacts. Therefore, no adverse cumulative impacts are anticipated.
Box Creek Hazardous Fuels Reduction Project DM	D4	The project would implement fuels reduction treatments using up to 1,000 acres mechanical treatments and up to 4,500 acres of prescribed fire. Treatment areas are located in the Dairies and Brindley Flats units on Monroe Mountain. The proposal would reduce the fuel loading and the risk of high-intensity, high severity wildland fire in the project area, reduce the susceptibility of spruce fir stands to insects and diseases, and improve aspen stand health. Roughly 2.1 miles of temporary road is proposed for the Dairies unit and 2.2 miles of temporary road are proposed in the Brindley Flat unit. The action alternatives for the Fishlake OHV Route Designation Project result in a net decrease in acres open to motorized cross-country travel. The proposed temporary roads do not permanently change the issue indicators. Therefore, no adverse cumulative impacts are anticipated.
Flat Top Dixie Harrow Treatment DM	D4	This project would reduce hazardous fuels and improve wildlife habitat on approximately 1,131 acres in four separate project areas: Horse Pasture (527 acres), Browns Hole North (128 acres), Browns Hole South (294 acres), and Flat Top (182 acres). Authorized motorized route densities would not change from

Project Name	Unit	Description of the Project and Potential Effects
		existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
Henries Hollow Geophysical	D4	The Fishlake National Forest has received a Notice of Intent to conduct oil and gas geophysical exploration operations from Wolverine Gas and Oil Company. The project, Henries Hollow 2D, would involve operations on National Forest System (NFS), Bureau of Land Management, private, and state lands. The survey lines would total about 56 miles on NFS land on the Richfield Ranger District. If approved, the District Ranger would authorize only that portion of the project on NFS land. The survey would be completed using rubber-tired buggy mounted and helicopter-portable drilling equipment to excavate 3½ inch by 40 foot-deep shot holes to carry small explosive charges. The shot holes would be drilled on approximately 330-foot intervals along the lengths of each seismic line. Receivers (geophones) would be temporarily placed on the ground and used to record seismic waves as the charges were detonated. No road construction or road improvements would be required. About 40-60 days would be required to complete the drilling and recording on portions of the lines on NFS land. This project would result in temporary increases in motorized cross-country travel. However, the project would specify standard and site-specific management practices that help assure that negative resource impacts are avoided. The project would not permanently change the primary issue indicators assigned to track cumulative resource impacts for the route designation project, and based on past performance on recent similar projects, would not result in adverse impacts.
Mt. Terrill Dixie Harrow Treatment DM	D4	This project would treat approximately 850 acres of big sage and silver sage, with the Dixie Harrow, on NFS lands west of Mt. Terrill. Authorized motorized route densities would not change from existing conditions. Acres of motorized cross-country travel would increase only during the days that the harrow and seeding treatment is applied. The project does not permanently change the issue indicators. Considered cumulatively, there would still be a significant net reduction in areas open to motorized cross-country travel.
North Clover Vegetation Treatment DM	D4	The project will treat stands infested with spruce beetles and those susceptible of to further attack in the project area as well as improving the aspen stand health, while reducing the heavy fuels. Harvest will occur on roughly 248 acres. Roughly 0.4 miles of temporary road would be needed to facilitate the mechanical treatments. Some motorized cross-country travel would be permitted for logging skid trails, but this use is restricted by Best Management Practices and Forest Plan standards and guidelines that are incorporated into the timber sale contract. Even so, the action alternatives for the Fishlake OHV Route Designation Project still result in a net decrease in acres open to motorized cross-country travel. Net motorized route density would also decrease under the

Project Name	Unit	Description of the Project and Potential Effects
		action alternatives for the route designation project. Therefore, no adverse cumulative impacts would be anticipated.
Quitchupah Creek Road EIS	D4	This project will upgrade and add on to existing roads to provide a shorter and alternate access route from SUFCO Mine to Highway 10. The project will construct 11.25 miles of 28 foot wide paved road and would install numerous pipe and box culverts and possibly one bridge. The proposed road crosses public and private lands. Roughly 2.52 miles of paved road will be constructed on National Forest System lands, with 7.94 miles built on BLM, 0.26 miles on SITLA, and 0.53 miles built on private lands. The project includes a mitigation package to offset impacts to riparian areas and wetlands, wildlife, and range management. The Water Hollow road will use the Quitchupah Creek road Alignment for 2.0 miles of the westernmost portion of its alignment. At that point, it crosses Quitchupah Creek and follows to the south of this drainage for approximately 0.5 mile to the forest boundary. The route continues in an easterly direction along an existing jeep trail to Water Hollow Benches where it then turns south to Saleratus Benches. From Saleratus Benches, the road will then turn north and east to connect with SR-10. The acreage of impact is estimated at 146.3 acres. The crossing of Water Hollow will require large cuts up to 65 feet deep on both approaches and a large fill 90 feet high and 350 feet wide. This alignment also crosses several other large perennial and ephemeral tributary drainages, for 20 primary crossings. The Draft and Final Environmental Impact Statement (EIS) for the Quitchupah project are incorporated by reference. Only the draft EIS was available to the public at the time the route designation EIS was released. The final EIS and Record of Decision have subsequently been released to the public. Net area open to motorized cross-country travel would decrease under the action alternatives from the route designation project. Proposed route obliteration would offset some of the impacts from the Quitchupah road on forest, but not totally due to the differences in size and use. Applicant committed environmental protection measures are also specified to mitigate negative resource impacts from the Quitchupah road. The action alternatives for the route designation project should reduce the potential for cumulative impacts relative to No Action.
Rueben Hazardous Fuels Reduction & Wildlife Improvement Project DM	D4	This was a reasonably foreseeable project when the DEIS was released. This project has now been completed. Post-implementation monitoring indicated that desired resource outcomes and benefits were achieved without adverse negative consequences. The project did not change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Salina Creek Dispersed Recreation	D4	This project will construct less than ½ mile of road to create a dispersed recreation loop to replace the existing dispersed camp sites located at the second crossing of Salina Creek, which are causing damage to riparian vegetation and Salina Creek, and is impacting water quality. The existing dispersed sites will be rehabilitated. A vault restroom facility will be added for the roughly 30 replacement sites. A trailhead will also be constructed at Beaver Creek and at Second Crossing to serve trail use parking. The purpose of and design for this project is to reduce riparian and

Project Name	Unit	Description of the Project and Potential Effects
		water quality impacts. The relocated road is further away from the stream than the existing access and has specified Best Management Practices to reduce erosion potential. The project causes a slight increase in route density that is more than offset by proposed route obliterations from the route designation project. Unrestricted motorized cross-country travel will also be substantially reduced. Therefore, no adverse cumulative impacts are anticipated.
Seven Mile Spruce Beetle Infestation Project DM	D4	The project will use commercial thinning to reduce stand density of Engelmann spruce within 123 acres of beetle-infested, diseased, mature and dead timber stands. About ½ mile of temporary road would be needed to facilitate logging. Some motorized cross-country travel is permitted for logging skid trails, but this use is restricted by Best Management Practices and Forest Plan standards and guidelines that are incorporated into the timber sale contract. The action alternatives for the Fishlake OHV Route Designation Project still result in a net decrease in motorized route density and acres open to motorized cross-country travel. Therefore, no adverse cumulative impacts are anticipated.
Wolverine Geophysical Survey II DM	D4	The survey would be completed using tractor-mounted and helicopter-portable drilling equipment to excavate shot holes for explosives. Geophone receivers would be spaced at 220-foot intervals for approximately 18 miles across National Forest System lands. No new road construction would be necessary. This project would result in temporary increases in motorized cross-country travel. However, the project would specify standard and site-specific management practices that help assure that negative resource impacts are avoided. The project would not permanently change the primary issue indicators assigned to track cumulative resource impacts for the route designation project.
Transportation projects that do not yet have specific proposed actions or that are not being analyzed currently, but that <u>may</u> be developed some time during the implementation period for the Fishlake OHV Route Designation Project – See the 2006 Fishlake Roads Analysis Supplement located in the project file for further details.		Forestwide – Motorized Over-snow Use Travel Plan Forestwide – Dispersed Recreation Strategy D1 – Chalk Creek Trail 326 Realignment / Relocation D2 - Great Western Trail (GWT) Reroutes D2 - Black Flat Crossing (may or may not be part of the GWT reroutes) D2 - Danish Meadows Private Land Access D2 - Sevenmile Creek Trail Reroute D2 – Daniels Canyon Trail 129 Reroute D3 - Forest Access to Junction, Utah D3 - Kents Lake Road cutoff / loop D4 - Accord Lakes Private Lands Through-route D4 - Barney Lake Dispersed Camping and Road Relocation The revision of the winter motorized travel plan will complement the travel planning done for summer motorized use and would be designed to reduce the potential for adverse resource impacts. Similarly, the restoration and management recommendations that result from the dispersed recreation assessment will be designed to reduce existing and future resource impacts. The primary purpose of the Chalk Creek trail realignment would be to reduce the number of stream crossings and the miles of motorized trail directly within the stream and riparian corridor. The two Great Western Trail reroutes offer the potential to reduce riparian and wetland impacts and to protect a Threatened and Endangered plant. Addressing the Black Flat crossing would mitigate the

Project Name	Unit	Description of the Project and Potential Effects
		potential for introducing whirling disease into a currently uninfected stream segment and would improve water quality. The Barney Lake project would reduce the potential for motorized use and dispersed recreation to impact Boreal toads. The Daniels Canyon project is needed to eliminate stream and wetland impacts from the current trail location. Given the purpose and need for the above projects, the potential for cumulative impacts with the route designation project would be less than what exists currently under No Action. The remaining projects are needed to reduce user conflicts by improving and restoring route connections. The projects would be designed to avoid or reduce existing negative impacts to biological and physical resources. The Fishlake OHV Route Designation Project will either be an existing condition or ongoing/foreseeable action for all of these projects. As such, the design for these projects would be modified if necessary to avoid adverse cumulative impacts. This need is not expected given that the route designation project will reduce the potential for cumulative impacts across the forest. Each of the above projects would have some level of NEPA analysis and project file that would document the project design and analyses findings.
Miscellaneous projects that do not yet have specific proposed actions or that are not being analyzed currently, but that <u>may</u> be developed some time during the implementation period for the Fishlake OHV Route Designation Project		D1 – Oak Creek Plantation Thinning & Dispersed Recreation EA D1 – Watts Mountain Fuels and Dixie Harrow Project EA D1 – Pozzolan Volcanic Ash Mine D2 – Fishlake Plateau Grazing Environmental Impact Statement (13 allotments) D2 – Fishlake Basin summer home/recreation residence consistency/continuance review D1 – Dog Valley Water Development D1 – Watts Mountain/Elsinore/Grass Creek Bench Fuels, Wildlife, Range Project (~ 4,000 acres) D2 – Hondoo Trails Special Use Permit D2 – Last Chance Dixie Harrow Treatment DM (~ 605 acres) D2 – Lost Creek Timber Sale D2 – North Creek, Cedarless Flat, West Tidwell Livestock Waterlines D2 – Paradise Valley Dixie Harrow Treatment DM (~ 312 acres) D2 – Wide Hollow Fuels Project D2 – Zedds Bench Timber Sale (~ 250 acres) D3 – Big Flat / Timid Springs Water System D3 – Big Flat Roads and Trails D3 – Blue Lake Dam and Road Reconstruction D3 – Boullion Pasture Toilet EA D3 – Circleville Dixie Harrow Treatment DM (~ 300 acres) D3 – Merchant Valley summer home/recreation residence consistency/continuance review D3 – South Beaver Range, Fuels, Wildlife Project D4 – Cove Mountain Fuels Project D4 – Gooseberry Fuels Project D4 – Old Woman Dixie Harrow Treatment DM (~ 258 acres) D4 – Old Woman Fuels Project DM Potential impacts from these projects would be similar to those described above for like project types and in the accompanying specialist reports. The Fishlake OHV Route Designation Project will either be an existing condition or ongoing/foreseeable action for these projects. As such, the design for these projects would be modified if necessary to avoid adverse cumulative impacts. This need is not expected given that the route designation project will

Project Name	Unit	Description of the Project and Potential Effects
		reduce the potential for cumulative impacts across the forest. Each of the above projects would have some level of NEPA analysis and project file that would document the project design and analyses findings.

Cumulative Effects Summary for Foreseeable Actions

Relevant impacts from past management projects are incorporated and described in the Affected Environment descriptions for the primary issues. Current and historic livestock grazing, invasive plant treatments, water development, collection of forest products, timber sales, mechanical and prescribed fire and fuels treatments, road and trail construction, reconstruction and maintenance, underground mining for coal, oil and gas exploration and development, geothermal development, and recreational use on federal and private lands considered as part of the existing condition are ongoing and will continue. These activities are factored into the descriptions of the Affected Environment in Chapter 3. Wildfires will occur somewhere on the forest every year under all alternatives.

Livestock management will continue to be monitored and adjusted when additional resource protection is needed through implementation of the Annual Operating Plans and the Allotment Management Plans. Herbicides are the primary pesticide used on the forest and use will continue under all alternatives. Rotenone piscicide will be used in reasonably foreseeable fisheries reintroduction projects. Pesticides will not cause direct, indirect, or cumulative effects provided the implementation requirements from the Fishlake Noxious Weed EA and the Cooperative Fisheries Enhancement Project assessment are followed. The noxious weed EA concluded that there would be no significant direct, indirect, or indirect impacts to biological and physical resources. An assessment for the rotenone treatments is nearly complete and indicates that no adverse impacts will occur. Water developments will continue to be monitored and modified as necessary to protect resource values. The collection of forest products will continue to require a permit with District Ranger approval. Effects from foreseeable timber sales, mechanical and prescribed fire and fuels treatments, road and trail construction, reconstruction and maintenance, underground mining for coal, oil and gas exploration and development, geothermal development are described in the tables above. The primary issues cover the effects from recreational impacts. With wildfire, there is no planning for the time or place of ignition so potential impacts can vary greatly. Wildland Fire Use may also be used when deemed appropriate through the process outlined in the Utah Fire Amendment. Burned Area Emergency Response (BAER) assessments and rehabilitation are done if post fire conditions threaten life, property, or important natural resources. BAER assessments are required if the wildfire is 300 acres or larger, but can be conducted on smaller fires if warranted by the risks. In burned watersheds, the potential for impacts to biophysical and possibly social resources will be greater than what is displayed for the proposed actions.

Some projects in Appendix C are currently in the process of being implemented and are accounted for in the FEIS for project design and analysis. However, projects to which the Fishlake OHV Route Designation project will either be an existing condition or foreseeable action can modify proposed treatments if necessary to assure that the future proposals avoid undesirable cumulative impacts. Foreseeable projects must comply with Forest Plan standards and guidelines and the forest will continue annual project and forest monitoring. This increases the likelihood that future adverse cumulative impacts can be avoided or mitigated if they occur. **It is important to note that most of the foreseeable activities take place off routes. Therefore, reducing off-route motorized cross-country travel directly reduces the potential for direct and indirect interactions and cumulative impacts with other land uses that occur under No Action.** In fact, even if a given foreseeable action or unforeseen event for some reason has significant adverse impacts to social, biological, or physical resources, the nature and magnitude of the cumulative impacts will in almost every case be some degree less as long as an

action alternative from the route designation project is chosen. This results from reducing motorized impacts by obliterating unneeded and impactive routes and by limiting motorized travel to designated routes and areas. This benefit will also result from removing motorized use from non-motorized trails.

As outlined above, reasonably foreseeable activities are generally not creating the types and magnitudes of direct or indirect impacts that will be significant, even when considered cumulatively with the Fishlake OHV Route Designation Project, provided an action alternative is chosen. Since incremental impacts from foreseeable projects will be minimal and temporary, or non-existent, significant cumulative impacts will not occur. The transportation projects are the exceptions to this rule, but these projects are designed to maintain the protection of biophysical resources through avoidance or mitigation, or improve conditions through route redesign, relocation and obliteration. Therefore, significant adverse cumulative impacts are not anticipated. In fact, fewer cumulative impacts should result, which will improve existing compliance with Forest Service requirements for environmental protection.

Appendix D

Issues Not Discussed in Detail – 1) eliminated by project design, 2) presenting minimal risk, 3) outside project scope, 4) already decided by existing law or policy or that are not relevant

Though not discussed in detail in the Environmental Impact Statement, many of the issues below are evaluated in further in the source documents from the resource specialist reports, and in Biological Assessments and Biological Evaluations. These documents are located in the project file and are included on the CD-ROM that is being distributed with the FEIS.

Threatened, Endangered, Sensitive, and Management Indicator Species – Animals (excluding mule deer)

The white paper "Life History and Analysis of Endangered, Threatened, Candidate, Sensitive, and Management Indicator Species of Dixie National Forest" (Rodriguez, 2006) is a comprehensive description of life histories and habitat requirements for species that occur or have habitat within the forest, and is hereby incorporated by reference.

Table D-1 shows all USFWS recognized threatened, endangered, and candidate vertebrate wildlife species; Regional Forester's Sensitive Species; and Management Indicator Species on the Fishlake National Forest and their occurrence by Ranger District and Geographic Area (GA).

Table D-1. T & E, Sensitive, Management Indicator Species on the Fishlake NF

Species	Status	Fillmore	Fremont River	Beaver	Richfield
Threatened (T), Endangered (E) and Candidate (C) Species					
Mexican Spotted Owl	T		10		
Bald Eagle	T	All GAs	All GAs	All GAs	All GAs
Utah Prairie Dog	T		6, 9	1	16
Yellow-Billed Cuckoo	C	unknown	unknown	unknown	unknown
Intermountain Regional Forester's Sensitive Species					
Peregrine Falcon	Sensitive			1*	
Spotted Bat	Sensitive	unknown	unknown	unknown	unknown
Townsend's Big-eared bat	Sensitive	4, 5*			
Northern Goshawk	Sensitive	All	All	All	All
Flammulated Owl	Sensitive		10*		
Three-toed Woodpecker	Sensitive	All	All	All	All
Sage Grouse	Sensitive		7, 9, 10	1	17
Pygmy Rabbit	Sensitive		9*		17

Table D-1. T & E, Sensitive, Management Indicator Species on the Fishlake NF

Species	Status	Fillmore	Fremont River	Beaver	Richfield
Fishlake National Forest Management Indicator Species (MIS)					
Mule Deer	MIS	All	All	All	All
Elk	MIS	All	All	All	All
Northern Goshawk	MIS	All	All	All	All
Sage Nesters[1]	MIS	All	All	All	All
Cavity Nesters[2]	MIS	All	All	All	All
Riparian Guild[3]	MIS	All	All	All	All

* Limited known distribution, however, is likely to occur in additional locations.
[1]-- Brewer's Sparrow, Vesper Sparrow, Sage Thrasher
[2]-- Hairy Woodpecker, Western Bluebird, Mtn. Bluebird
[3]-- Lincoln's Sparrow, Song Sparrow, Yellow Warbler, MacGillivray's Warbler

Key to Geographic Areas	Ranger District	Acres	Reference Number
Beaver Foothills	Fillmore, Beaver	77,113	1
Canyon Range	Fillmore, Beaver	115,532	4
Clear Creek	Fillmore, Beaver	78,541	2, 12
East Pahvant	Fillmore	106,779	3
West Pahvant	Fillmore	204,847	5
Fish Lake Basin	Fremont River	16,962	6
Fish Lake High-top	Fremont River, Richfield	41,015	7
Last Chance / Geyser Peak	Fremont River	48,236	8
Mytoge Mtn / Tidwell Slopes	Fremont River, Richfield	81,844	9
Thousand Lakes Mtn	Fremont River	65,803	10
Beaver River Basin	Beaver	46,045	11
Indian Creek / North Creek	Beaver	42,311	13
Piute Front	Beaver	76,685	14
Tushar Mtns	Beaver	20,971	15
Gooseberry/Lost Creek	Richfield	108,044	16
Monroe Mtn	Richfield	163,901	17
Old Woman Plateau	Richfield, Fremont River	66,496	18
Salina Creek	Richfield	92,089	19

Table D-2 displays the summary indicators of habitat effectiveness for Threatened, Endangered, Sensitive, and Management Indicator Species at the forest scale. The numbers shown are specific to critical, capable, or suitable habitat for each species listed. These

species and their habitats are discussed in detail in the wildlife specialist report and the life histories report (Rodriguez 2006).

Table D-2. Forest scale summaries of changes in route density and open use areas and distance designation acres for T & E, sensitive, and MIS species other than mule deer.

Species	Route density (miles/mile^2)					Open Use / Exemption Area (% of area)				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mexican Spotted Owl	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.1	0.1	0.1
Bald Eagle	2.5	2.0	2.0	1.5	2.1	63	18	9	7	9
Utah Prairie Dog	0.6	0.3	0.3	0.3	0.5	76	3	0	0	1
Yellow-billed Cuckoo	12.4	11.7	11.6	11.1	11.7	89	49	33	31	33
Peregrine Falcon	0	0	0	0	0	52	1	0	0	0
Spotted Bat & Townsend's Big-eared Bat	0	0	0	0	0	55	1	0	0	0
Northern Goshawk	1.0	0.8	0.8	0.6	0.8	51	8	4	3	4
Flammulated Owl & Three-toed Woodpecker	1.0	0.8	0.8	0.6	0.8	51	8	4	3	4
Greater Sage Grouse	2.3	1.7	1.7	1.3	1.8	79	15	8	6	8
Pygmy Rabbit	4.3	3.2	3.3	2.6	3.4	85	25	15	12	15
Elk	1.7	1.2	1.3	1.0	1.3	74	11	6	4	6
Sage Nesters	2.0	1.5	1.5	1.2	1.6	77	13	7	5	7
Cavity Nesters	1.0	0.8	0.8	0.6	0.8	55	9	4	3	4
Riparian Guild	6.8	6.1	6.2	5.5	6.3	69	33	22	18	22

Table D-2 clearly indicates that habitat effectiveness for these species under the action alternatives would be improved compared to current conditions. Thus, the action alternatives of Fishlake OHV Route Designation Project lessen the potential for adverse cumulative impacts to T & E, Sensitive, and Management Indicator Species relative to No Action. This could help slow or reverse declining trends, and maintain or improve stable or increasing population trends - at least during the portion of the life cycle that occurs on National Forest System lands. See the wildlife report, the Biological Assessment, and the Biolgical Evaluation for more detail on these species.

Migratory Birds

Additional species for analysis were identified as part of the scoping process and review of the project area by Fishlake National Forest wildlife biologists. Migratory birds and candidates for Federal listing were identified as additional species of concern in the Fishlake OHV Route Designation project, public comment process. The Migratory Bird Treaty Act prohibits taking of migratory birds, their parts, nests, eggs, and nestlings. Deliberate take and the need for a State permit can be avoided by minimizing disturbance and habitat alteration during the breeding and nesting season.

Based upon the vegetation within the project area, several migratory bird species, which use mixed conifer, sub-alpine, and mountain riparian were selected for review. The Utah Partners in Flight Conservation Strategy (UPFCS) (UDWR 2002) was thoroughly reviewed for applicability to species. Accounts of these species are described in the 2002 strategy and are incorporated here by reference (ibid).

EXECUTIVE ORDER 13186 OF JANUARY 10, 2001 outlines the responsibilities of Federal Agencies to protect migratory birds and directs these agencies to take certain actions to further implement the Migratory Bird Treaty Act. The order also provides broad guidelines on migratory bird conservation responsibilities.

The Forest Service and the U.S. Fish and Wildlife Service developed an interagency Memorandum of Understanding (MOU) for the Conservation of Migratory Birds. The MOU identifies specific activities that will contribute to conserving and managing migratory birds and their habitats.

Priority migratory bird species that have been assessed in this document because they are threatened, endangered, sensitive, candidate, experimental nonessential, or MIS species include: bald eagle, Mexican spotted owl, yellow-billed cuckoo, California condor, peregrine falcon, greater sage-grouse, northern goshawk, flammulated owl, three-toed woodpecker, and northern flicker. The "Utah Partners in Flight Avian Conservation Strategy, Version 2.0" provides a list of their priority species (Parrish et al. 2002; p. 52). For the Sub-Alpine Conifer habitat, which includes habitat found within the project area, the three-toed woodpecker is the only species on the final list for this habitat type. The three-toed woodpecker was assessed in the specialist report.

In addition to the sub-alpine habitat, the project area is also comprised of mixed conifer and mountain riparian habitat. Priority bird species and recommendations for these species can also be found in the "Utah Partners in Flight Avian Conservation Strategy, Version 2.0", and is also incorporated for these species (Parrish et al. 2002; p. 255-256). Priority bird species for these habitats are: Lewis's woodpecker, and black swift for mixed conifer habitat, and broad-tailed humming bird and Virginia's warbler for mountain riparian habitat. Conservation recommendations for these species have been taken into consideration and based upon required design criteria for wildlife, and those found in the vegetation, fire, and hydrologic specialist reports, these conservation recommendations have been incorporated.

The analysis of priority migratory birds and species of concern indicates that implementation of the OHV Route Designation would not have a measurable adverse effect on migratory bird populations. All of the alternatives comply with Executive Order 13186 and the MOU for the Conservation of Migratory Birds.

Based upon the action alternatives that reduce motorized route densities and halt cross-country overland travel, all action alternatives would result in an increase of habitat effectiveness across all vegetation cover types on the forests. Due to the increase of habitat effectiveness across the landscape of the Fishlake National Forest, the cumulative effects of this project would enhance habitat for the species addressed in this document across the entire CEA.

The cumulative effects area for migratory birds is the same area used for all other species in the analysis area. This area represents a broad range of habitat types that provide a wide range of seasonal habitat for these migratory bird species. Due to the migratory nature of these birds, they may not use habitat within the CEA year round. Cumulative effects to these birds would only impact habitats that they use within the CEA. The impacts to species from past, present and reasonably foreseeable actions in combination with any of the action alternative would not have adverse effects on these species, as the action alternative would enhance habitat effectiveness for all the species addressed. Other more broad-scale cumulative impacts could affect species persistence in alternate habitats where there is no management or control by this agency. Within the CEA, impacts to migratory birds would also occur from private landowners and other government agencies that can impact habitat.

Implementation of the No Action alternative would result in eventual increases in open route densities and the continuation of random overland cross country travel. These effects have had and continue to have an unknown effect on species across the landscape of the Fishlake National Forest. These effects are unknown as the cross-country travel is random, and varies from year to year. In addition, the number of migratory bird species that may occur on the forest in a given year may vary dramatically due to events of conditions on the migratory winter grounds. Therefore, the effects of leaving the Fishlake National Forest open to random cross-country travel would result in a decrease in overall habitat effectiveness for the species addressed in this document. This is supported by the increased use of the forest by OHV users and the development of unauthorized trails annually. In summary, implementation of the No Action alternative would result in continued cross-country travel and the unauthorized creation of new trails across the forest. This would result in a decrease in habitat effectiveness across the forest over time. Therefore, the cumulative effects of the No Action may impact individuals or habitat, but is not likely to contribute towards a trend to Federal listing or affect the continued persistence of these migratory species at the forest level.

All action alternatives would reduce open route density across the forest, and halt cross-country travel. This would result in increased habitat effectiveness for all the species addressed in this document. This combined with past, present and reasonably foreseeable future action enhance overall habitat in all cover types and areas where disturbance from OHV's occurs. Therefore, the cumulative effects of all action alternatives may increase habitat effectiveness for the species addressed in this analysis.

Aquatic MIS Species – Resident Trout

Effects to resident trout are the same as and fully covered by those described for aquatic biota. Because motorized use will continue in watersheds containing resident trout, motorized use may impact resident trout but will not likely lead to a loss of population viability for any resident trout populations under all of the action alternatives. Under the No Action alternative resident trout habitat will be increasingly impacted by OHV use resulting in a downward trend in habitat conditions. Under all of the action alternatives, some of the motorized use that is currently occurring along several streams creating habitat concerns would be eliminated. Route closures of high impact routes along several streams, route obliteration, restricting travel to designated routes, and barriers and other enforcement measures would reduce sedimentation, improving aquatic habitat conditions for resident trout overall. When looking at specific sub-watersheds, restricting motorized use to designated routes and barriers and other enforcement measures will at least maintain current resident trout habitat conditions. In the majority of the sub-watersheds, especially those that also have route closures, relocations, or route obliteration there would be a slight improvement to major improvement of resident trout habitat. Overall, resident trout habitat would be static (in a few cases) or slightly upward in trend (in the majority of cases).

Aquatic MIS Species – Aquatic macroinvertebrates

Aquatic macroinvertebrates were labeled a Management Indicator Species (MIS) for the Fishlake N.F. as an indicator for stream habitat (FP IV-18). There is also a Standard and Guideline relating to aquatic macroinvertebrates under the General Direction of "Manage waters capable of supporting self-sustaining trout populations to provide for those populations." (FP IV-18), which states "D. Maintain a Biologic Condition Index (BCI) of 75 or greater." (FP IV-19).

The Fishlake Forest Plan monitoring schedule is to monitor aquatic macroinvertebrates in 5 streams per year to see if streams meet the aquatic Standard and Guideline of a Biotic

Condition Index (BCI) of 75 or above. In the twenty-one year period from 1986 to 2006, the Fishlake N.F. has sampled an average of 5.7 streams per year (range from 0 to 17 per year), thus meeting the monitoring requirement. Sampling location selection has primarily been driven by interest in key watersheds on the Forest for baseline data and for monitoring of specific project activities. For specific results of this Forest aquatic macroinvertebrate monitoring since 1986, see Rodriguez (2006).

While there have been some concerns raised by recent monitoring both in terms of BCI scores and trends, OHV use is not believed to be a major contributor to the low BCI scores or declining trend at this time. If OHV use in sensitive riparian areas and along streams continues to increase as it has in the past 6 years based on field observations, however, it does have the potential to become a major concern for aquatic macroinvertebrates on many streams in the near future.

Under the No Action alternative, OHV use will likely increase in sensitive areas, leading to a reduction of aquatic macroinvertebrate BCI scores on many forest waters. This could potentially cause a downward trend on some waters to below the Forest Plan Standard and Guideline of 75 where it is currently above, and a further downward trend on waters already below the Forest Plan Standard and Guideline.

Under the action alternatives, some of the motorized use that is currently occurring along several streams creating habitat concerns would be eliminated. These and other closures and route obliteration would thus reduce sedimentation, improving aquatic habitat conditions for macroinvertebrates. Restricting motorized use to designated routes will also prevent increased impacts in the future and reduce erosion occurring from current cross-country use. Under all of the action alternatives, there would be a slight improvement to major improvement in BCI scores on streams with current impacts where route changes, closures, or route obliteration is proposed. On other streams, the closure to cross-country travel, barriers, and other enforcement action to keep motorized travel on designated routes in all of the action alternatives would at least maintain the current condition. Thus, overall BCI scores under the action alternatives would be static or slightly upward in trend. Additional discussion of the use of BCI data and macroinvertebrates is contained in the source report and the Biological Evaluation.

Threatened, Endangered, Sensitive, and Management Indicator Species – Plants (excluding Last Chance townsendia)

The Regional Forester's Sensitive Plant List includes 18 species known to occur on the Fishlake National Forest. Three species are federally listed: one as endangered (San Rafael cactus) and two as threatened (Maguire daisy and Last Chance townsendia). There are not any plant species known to occur on the Fishlake NF that are proposed for federal listing or that are candidate species. All of the known occurrences and known potential habitat for these four species are in the southeastern corner of the forest (see Figure 3-2 in Chapter 3). The area of potential habitat for these three species was analyzed in detail as described in the next section. The remaining 15 Forest Service sensitive plant species are often clustered in restricted locations but collectively distributed in all seven subsections on the Fishlake NF.

Occupied or known potential habitat for San Rafael cactus does not occur within 1.5 miles of authorized or potentially designated routes on the Fishlake NF. Occupied or known potential habitat for Maguire daisy does not occur within one half mile of authorized or potentially designated routes. For pinnate spring parsley and Wonderland alice-flower (also known as Rabbit Valley gilia), known occupied habitat does not occur within the 300-ft distance designation. However, individual gilia were close to the route distance designation corridor at one location, and that route's distance designation was removed in each of the action

alternatives. Potential impacts to Last Chance townsendia are discussed in detail in Chapter 3 and in the vegetation specialist report.

The analysis for sensitive and management indicator plants follows the same assumptions described previously in Chapter 3 for Last Chance townsendia. The analysis compared the amount of area where unrestricted and open use was allowable for each of the five alternatives. Next, the areas of dispersed camping distance designations for roads and trails were evaluated separately and compared for each alternative. The proportions of total areas were also analyzed. Table D-3 shows this analysis for the entire forest. The results for the rare plant study area have already been presented in Chapter 3, Table 3-5.

Table D-3 shows acres of unrestricted / open use and distance designation areas, and percent of the total area by alternative for the entire Fishlake NF (1,532,859 acres for this analysis includes in holdings.)

Table D-3. Forest summaries of open use / distance designation areas.

Designation	**Alternative 1** (Unrestricted, "A" Areas, and 300' Exemption on Roads)	**Alternative 2** (Open Areas, 300' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 3** (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 4** (150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)	**Alternative 5** (Open Areas, 150' Distance Designation for Dispersed Camping along Roads and Motorized Trails)
Unrestricted or Open Use Areas	909,115	973	969	0	879
Roads and Trail Distance Designations	25,318	160,532	83,910	64,838	84,295
Total	934,433	161,505	84,879	64,838	85,174
Percent of Total Area (1,564,236)	60%	10%	5%	4%	5%

Alternative 1 has unrestricted / open use, and road exemption areas that include 60% of the area within the administrative forest boundary. Alternative 2 has six times less potential risk to the total area than the current condition. Alternatives 3, 4 and 5 have 12, 15 and 12 times less area of potential impact, respectively, than the current condition. Also, under the action alternatives, these four percentages should decline over the next five years as dispersed camping distance designations are either dropped or replaced by designated routes.

Next, compare the total unrestricted/open use acres in Alternative 5 to the total of unrestricted acres in Alternative 1 (909,115 vs. 879 ac.). There is a difference of 3 orders of magnitude; 1,034 times (or 103,400%) less area that might be exposed to unrestricted/open use motorized activity.

Table 3-5 shows acres of unrestricted and open use areas, and distance designation areas, and percent of the total area by alternative for the rare plant emphasis study area. (The 122,447 acres for this analysis includes in holdings.)

Alternative 1 has unrestricted/open use and road exemption areas in nearly 30% (35,966/122,447 ac.) of the total study area. This is better from the start; Alternative 1 has just half of the relative potential impact compared to the percentage of the entire forest shown in the first table. Alternative 2 has 3.7 times less area of risk to the rare plant emphasis study area than does Alternative 1. Alternatives 3, 4 and 5 have 7, 10, and 7 times less area of potential impact, respectively than does the current situation.

When comparing the total unrestricted/open use acres in Alternatives 2, 3 and 5 to the total of unrestricted/open use acres in Alternative 1 (31,488/193 or 189 ac.), the analysis shows about 165 times (16,500%) less area that might be exposed to unrestricted/open use motorized activity. This is a huge benefit for rare plant habitat.

Fortunately, this proposed action is timely for rare plants. Within another five years, serious threats would likely begin to be manifest; risks to many populations of rare plants might be evident in 10 years. The important thing is to take action now. Alternatives 2, 3, 4 and 5 would all benefit rare plants on the Fishlake to a much greater degree than Alternative 2.

The potential for suitable and occupied habitat of listed species was the major reason for this concentrated survey effort. However, the substantial number of routes without distance designation corridors in this rare plant emphasis study area provides much greater protection to the individuals and suitable habitats for the five sensitive species as well. Some routes through these areas have been changed to non-motorized; other routes will be obliterated. Also forest-wide, the distance designation is removed from any route that is gated closed. Within the rare plant emphasis study area for any of the four action alternatives, there is not any known occupied habitat in any distance designation corridor for either pinnate spring-parsley or Rabbit Valley gilia (also called Wonderland alice-flower). There is some occupied habitat within some of the distance designations for Bicknell milkvetch, Bicknell thelesperma, and Ward beardtongue. However, Bicknell milkvetch is the most abundant sensitive species in this emphasis area; Bicknell thelesperma is relatively abundant within portions of the emphasis area, and Ward beardtongue is widely distributed on the forest. In all cases for these three species, their populations within this rare plant emphasis study area extend well beyond any of the distance designation corridors and the viability of any single population will not be at risk with the implementation of the action alternatives.

Comparable field surveys specific to the OHV route project were not conducted on the forest for the area of the forest west of the rare plant emphasis area. The remaining sensitive species either have wider distributions, or if smaller distributions, then are not commonly found in the vicinity of motorize routes. The magnitudes of difference for the action alternatives displayed in Table D-3 convey the tremendous benefits to the sensitive species on the forest. The integrity and quality of ecosystems on more that 900,000 acres of land administered by the Fishlake National Forest will improve over time when Alternative 5, as modified, is implemented, and allowable open use and cross-country travel are reduced to less than 900 acres.

OHV traffic moving along the trails stirs up dust. Some of the dust may become deposited on individuals of the sensitive species. This is considered a low risk to the populations of these species overall.

There is the possibility of additional visitor foot traffic in some areas when riders might park along the route and walk to some vista or point of interest. This is considered a very low probability event.

The alternatives in the OHV Route Designation project would have "no effect" on any populations of the following federally listed plant species: the threatened Maguire daisy (Erigeron maguirei) or the endangered San Rafael cactus (Pediocactus despainii). This is based on life histories, field surveys and habitat assessments for the threatened and endangered plant species on the Fishlake National Forest and from the findings shown in Table 3-5. This is also based on the fact that motorized routes do not go within 1.5 miles of known populations, or known potential habitat, of San Rafael cactus or within one half mile of known populations, or known potential habitat, of Maguire daisy. In addition, the populations for both of these species occur in remote areas that are protected by steep slopes and cliffs. It is unlikely that motorized traffic could ever get to these locations.

The action alternatives would have "no impact" on the individuals or habitat of Fishlake naiad (Najas caespitosa). This is based on the fact that Fishlake naiad in known on the forest only from Fish Lake where it was found growing in shallow water to about 12 inches deep.

In contrast, the action alternatives "may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species" for the following species: Barneby woody aster (Aster kingii var. barnebyana), Bicknell milkvetch (Astragalus consobrinus), Tushar Mountain paintbrush (Castilleja parvula var. parvula), pinnate spring-parsley (Cymopteris beckii), creeping draba (Draba sobolifera), Nevada willowherb (Epilobium nevadense), Elsinore buckwheat (Eriogonum batemanii var. ostlundii), Rabbit Valley gilia or Wonderland alice-flower (Gilia caespitosa or Alicellia caespitosa), little penstemon (Penstemon parvus), Ward beardtongue (Penstemon wardii), Arizona willow (Salix arizonica), Beaver Mountain groundsel (Senecio castoreus), Bicknell thelesperma (Thelesperma subnudum var. alpinum), and Sevier townsendia (Townsendia jonesii var. lutea). This determination is based on field surveys, life histories and habitat assessments for the sensitive plant species, or their habitat, known to occur on the Fishlake National Forest as described in the biological evaluation. Although some impacts to individuals or habitat may occur with the project implementation, the action alternatives would provide an enormous benefit to these species over time as allowable cross-country travel on the forest is reduced from more than 900,000 acres to less than 900 acres and the type of allowable use is restricted within the distance designation corridors. Also, this benefit would increase and as distance designations continue to be removed from motorized routes over the next several years. See the plant Biological Assessment and Biological Evalation for more detail.

Invasive Plants

The introduction of invasive species has the potential to increase and may be an indirect effect. The Fishlake National Forest has a current GIS layer of the known locations of noxious weeds. The actual area of infestation is less than 20,000 acres. Thus, nearly 99% of the acres managed by the forest are noxious-weed-free.

The Fishlake National Forest has an award winning noxious weed management program. Because of the relatively low number of acres infested with noxious weeds, public awareness, education, and an aggressive early detection/rapid response program are key forest objectives. The Fishlake NF conducted a successful weed bounties program in 2005. Participants were paid a monetary bounty for location information about previously unmapped areas of noxious weeds. The Forest is a signatory on four cooperative weed management areas (CWMAs). One CWMA project was recently funded and completed. The Weed Warrior Program to

"Wash Before You Ride" was introduced in September 2006 at the Rocky Mountain ATV Jamboree. These are example of the types of educational and public outreach opportunities that are actively being promoted by the forest.

From the weed inventory, it is obvious that many of the noxious weed species spread along travel corridors. The strength of this OHV travel management plan is to reduce by more than 99.9% the number of acres currently available for cross-country travel. (The reduction in cross-country travel is from more than 900,000 acres to less than 900 acres.) Therefore, the potential spread of invasive species in these areas will be substantially reduced through this new access management plan. The likelihood of invasive species establishing and spreading into potential habitats of these sensitive plant species because of OHV traffic is considered low.

Portions of this forest-wide analysis area occur in nine counties in southwestern Utah including: Beaver, Garfield, Iron, Juab, Millard, Piute, Sanpete, Sevier, and Wayne. However, Iron and Sanpete counties have less than 2,500 acres each on the Fishlake NF. The Noxious Weed Field Guide for Utah contains information about the distribution of these species by county (Belliston et al. 2004). The guide divides information into sections for state noxious weeds and county noxious weeds. Species of concern for this analysis on the state list include Bermuda grass, field bindweed, hoary cress (whitetop), diffuse knapweed, Russian knapweed, spotted knapweed, squarrose knapweed, purple loosestrife, perennial pepperweed (tall whitetop), quackgrass, leafy spurge, Canada thistle, musk thistle, Scotch thistle, and dyer's woad. Species of concern for this analysis on the county list are blue lettuce, buffalobur, bull thistle, and Russian olive. All of these species may occur in proximity to roads and trails and, given the right conditions, are capable of migrating into the disturbed areas along these corridors and/or hitchhiking on animals, people, and vehicles that move along road, trail, and stream corridors. The risk and speed of noxious weed migration increases dramatically in the stream corridors. Consider this analogy of a weed infestation: it is like a bomb going off in slow motion!

Noxious weeds and other weedy species are opportunistic and establish quickly in disturbed areas that lack robust competition from established native vegetation. Roads generally have a band of disturbed area on each side of the hardened surface. These disturbed road edges include both cut banks and fill slopes, and generally provide continuous areas that become migration routes for weedy species. Additional information about noxious weeds on the Fishlake NF may be found in the Environmental Assessment for Noxious Weed Management (Fishlake National Forest 2003).

Travel routes are often invasion corridors for the spread of noxious weeds and other invasive species. At least three noxious weed species (i.e., dyer's woad, leafy spurge, and spotted knapweed) have the potential to dominate our landscapes nearly to the tops of the mountains if they get started in an area. Vivid examples from the Wasatch-Cache National Forest where dyer's woad spread rapidly along travel routes all the way up the mountains underscore the reality of this threat.

On the forest, the spread of invasive species is greatly controlled by the combination of precipitation and elevation. For example, cheatgrass is prone to spread in disturbed areas with less than 8 inches of precipitation and below 7,000 feet elevation. Fortunately, only a small portion of the Fishlake NF has this combination of conditions. This example illustrates another important distinction. Cheatgrass is an invasive species and undesirable on the landscape; however, cheatgrass is not listed as a noxious species.

Some other undesirable species including black henbane, dalmation toadflax, houndstongue, poison ivy, saltcedar (tamarisk), water hemlock, and yellow toadflax are not officially listed

as noxious for this area. However, these species are truly obnoxious, and prudence would suggest vigilance for these as well. This would be especially important for areas where these species are just beginning to establish. Again, early detection and rapid response will be key to success in our war on invasive plant species.

Consistent monitoring along the Forest's roads and trails for the presence of noxious weeds and other undesirable weedy species will be essential to early detection. This monitoring data will enhance the opportunity to prevent, or proactively mitigate, the spread of undesirable weedy species.

Gelbard and Belnap (2003) conducted a study of roads as conduits for exotic plant invasions in southern Utah's semiarid landscapes. Roads appear to be a substantial contributing factor in the continuing spread of exotic plants. They found that plant invasions move from roadsides to adjacent ecosystems of natural habitats; however, disturbed habitats are most vulnerable to invasion. The following three points are taken from their conclusions. "Prevention of invasion in this semiarid landscape (is) still the best tool for effective weed management." "Clearly, roads should be considered important targets of both local and regional efforts to prevent and control exotic plant invasions." They concluded that monitoring could then allow for the use of adaptive management to decrease "the likelihood that roadside invasions will spread into adjacent ecosystems."

A study in Wisconsin found that roads seemed to provide a disturbance corridor (Watkins et al. 2003). The presence of roads can alter plant species composition and abundance of interior forest conditions beyond the road corridor. In a study on plant invasion on the Colorado Front Range, Fornwalt et al. (2003) stated, "both protected and managed areas can be invaded by non-native plant species, and at similar intensities."

The risks from invasive plant species establishing along the designated motorized route corridors and in distance designation corridors are substantially higher than the risks or threats from motorized activities to rare plants or their habitats. The reason is that invasive plants can establish quickly and spread rapidly, particularly in disturbed areas. Travel routes, by their very nature, are disturbed areas. Nearly all of the area of the Fishlake NF is at risk for the introduction and spread of noxious and other invasive weeds. The greatest threat is where the active spread is already occurring on the Pahvant Range and Canyon Mountains of the Fillmore Ranger District and in the entire Salina Creek drainage on the Richfield Ranger District.

Alternative 1 has unrestricted areas, roads, and trails with exemptions in 60% of the total area administrative boundary of the Forest. Alternative 2 has six times less area of risk to the establishment of weedy species. Alternatives 3, 4 and 5 have 12, 15 and 12 times less area of potential impact, respectively. Next, compare the total open use and distance designation acres in Alternative 5 to the total of unrestricted acres in Alternative 1 in the same table. There is a difference of 3 orders of magnitude; 1,034 times less area that might be exposed to unrestricted/open use motorized activity.

In Alternative 1, the spread of weed seed along motorized routes and in unrestricted areas probably would continue to increase in proportion to the increase in motorized activity. Some of these alien species will be aggressive invaders and listed as noxious weeds. Over time, the integrity of the forest's ecosystems probably would be compromised as the vigor of native vegetation is strained by competition from and increasing number of non-native species. Because of their disturbed character, roads and trails would increasingly be corridors for the spread of weedy species to the extent that the roads and trails are in close proximity to populations of undesirable plant species. Also, new routes would continue to develop in unrestricted areas thus increasing the amount of disturbed area for potential infestations. In

addition, vehicles often transport weed seed in the undercarriage and mixed with mud on tire treads and in wheel wells. The risk of weed migration would increase as more of the factors for the spread of weedy species occur in close proximity (e.g., roads, campgrounds, streams, trailheads and trails). To the extent that the other projects in Appendix C in this EIS add additional roads and disturbed areas, the threat of invasive plant species establishing in this area will increase the risk to plant communities across the forest.

Although the amount of area for allowable motorized activity is reduced substantially with these alternatives, the amount of activity on designated routes will likely increase. The risk of weed seed being spread would continue to remain high since this risk is a function of the amount of use, or the number of visits, of motorized activity. In addition, these aggressive plant species can spread into landscapes beyond the travel corridors and distance designation corridors along the roads and trails. Thus on balance with these four alternatives, noxious weeds and other invasive species would continue to spread on the forest. Clearly, implementation of Alternative 2, 3, 4 or 5 would reduce the amount of area that typically would be monitored for early detection and rapid response activities in noxious weed management. However, over time the vigor of some of the forest's ecosystems probably would be compromised by competition from an increasing number of noxious weeds and other non-native, invasive plant species. To the extent that the projects in Appendix C in this FEIS add additional roads and disturbed areas, the threat of invasive plant species establishing in this area will increase the risk to plant communities across the forest.

Vegetation and Fuels Management

The Fishlake National Forest roads analysis (USDA Forest Service 2003) and the roads supplement for this OHV route designation project address the relationships of motorized access and vegetation management. Other issues related to vegetation are beyond the scope of this analysis and FEIS. As is evident from Table 2-35 showing the percentages of the forest within 0 to 1 mile of a road, all of the alternatives maintain substantial access for vegetation and fuels management. Other issues of vegetation and fuels management are beyond the scope of this analysis and FEIS.

Fire Control

Clearly, routes may need to be used for administrative purposes in connection with fire suppression activities. The motorized routes may provide quicker access but not necessarily an adequate firebreak. Gucinski et al. (2001) and USDA Forest Service (2003) indicate one of the long-held tenets of fire fighting is that improved road access improves the efficiency and effectiveness of fire suppression activities. In contrast, both of these references also state that increased access probably results in more human-caused ignitions, yet the ramifications of this increase differ from location to location. In balance, none of the alternatives in this FEIS will alter our ability to suppress fire. Fire control needs was factored into route designation decisions. As is evident from Table 2-35 showing the percentages of the forest within 0 to 1 mile of a road, all of the alternatives maintain substantial motorized access for fire control while reducing the amount of area and number of routes where motorized users would potentially start a fire. Other issues of fire and fuels are beyond the scope of this analysis and FEIS.

Range Management

Range management needs were accommodated during the route designation process by leaving necessary routes open (either administratively or to the public as well). Horses are often used to access and manage rangelands and rangeland improvements. As is evident from Table 2-35 showing the percentages of the forest within 0 to 1 mile of a road, all of the

alternatives maintain substantial motorized access for range management. Since livestock use occurs off-route, the action alternatives reduce the potential for use conflicts by closing the forest to unrestricted wheeled motorized cross-country travel. Other issues related to range management are beyond the scope of this analysis and FEIS.

Research Naturals Areas (RNA)

Four established RNAs occur on the Fishlake NF: Bullion Canyon, Old Woman Cove, Partridge Mountain, and Upper Fish Creek. With one exception, all designated routes in all of the alternatives are at least a half-mile from the boundaries of the RNAs. Partridge Mountain RNA is the exception. There the routes are closer than a half-mile on the north and south. The designated motorized trail is about 500 feet from the RNA boundary at one point on the east side. However, this RNA has steep terrain where its boundary is well above the motorized trails, generally 300 to 1,000 feet in elevation. Therefore, it is held that none of the OHV route alternatives, including the distance designation corridors for dispersed camping, would have either a direct, indirect, or cumulative effect on resource characteristics of any of the four RNAs on the Fishlake NF. These areas are also closed to winter motorized use on the current travel plan and in the proposed actions.

Microbial contaminant impacts to water quality

This water quality issue relates to organisms such as E. Coli and Fecal Coliform bacteria. Current levels of microbial contaminants in streams and lakes on the forest are not known. Grazing and recreation are the primary sources of concern for this issue. Management under any of the alternatives is not expected to increase the number of or potential for humans, cattle, sheep, or wildlife to defecate in or near stream courses. In fact, the action alternatives substantially reduce route mileage and acreage of open use areas in riparian influence zones in most CEAs, which should reduce the potential for contamination. Therefore, no direct, indirect, or cumulative effects of microbial contaminants to water quality are anticipated.

Radioactive contaminant impacts to water quality

Natural geologic features are usually the primary source of radioactive contaminants; although residual radioactivity from above ground nuclear testing in Nevada may be present in some locations. On the forest, natural sources of these contaminants are known to be more prominent on volcanic geologies than on the sedimentary geologies. Uranium and hard rock mines have brought radioactive substances to the surface in locations such as Indian Creek. The tailings from the Mystery Snifter uranium mine located between the road and the creek are radioactive and are sometimes driven on by ATVs. The Street Legal Only designations in the action alternatives for Indian Creek would reduce the potential harm to humans and/or water quality by restricting the use to full sized vehicles and licensed motorcycles. The No Action alternative would not change the existing risk. The goals of reducing erosion and protecting riparian areas and wetlands using the "Required Design Criteria" and the requirements for protection of historical mines in the FEIS are consistent with preventing or reducing delivery of radioactive contaminants where natural or human related sources are present. Therefore, no significant direct, indirect, or cumulative effects are anticipated.

Decreases in stream base flows

Except for foreseeable actions, no new roads or trails, stream crossings, reservoirs, or diversions would be constructed under any alternative, so slope drainage will not be altered from its present condition. Reducing motorized cross-country travel would further reduce this possibility relative to No Action. The route obliteration associated with the action alternatives would restore natural slope hydrology, which is needed to maintain base flows.

Provided the "Required Design Criteria" are applied, no direct, indirect, or cumulative effects to soil productivity, wetland and riparian area condition, aquatic organisms, or water quality from loss of base flows are expected.

Changes in stream dynamic equilibrium

No substantial change in runoff or sediment regimes is anticipated provided the "Required Design Criteria" are followed (see subsequent analyses). Floodplain connectivity would be restored when obliterating encroaching routes in an action alternative. No Action would retain existing floodplain modifications and would allow further user created encroachments by retaining most of the forest as open to motorized cross-country travel. The action alternatives would decrease the mileage of motorized routes and acres of open use areas within and adjacent to stream channels, riparian areas, lake margins, and wetlands, which would protect riparian and channel conditions. No detectable direct, indirect, or cumulative adverse effects to or from changes in stream condition are likely under any alternative, but especially if an action alternative is chosen.

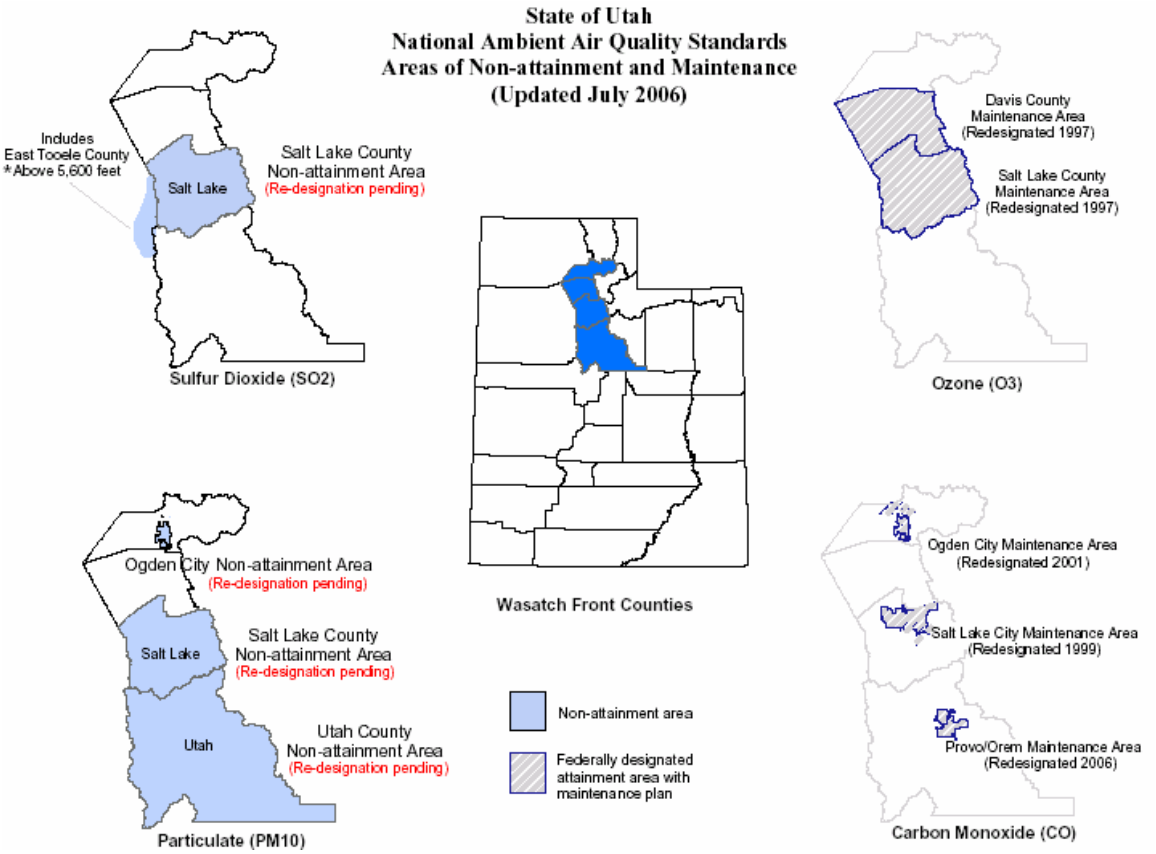
Air Quality

Air pollutant emissions associated with motorized use, which are listed under the Clean Air Act Amendments, National Ambient Air Quality Standards (NAAQS) are identified below. The NAAQS are health-based standards, which serve to limit the concentrations of the following air pollutants:

- Particulates less than 10 microns (PM_{10})
- Sulphur Dioxide (SO_2)
- Oxides of Nitrogen (NO_x)
- Carbon Monoxide (CO)
- Volatile Organic Compounds (VOCs)

When any of these pollutants are above specified levels, which are monitored by the State of Utah Department of Environmental Quality – Division of Air Quality (DAQ), an area is described as non-attainment. Areas where the concentrations are below the specified levels are labeled as attainment areas. Non-attainment areas require that plans be implemented that will eventually cause the area to be in attainment. Attainment areas are controlled through permitting requirements for certain types of emission sources, and general air regulations, which can be expected to keep the area in attainment status. Attainment or non-attainment status is designated by airshed. Airsheds can be defined by county or geographic boundaries. The Fishlake National Forest is in attainment for all NAAQS pollutants as shown on the map below.

In addition to regulations that are designed to protect against NAAQS violations, additional regulations are in place, which limit the degradation of air quality in any area that is attainment for NAAQS. These federal regulations are referred to as Prevention of Significant Deterioration (PSD). PSD regulations address the pollutants' PM_{10}, SO_2, and NO_x. PSD regulations limit the amount of degradation of air quality in attainment areas to one of three levels. The three levels are Class I, Class II, and Class III, described as follows. The Class I designation allows the smallest degradation and is applicable to pristine areas. Class II areas are the most common designation. Areas that do not fall into Class 1 (pristine) nor Class III (heavy industrial) are designated Class II. Industrial areas may be designated as Class III, but this designation does not apply to the forest. All PSD areas in Utah are categorized as either Class I or Class II.



Air quality standards have been set by federal and state regulatory agencies for the regional airshed. Standards for criteria pollutants relevant to the proposed project are monitored by the State and regulated to protect human health and environment. The forest is classified as a Class II-Attainment area under the PSD regulations, Part D, of the 1977 Clean Air Amendments. Attainment status means that current and past ambient air quality sampling indicates that state or federal criteria pollutant standards are satisfied. Class I areas are protected against adverse impacts to air quality related values, such as: visibility, odors, flora and fauna impacts, soil water, geological, and cultural structures. Capital Reef National Park is a Class I-Attainment area located along the southeastern border of the forest.

Based on the Environmental Protection Agency's (EPA) "Envirofacts Warehouse," which is part of the Aerometric Information Resource System (AIRS), there are no major sources within the forest. The closest major sources are the Navaho Power Plant by Page Arizona, the Intermountain Power Station by Delta, and Pacificorp's Huntington and Hunter power plants. Each of the Utah facilities are seeking an expansion of operations. A permit has also been granted by the State DAQ for NEVCO to build a powerplant in the Sevier valley near Sigurd, Utah. The modeling shows expected compliance with Class II increments and does not predict exceedence of the NPS's "Deposition Analysis Thresholds" for nearby areas such as Capitol Reef National Park. Most documented data for air pollutants on or near the forest default to background levels (measured in Utah's pristine areas).

Vehicle traffic on current roads and motorized trails results in emissions of criteria pollutants, primarily particulate emissions resulting from vehicle traffic suspending silt and dust present on native surface roads. Smoke emissions from wild and managed use fires are also another source of emissions that cumulatively impacts air quality. The emissions from wildfire and managed fire are coordinated through the Utah Interagency Smoke Management Program. Cumulative effects analyses are run daily during the burning season before approving

prescribed fires, and wildland fire use ignitions to assure that air quality standards will be met.

Attainment of air quality standards would likely continue under all of the alternatives, particularly the action alternatives that reduce the potential for wind erosion by closing the forest to wheeled motorized cross-country travel, and by reducing the miles of native surfaced motorized routes. Vehicle emissions from forest users are not expected to come even close to approaching the magnitudes or concentrations that have caused seasonal non-attainment along the Wasatch Front. No significant adverse cumulative impacts would be expected under any alternative.

Heritage Resources

Heritage resources, especially prehistoric sites, are vulnerable to motorized trespass because the technology gives the user ready access to areas not formerly open to larger vehicles. Resources previously protected by their remoteness or non-accessibility are now susceptible to artifact collection, digging, vandalism and erosion.

Heritage resources, especially historic sites, are vulnerable to artifact collection, digging, vandalism and erosion because they are both close to designated trails and are highly visible. In Bullion Canyon, artifacts have been collected, structures have been pushed over and burned, an ore train bed has been made into an ATV trail and mine dumps are used as play hills. Prehistoric sites, the majority of which are lithic or ceramic scatters, are considerably less visible and recognizable by the people on fast-moving ATVs. However, they remain vulnerable to people who are collectors and to people who inadvertently camp on these sites.

Many of the historic sites on the forest have been impacted by ATVs to some extent. Because of their visibility and proximity to designated trails (i.e., historic roads) standing structures, milling facilities, abandoned town sites, hard rock gold mines and coal mine sites are particularly vulnerable. Impacts are apparent in the form of ATV trails in, around and through the properties. Mine dumps are also routinely used as “play hills”. The track bed of a *circa* 1870-1900 mule train from the Webster Mine to the Dalton Mill in Bullion Canyon has been brushed and is now a user-developed ATV trail. Less apparent and measurable is the collection of historic artifacts.

Heritage resources are irreplaceable. Archeological sites vulnerable to ATV-related damage must be monitored with any impacts reported to the forest archeologist for review and possible mitigation. Suspects are investigated and cited if appropriate.

Effects on any resource can be positive or negative. With heritage resources, and especially prehistoric sites, the prohibition of cross-country travel is a very positive effect. The prohibition limits the range and mobility of people who would collect or dig historic properties to designated routes plus their physical ability to walk and carry equipment over varying distances and uneven terrain. This action also discourages the establishment of user-designated trails over or through sites.

With designated routes, the preferred distance designation between the trail or road and a heritage resource is 150 feet rather than 300 feet. Table D-4 under the cumulative effects summary illustrates the average distance from the center of heritage resources falling within the 150-foot corridor from designated routes. Prehistoric sites are generally, but not always, obscure to someone on a motorized vehicle. Flakes and small tools, and features like hearths or ash-stained areas, are not readily identifiable and it would defeat the element of obscurity to install fences or signage. If a road is impacting a prehistoric site, and relocation of the road is unlikely then mitigation, as outlined by the NHPA, should be undertaken. Trails are more

easily moved, obliterated and rehabilitated and this should be considered as a mitigative measure if ATVs impact sites.

Historic sites, on the other hand, are the most negatively impacted by ATV traffic because of their visibility and accessibility from designated routes. Damage to these types of heritage resources includes the collection of artifacts, vandalism and the establishment of two-track trails on and around the sites. Because wagon roads that have become modern access routes first accessed historic sites, it is not possible, in most instances, to close motorized routes that pass historic sites.

Mitigation of effects will include, as discussed previously, barriers, fencing and signage. Interpretation of historic properties can also minimize damage by informing the public of a property's importance and place in history. This approach has been used in Bullion Canyon and at the Silver King Mine on Gold Mountain. One can only speculate the fate of a site like the Silver King if it had been perceived only as an old dilapidated property instead of the former home and livelihood of a young married couple living in the wilderness of 19th century Utah.

Encroaching routes within the riparian influence zone are defined in this analysis as roads and trails within 50 feet or 300 feet of heritage resources. Human beings, past, present, and presumably in the future have been and will be drawn to water because of thirst, hunger, comfort, recreation or as a source of power for industry. Many prehistoric and historic sites are found on stream terraces, lake margins, and around wetlands. Therefore, the adverse hydrologic conditions caused by motorized vehicles must be considered.

Routes within 300 feet of stream channels, lakes, and wetlands are considered to be within the "riparian influence zone". In addition to being a mechanism of disturbance, encroaching and riparian roads and trails are also instrumental in providing access to and concentrating use within riparian areas and streams by livestock and humans. This is especially true in areas that are open to snow free motorized cross-country travel such as what occurs around and between undeveloped dispersed campsites. More concentrated use can result in the trampling or erosion and intentional vandalism of heritage resources.

Changes in route mileages and open use areas within riparian areas and near water are indicated in the watershed write-up in Tables 3-7, 3-8, 3-9, and 3-17 in Chapter 3. The action alternatives reduce riparian routes in most areas on the forest, which would benefit protection of heritage resources.

All routes considered in the OHV Route Designation Project currently exist and are being used to varying degrees. As such, the impacts to the various resources described in the FEIS are already occurring. Rather than create new effects, the proposed actions encourage the maintenance and reduction of existing impacts associated with the route network and motorized use. Closing the forest to motorized cross-country travel will have the effect of reducing the potential for direct and indirect off-route interactions and impacts with other land uses. By definition, this will have the effect of reducing actual and potential cumulative impacts to nearly all resource values and uses on the forest. Table D-4 reflects the number of significant archeological sites areas within open use and dispersed camping distance designations. The number of sites in Table D-4 would decrease further as distance designations are either dropped or replaced by designated routes to campsites.

Table D-4. Number of heritage sites within open use areas and distance designations for dispersed camping.

Time Period	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Historic	32	19	16	12	15
Prehistoric	379	167	113	86	109
Multi (Prehistoric & Historic)	9	6	4	3	4
Total	420	192	133	101	128

Table D-5 shows the acres of eligible sites by alternative. This is even more graphic than Table D-4 data, especially compared to the existing condition. The number of sites in Table D-5 will decrease further as distance designations are either dropped or replaced by designated routes to campsites.

Table D-5. Number of eligible heritage sites within open use areas and distance designations for dispersed camping.

Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
855	245	137	86	133

As expected, the No Action alternative has the largest number of designated routes and open areas close to archeological sites. Of the action alternatives, Alternative 4 has the fewest number of ATV routes and open areas close to archeological sites. As a general statement, all of the action alternatives reduce the actual and potential impacts to the riparian influence zone (i.e., high probability area for archeological sites) and prohibit cross-country travel. This is a plus for heritage resources.

Socio-economic Impacts

The Fishlake National Forest recognizes that recreation plays an important role in local economies (Kocis et al. 2003, Utah Office of Planning and Budget 2003, Fisher et al. 2002, Reid 2004b). With the exception of Alternative 4, the action alternatives do not appreciably affect the capacity of the motorized network (see Table 2-35), nor do they significantly alter the core trail systems such as the Paiute ATV trail or the Great Western Trail. The non-motorized trail system would be enhanced by the action alternatives. None of the alternatives eliminate public access between communities and National Forest System lands. The action alternatives increase the likelihood for sustaining motorized and non-motorized recreation in the long-term by assuring that environmental protection requirements are met.

It is not possible to quantify how the combined site-specific changes to the motorized or non-motorized travel plan in any alternative will alter public expectations and uses or influence economic returns. Any such attempt would be highly speculative. The public comments for this and previous projects offer a sample of opinions from people and groups with a vested interest in socio-economic and environmental costs associated with motorized and non-motorized recreation (see project file). The Roads Analysis supplement contains references that provide information about the socio-economic significance of recreation on the Fishlake National Forest. These sources of information are incorporated by reference. The DEIS response to comments are also incorporated by reference.

Costs to amenity values and uses are not easily valued monetarily. However, reducing environmental impacts, and reducing motorized impacts to non-motorized recreation would reduce amenity costs and should add to the value of benefits. Adaptive management will be used in all alternatives to address adverse socio-economic / amenity value impacts if unintended or unforeseen consequences arise. Therefore, no adverse cumulative impacts would be anticipated under any alternative.

Appendix E

Detailed Changes Resulting from the Action Alternatives

Miles of changes in route type, authorization, and designation.

C Road = Forest Road | U Road = Unauthorized Road | NM Trail = non-motorized trail
C Trail = Forest Trail | U Trail = Unauthorized Trail | State/Fed/Co = other jurisdiction

From [Alt. 1]	To →	Alt. 2	Alt. 3	Alt. 4	Alt. 5
C Road/Administrative Use Only	C Road/Administrative Use Only	23.4	22.4	22.4	21.9
C Road/Administrative Use Only	U Road/Obliterate	0.0	1.0	1.0	1.4
C Road/Open Seasonally	C Road/Administrative Use Only	1.0	0.6	0.6	0.1
C Road/Open Seasonally	C Road/Open Seasonally	73.2	73.5	73.4	78.0
C Road/Open Seasonally	C Road/Open Yearlong	42.4	42.3	42.3	38.6
C Road/Open Seasonally	C Trail/NM Trail	0.0	0.3	0.3	0.3
C Road/Open Seasonally	C Trail/Open Seasonally	0.7	0.5	0.5	0.5
C Road/Open Seasonally	U Road/Obliterate	2.9	3.0	3.0	2.7
C Road/Open Yearlong	C Road/Administrative Use Only	4.7	6.2	6.6	8.2
C Road/Open Yearlong	C Road/Open Seasonally	140.1	131.0	131.0	140.0
C Road/Open Yearlong	C Road/Open Yearlong	1235.1	1239.1	1241.2	1207.1
C Road/Open Yearlong	C Road/Street Legal Only	39.8	39.4	39.4	26.2
C Road/Open Yearlong	C Trail/NM Trail	8.6	9.9	9.9	7.6
C Road/Open Yearlong	C Trail/Open Seasonally	2.7	2.0	2.0	2.0
C Road/Open Yearlong	C Trail/Open Yearlong	18.1	18.6	13.2	39.0
C Road/Open Yearlong	U Road/Obliterate	29.3	32.1	35.1	48.3
C Road/Street Legal Only	C Road/Open Seasonally	0.0	0.0	0.0	0.4
C Road/Street Legal Only	C Road/Open Yearlong	10.6	10.6	10.6	10.8
C Road/Street Legal Only	C Road/Street Legal Only	48.8	48.8	48.8	48.2
C Road/Street Legal Only	C Trail/NM Trail	0.3	0.3	0.3	0.3
C Road/Undesignated Closed	C Road/Administrative Use Only	1.7	1.4	1.4	2.2
C Road/Undesignated Closed	C Road/Open Seasonally	2.8	4.0	4.0	3.5
C Road/Undesignated Closed	C Road/Open Yearlong	25.2	25.5	25.5	25.9
C Road/Undesignated Closed	C Road/Street Legal Only	5.1	3.9	3.9	4.0
C Road/Undesignated Closed	C Trail/NM Trail	1.9	2.7	2.7	3.6
C Road/Undesignated Closed	U Road/Obliterate	13.5	12.7	12.7	10.9
C Trail/NM Trail	C Trail/Administrative Use Only	1.1	1.1	1.1	1.1
C Trail/NM Trail	C Trail/NM Trail	886.2	860.9	882.8	856.1
C Trail/NM Trail	C Trail/Open Seasonally	4.5	5.0	0.0	5.0
C Trail/NM Trail	C Trail/Open Yearlong	0.0	19.0	2.0	21.6
C Trail/NM Trail	U Trail/Obliterate	0.1	6.0	6.0	8.2
C Trail/Open Seasonally	C Trail/NM Trail	0.0	0.0	11.6	0.0
C Trail/Open Seasonally	C Trail/Open Seasonally	11.0	11.0	3.6	11.0
C Trail/Open Seasonally	C Trail/Open Yearlong	5.7	5.7	0.0	4.2
C Trail/Open Seasonally	U Trail/Obliterate	0.0	0.0	1.6	1.5
C Trail/Open Yearlong	C Road/Open Yearlong	1.3	1.3	1.3	1.6
C Trail/Open Yearlong	C Trail/Administrative Use Only	0.0	0.0	1.7	0.0
C Trail/Open Yearlong	C Trail/NM Trail	9.3	14.7	132.7	11.2
C Trail/Open Yearlong	C Trail/Open Seasonally	24.7	15.2	6.7	17.7
C Trail/Open Yearlong	C Trail/Open Yearlong	268.0	272.1	155.3	265.4
C Trail/Open Yearlong	U Trail/Obliterate	0.4	0.4	5.9	7.7
C Trail/Undesignated Closed	C Trail/NM Trail	0.0	0.0	8.0	0.0
C Trail/Undesignated Closed	C Trail/Open Yearlong	9.3	9.3	0.0	9.7
C Trail/Undesignated Closed	U Trail/Obliterate	0.6	0.6	1.9	0.2
State/Fed/Co/Open Seasonally	State/Fed/Co/Open Seasonally	1.1	1.1	1.1	1.1
State/Fed/Co/Open Yearlong	State/Fed/Co/Open Seasonally	2.8	2.8	2.8	2.4
State/Fed/Co/Open Yearlong	State/Fed/Co/Open Yearlong	72.0	70.9	70.9	62.7

Miles of changes in route type, authorization, and designation.

C Road = Forest Road | U Road = Unauthorized Road | NM Trail = non-motorized trail
C Trail = Forest Trail | U Trail = Unauthorized Trail | State/Fed/Co = other jurisdiction

From [Alt. 1]	To →	Alt. 2	Alt. 3	Alt. 4	Alt. 5
State/Fed/Co/Open Yearlong	State/Fed/Co/Street Legal Only	0.0	1.1	1.1	9.8
State/Fed/Co/Street Legal Only	State/Fed/Co/Open Yearlong	1.3	1.3	1.3	1.3
State/Fed/Co/Street Legal Only	State/Fed/Co/Street Legal Only	162.4	162.4	162.4	162.4
U Road/Administrative Use Only	C Road/Administrative Use Only	6.2	6.2	6.2	6.2
U Road/Open Seasonally	C Road/Administrative Use Only	0.0	0.2	0.0	0.7
U Road/Open Seasonally	C Road/Open Seasonally	25.7	25.3	0.4	30.5
U Road/Open Seasonally	C Road/Open Yearlong	13.2	11.6	1.8	14.9
U Road/Open Seasonally	C Trail/NM Trail	0.0	0.0	2.6	0.0
U Road/Open Seasonally	C Trail/Open Yearlong	0.0	0.8	0.0	0.8
U Road/Open Seasonally	U Road/Obliterate	60.0	61.1	94.0	52.1
U Road/Open Yearlong	C Road/Open Yearlong	2.3	2.3	2.3	2.3
U Road/Street Legal Only	C Road/Administrative Use Only	1.1	1.1	1.1	1.1
U Road/Street Legal Only	C Road/Open Yearlong	0.2	0.2	0.2	0.2
U Road/Street Legal Only	C Road/Street Legal Only	0.5	0.5	0.5	0.5
U Road/Undesignated Closed	C Road/Administrative Use Only	11.3	2.8	4.7	9.3
U Road/Undesignated Closed	C Road/Open Seasonally	6.0	6.5	0.0	4.6
U Road/Undesignated Closed	C Road/Open Yearlong	20.6	36.0	2.1	48.2
U Road/Undesignated Closed	C Road/Street Legal Only	3.6	3.7	0.5	4.9
U Road/Undesignated Closed	C Trail/Gated Closed	0.0	0.0	0.0	2.2
U Road/Undesignated Closed	C Trail/NM Trail	1.5	1.5	3.7	1.8
U Road/Undesignated Closed	C Trail/Open Yearlong	0.4	1.1	0.0	0.8
U Road/Undesignated Closed	U Road/Administrative Use Only	0.0	0.2	0.2	0.2
U Road/Undesignated Closed	U Road/Obliterate	57.1	48.9	89.5	28.7
U Road/Undesignated Closed	U Road/Street Legal Only	0.2	0.0	0.0	0.0
U Road/Undesignated Open	C Road/Administrative Use Only	1.8	0.4	4.2	9.3
U Road/Undesignated Open	C Road/Open Seasonally	23.0	28.4	2.9	43.2
U Road/Undesignated Open	C Road/Open Yearlong	119.3	107.4	5.3	138.4
U Road/Undesignated Open	C Road/Street Legal Only	8.5	8.5	1.3	7.7
U Road/Undesignated Open	C Trail/NM Trail	1.6	1.6	10.5	2.5
U Road/Undesignated Open	C Trail/Open Seasonally	0.0	0.6	0.0	0.3
U Road/Undesignated Open	C Trail/Open Yearlong	8.7	7.3	0.8	8.7
U Road/Undesignated Open	U Road/Administrative Use Only	0.0	0.2	0.2	0.2
U Road/Undesignated Open	U Road/Obliterate	181.4	190.2	319.4	134.4
U Road/Undesignated Open	U Road/Street Legal Only	0.2	0.0	0.0	0.0
U Trail/NM Trail	C Road/Open Yearlong	0.0	0.0	0.0	0.1
U Trail/NM Trail	C Trail/Administrative Use Only	1.9	1.9	1.9	1.9
U Trail/NM Trail	C Trail/NM Trail	98.4	100.3	102.4	99.8
U Trail/NM Trail	C Trail/Open Seasonally	0.0	0.3	0.0	0.2
U Trail/NM Trail	C Trail/Open Yearlong	3.2	4.4	0.0	4.4
U Trail/NM Trail	U Trail/Obliterate	24.5	21.1	23.8	21.6
U Trail/NM Trail	C Trail/Gated Closed	0.0	0.0	0.0	0.6
U Trail/Open Seasonally	C Trail/NM Trail	0.0	0.2	4.7	0.2
U Trail/Open Seasonally	C Trail/Open Seasonally	25.6	23.9	0.0	26.7
U Trail/Open Seasonally	C Trail/Open Yearlong	2.8	2.4	0.0	2.6
U Trail/Open Seasonally	U Trail/Obliterate	63.4	65.2	87.1	61.7
U Trail/Undesignated Closed	C Road/Open Yearlong	0.0	0.0	0.0	0.7
U Trail/Undesignated Closed	C Road/Street Legal Only	0.0	0.2	0.2	0.0
U Trail/Undesignated Closed	C Trail/Administrative Use Only	1.5	1.6	2.3	6.0
U Trail/Undesignated Closed	C Trail/NM Trail	7.4	9.8	22.9	7.3
U Trail/Undesignated Closed	C Trail/Open Seasonally	16.6	19.3	0.0	17.7
U Trail/Undesignated Closed	C Trail/Open Yearlong	22.1	25.9	0.5	33.0
U Trail/Undesignated Closed	U Trail/Obliterate	125.0	115.8	146.7	107.9
U Trail/Undesignated Open	U Trail/Open Seasonally	0.0	0.0	0.0	0.6

Miles of changes in route type, authorization, and designation.

C Road = Forest Road U Road = Unauthorized Road NM Trail = non-motorized trail
C Trail = Forest Trail U Trail = Unauthorized Trail State/Fed/Co = other jurisdiction

From [Alt. 1]	To →	Alt. 2	Alt. 3	Alt. 4	Alt. 5
U Trail/Undesignated Open	C Road/Open Yearlong	0.0	1.2	0.0	1.3
U Trail/Undesignated Open	C Road/Street Legal Only	0.3	0.0	0.0	0.0
U Trail/Undesignated Open	C Trail/Administrative Use Only	0.3	1.4	1.4	7.2
U Trail/Undesignated Open	C Trail/NM Trail	7.9	10.6	39.6	11.5
U Trail/Undesignated Open	C Trail/Open Seasonally	29.7	30.3	2.1	38.2
U Trail/Undesignated Open	C Trail/Open Yearlong	89.7	97.9	0.8	108.4
U Trail/Undesignated Open	U Trail/Obliterate	288.5	275.1	375.8	250.6
U Trail/Undesignated Open	U Trail/Open Yearlong	3.4	3.4	0.0	1.9

Appendix F

Comparison of select OHV policies for Forest Service, BLM, and State Lands in Utah

Administrative Unit	Open Route Policy	Cross-Country Travel Policy	Explicit Cross-Country Travel Exemptions and Designations	Seasonal Closures
Ashley National Forest	Areas and routes are closed unless designated open on the travel map or on pre-existing routes in areas that were open prior to the Emergency Closure Order. Wilderness and RNAs are closed to all motorized use.	No portion of the forest is open to motorized cross-country travel. Emergency Order closed the forest to motorized cross-country travel.	Travel permitted up to 300 feet from designated routes for temporary camps, firewood by permit, and to retrieve legally taken big game (on Vernal and Flaming Gorge Districts only).	Some routes gated closed on the ground seasonally or yearlong.
Dixie National Forest	Implied and explicit designation of specific routes. Routes designated by area restrictions such as Open, Limited, and Closed on the travel map or as signed on the ground for a given route. Map uses 3 sub-classes of limited restrictions (L1, L2, and L3). Wilderness and RNAs are closed to all motorized use.	61% of the forest open to motorized cross-country travel seasonally or yearlong.	Travel permitted up to 150 feet from designated roads for entry & exit to temporary camps and gathering of forest products by permit. Allow motorized cross-country travel within the specifications of a permit or contract.	None shown on the travel map. Some routes gated closed on the ground seasonally or yearlong.
Fishlake National Forest	Implied and explicit designation of specific routes. Routes designated by area restrictions such as Open, Limited, and Closed on the travel map or as signed on the ground for a given route. RNAs are closed to all motorized use.	Over 62% of the forest open to motorized cross-country travel seasonally or yearlong.	Travel permitted up to 300 feet from designated roads for entry & exit to temporary camps, fuelwood gathering by permit. Allow motorized cross-country travel within the specifications of a permit or contract.	Closed from Jan. 1 to March 31 in mule deer winter range. Some routes gated closed on the ground seasonally or yearlong.
Manti-LaSal National Forest	Travel restricted to open roads and trails shown on the travel map. Wilderness and RNAs are closed to all motorized use.	Roughly 40,000 acres are open to motorized cross-country travel. The remainder of the forest is closed to motorized cross-country travel.	Travel permitted up to 150 feet from designated roads for entry & exit to temporary camps. Allow motorized cross-country travel within the specifications of a permit or contract.	Dec. 1 to April 15 Some routes gated closed on the ground seasonally or yearlong.

Administrative Unit	Open Route Policy	Cross-Country Travel Policy	Explicit Cross-Country Travel Exemptions and Designations	Seasonal Closures
Uinta National Forest	Routes and areas on the forest are closed to motorized use unless designated open on the travel plan, or posted open on the ground.	No portion of the forest is open to motorized cross-country travel.	Entry and exit from undeveloped camps or picnicking areas is allowed within 150 of a designated forest development road or trail unless that area is posted closed to camping and/or picnicking. Exercising the provisions of a valid permit to use forest products in designated areas.	Closed from May 15 to June 15 for elk calving. Have a couple of roads only open during hunting season Oct. 1 to Oct. 16. Some routes gated closed on the ground seasonally or yearlong.
Wasatch-Cache National Forest	Travel restricted to designated routes only as shown on the travel map. Wilderness and RNAs are closed to all motorized use.	No portion of the forest is open to motorized cross-country travel.	Travel up to 300 feet from designated routes for temporary camps on the Evanston / Mountain View District (but not listed in travel order). Ogden and Logan districts permit travel up to 150 feet from designated routes except is prohibited in 3 areas identified on the travel order and if access requires crossing a stream. Kamas and Salt Lake District have no provisions that permit dispersed camping. All districts allow motorized cross-country travel within the specifications of a permit or contract.	Numerous seasonal restrictions such as open April 2 to Nov. 1 for some off-highway motorcycle routes, open July 1 to Oct. 15 for some street legal only roads, open June 15 to Sept. 6 for some ATV and 4WD routes, and gated closed from March 1 or May 1 to June 14th or 15th for big game calving areas. Other seasonal dates include open April 1 or July 1 to Nov. 1
Cedar City BLM	Routes designated by Open and Limited area restrictions. They have no Closed restrictions in current plan except for Wilderness Study Areas (WSA). The limited category includes seasonal and yearlong restrictions. The limited category allows travel on existing roads and trails.	Nearly the entire field office is open to motorized cross-country travel yearlong. Seasonally restricted areas are unrestricted outside of the designated period of closure.	No limit for dispersed camping or fuelwood gathering except in WSAs, which are restricted to inventoried routes.	Seasonal area restriction for sage grouse grounds, golden eagle nesting sites, crucial deer winter range from March 15 to May 1.

Administrative Unit	Open Route Policy	Cross-Country Travel Policy	Explicit Cross-Country Travel Exemptions and Designations	Seasonal Closures
Fillmore BLM	Sheep Rock/Tinic area is limited to existing routes only. The rest of the Field Office is unrestricted except in WSAs, which are limited to inventoried routes.	About 85-90 percent of the field office is open to motorized cross-country travel yearlong.	150 feet to previously disturbed sites from road or trail	None
Moab BLM	Routes designated by area restrictions such as Open, Limited, and Closed on the travel map or as signed on the ground for a given route. The limited designation includes a travel on designated routes only category and a travel on existing routes only category. WSAs are closed to all motorized travel except on inventoried routes.	About 34 percent of the field office is currently open to motorized cross-country travel yearlong.	Dispersed camping or fuelwood gathering from existing routes only unless in an open area. WSAs are restricted to inventoried routes.	None
Richfield BLM	Routes designated by area restrictions such as Open, Limited, and Closed on the travel map or as signed on the ground for a given route. The limited designation includes a travel on designated routes only category and a travel on existing routes only category. WSAs are closed to all motorized travel except on inventoried routes.	80 - 85 percent of the field office is open to motorized cross-country travel yearlong.	No limit for dispersed camping or fuelwood gathering except in WSAs, which are restricted to inventoried routes.	None

Administrative Unit	Open Route Policy	Cross-Country Travel Policy	Explicit Cross-Country Travel Exemptions and Designations	Seasonal Closures
Salt Lake City BLM	Routes designated by area restrictions such as Open, Limited, and Closed on the travel map or as signed on the ground. The limited designation includes a travel on designated routes only category and a travel on existing routes only category. Toelle county has RMP amendment Box Elder Co. Emergency closure to create limited designated. Rest open to existing roads and trails	About 49 percent of the field office is open to motorized cross-country travel yearlong.	No limit for dispersed camping or fuelwood gathering except in WSAs, which are restricted to inventoried routes.	Dec. 1 to April 15 for big game winter range
Capitol Reef National Park	Unlicensed OHVs are prohibited in the Park. Licensed motorized vehicles are restricted to designated routes.	Motorized cross-country travel is prohibited yearlong.	None	None
Utah SITLA, State Parks, and Division of Wildlife Resources	State lands are closed unless designated open. Each agency handles differently. SITLA and DWR allow motorized travel on existing roads. State Parks are closed unless designated for motorized use.	SITLA and DWR lands are closed to motorized cross-country travel. State Parks are closed to motorized cross-country travel except on designated sand dunes and some small parcels with unique uses.	SITLA has no special provisions for dispersed camping and fuelwood gathering occurs on a permitted basis. Generally, there is no dispersed camping or fuelwood gathering at state parks. DWR lands allow dispersed camping on some lands and not others, but has no explicit exemption permitting motorized cross-country travel.	SITLA and State Parks have some seasonal closures, primarily to protect roads during wet conditions. DWR has seasonal closures for big game winter range during fawning and calving seasons that usually run from Dec. 1 to May 1.

Appendix G

Maps and descriptions of proposed non-significant Forest Plan Amendment

A non-significant Forest Plan amendment is needed for two reasons: to fix existing errors in the mapping of Management Area 3A (MA 3A), and to be consistent with proposed route designations associated with Alternative 5. Management areas were hand drawn in 1986 on 1:126,720 scale maps (1 inch = 2 miles) and were visually transferred to 1:24,000 scale mapping (2.64 inches = 1 mile) years later. It is possible that differences in map resolution, translation between scales, or human errors explain or partially explain the mapping inconsistencies. This amendment would correct these errors and would ensure that the proposed actions are consistent with the 1986 Forest Plan. The concept of management areas was not brought forward into the revised planning regulations published in 2006; however, management direction in the revised Forest Plan is similar in most cases. The Forest Planning team has reviewed this amendment to ensure that it does not conflict with the revised plan in its current draft state, acknowledging that plan components are subject to change until finalized. Following is the description of MA 3A from the 1986 plan:

> Management emphasis is for nonmotorized recreation outside of wilderness. Recreation opportunities such as hiking, horseback riding, hunting and cross-country skiing are available. Seasonal or permanent restrictions on human use may be applied to provide seclusion for wildlife such as nesting for raptorial birds, big game rearing areas, and mammals (mountain lion, elk) with large home ranges. Visual resources are managed so that management activities are not visually evident or remain visually subordinate.
>
> Investments in compatible resource uses such as livestock grazing and mineral exploration and development occur; but roads are closed to publics use. Commercial and noncommercial tree harvest occur. The harvest method by forest cover type is clearcutting in aspen, shelterwood in ponderosa pine, Engelmann spruce-subalpine fir, and mixed conifers.

Management area descriptions for 1A, 2B, 4B, 6B, and 7A are available in the Forest Plan. Each of these management areas would increase in acreage because of areas being moved from MA 3A. Table G-1 shows a summary of the proposed 3A management area changes on the forest.

Table G-1. Summary of Proposed 3A Management Area Changes

Route Designation Number	Route Miles	District	Acres Affected	Existing MA	Amended MA
430	0.15	Fillmore	1.32	3A	6B
tr_087	0.07	Fillmore	0.65	3A	4B
xt_148	0.34	Fillmore	2.9	3A	6B
xt_020_	0.39	Fremont River	3.32	3A	6B
143	0.39	Fremont River	3.49	3A	1A
Highway 24	0.78	Fremont River	46.27	3A	2B
1059	0.65	Beaver	53.26	3A	7A
Forest Totals	**2.77**		**111.21**		

Table G-2 lists the current and proposed route designations by alternative. An Alternative 1 designation of "undesignated closed" is considered to be a mapping error on the existing travel

plan when the route was part of the route network in 1986, and is still part of the authorized route network. These route segments are not shown as open on the current travel plan because of the same errors and mapping limitations that lead to the need for the MA 3A amendment.

Table G-2. Summary of associated route designation changes.

Route Designation Number	FROM	TO			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
430	Authorized Road/Undesignated Closed	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong
tr_087	Authorized Trail/Undesignated Closed	Authorized Trail/Open Yearlong	Authorized Trail/Open Yearlong	Authorized Trail/NM Trail	Authorized Trail/Open Yearlong
xt_148	Unauthorized Trail/Undesignated Closed	Authorized Trail/Gated Closed	Authorized Trail/Gated Closed	Authorized Trail/Gated Closed	Authorized Trail/Open Yearlong
xt_020	Unauthorized Trail/Undesignated Closed	Authorized Trail/NM Trail	Authorized Trail/NM Trail	Authorized Trail/NM Trail	Authorized Trail/Open Yearlong
143	Authorized Road/Street Legal Only	Authorized Road/Street Legal Only	Authorized Road/Street Legal Only	Authorized Road/Street Legal Only	Authorized Road/Street Legal Only
Highway 24	State Highway/Street Legal Only	State Highway/Street Legal Only	State Highway/Street Legal Only	State Highway/Street Legal Only	State Highway/Street Legal Only
1059 & 1060	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong	Authorized Road/Open Yearlong

Figure G-1 displays boundary changes for the three motorized routes located on the Canyon Range on the Fillmore Ranger District. The northern two routes (430 and tr_087) and possibly the one up John Williams Canyon (xt_148) are likely mapping errors resulting from map scale and resolution differences. The routes existed and were in use prior to development of the Forest Plan and it appears that the intent of the 1986 lines was to run the boundary along the end of the routes. Road 430 provides access to a spring that is used for the range allotment. tr_087 provides access to a non-motorized trail system. The forest discovered through this evaluation process that the northern 3A area had not been attributed in the GIS previously so it did not show up in past queries, but it is shown on the 1986 paper map. A 33-foot wide buffer is used on each side of the route to delineate the area that would be removed from MA 3A. A “cherry-stem” was deemed more appropriate for these cases because reshaping the line along these routes would take out more acreage and could appear arbitrary since there are not logical physical features to follow. The northern MA 3A boundary adjustments would reduce the existing acreage of the area from 3,547 to 3,545. The southern MA 3A boundary adjustments would reduce the existing acreage of the area from 5,581 to 5,578. xt_148 provides access to a spring development that is under Special Use Permit. The route existed when the Forest Plan was developed, but unfortunately, the full length was not mapped in the travel atlas, which is why it currently shows up as unauthorized.

Figure G-2 shows routes xt_020 and 143. xt_020 was built in 1895 to provide access to the Bicknell water system, which is under Special Use Permit. For an unknown reason this route was never added to the list of system routes in the travel atlas. It has been used as a motorized route for as long as there have been motorized vehicles that could traverse it. The route is in a "C"

closure area on the current travel plan, which is closed to all motorized use. The motorized use to maintain the city water system is authorized and appropriate. Unfortunately, the closure to motorized recreation, which is inappropriate in MA 3A, has not been historically enforced. Alternatives 2, 3, and 4 propose to close this route with a gate to allow Bicknell access to their water system, but to prevent other motorized use within MA 3A. In Alternative 5, the gate location is moved south within MA 3A so that the gate is in a defensible location and to allow motorized users the opportunity to view the area we call "Little Bryce." The route offers spectacular vistas.

Road 143 provides access to the Sunglow Campground, a developed recreation site that was in existence prior to 1986. Presumably, the 1986 Forest Planners included this route in the 3A boundary by error or because the mapping technology could not display a narrow corridor. Similarly, Highway 24 in Figure G-3 isolates a sliver of National Forest System lands that either may have been easier to ignore than to map at 1:126,720 scale, or was an error.

A "cherry-stem" was deemed more appropriate for xt_020 and 143 because reshaping the line would take out more acreage and could appear arbitrary since there are not logical features to follow. Routes xt_020 and 143 would reduce MA 3A from 8,285 acres to 8,278 acres. The sliver isolated by State Highway 24 would be removed from the existing 11,643 acres of 3A resulting in 11,596 acres remaining.

Figure G-4 displays Forest Roads 1059 and 1060 that are designated as open on the current travel plan even though they are located in MA 3A. This is an error based on how the 1986 Forest Plan defines this management area. The correction requires moving the MA 3A boundary to the east side of roads 1059 and 1060. This boundary change reduces the MA 3A boundary from 9,988 acres to 9,935 acres.

The environmental impacts from the existing and proposed route designations have been considered in the cumulative effects analysis conducted for the Fishlake OHV Route Designation Project. No identified issues or concerns indicate that a significant Forest Plan amendment is needed. Therefore, the proposed changes will be addressed through a non-significant Forest Plan amendment.

Figure G-1. Fillmore Ranger District Management Area 3A Proposed Amendments.

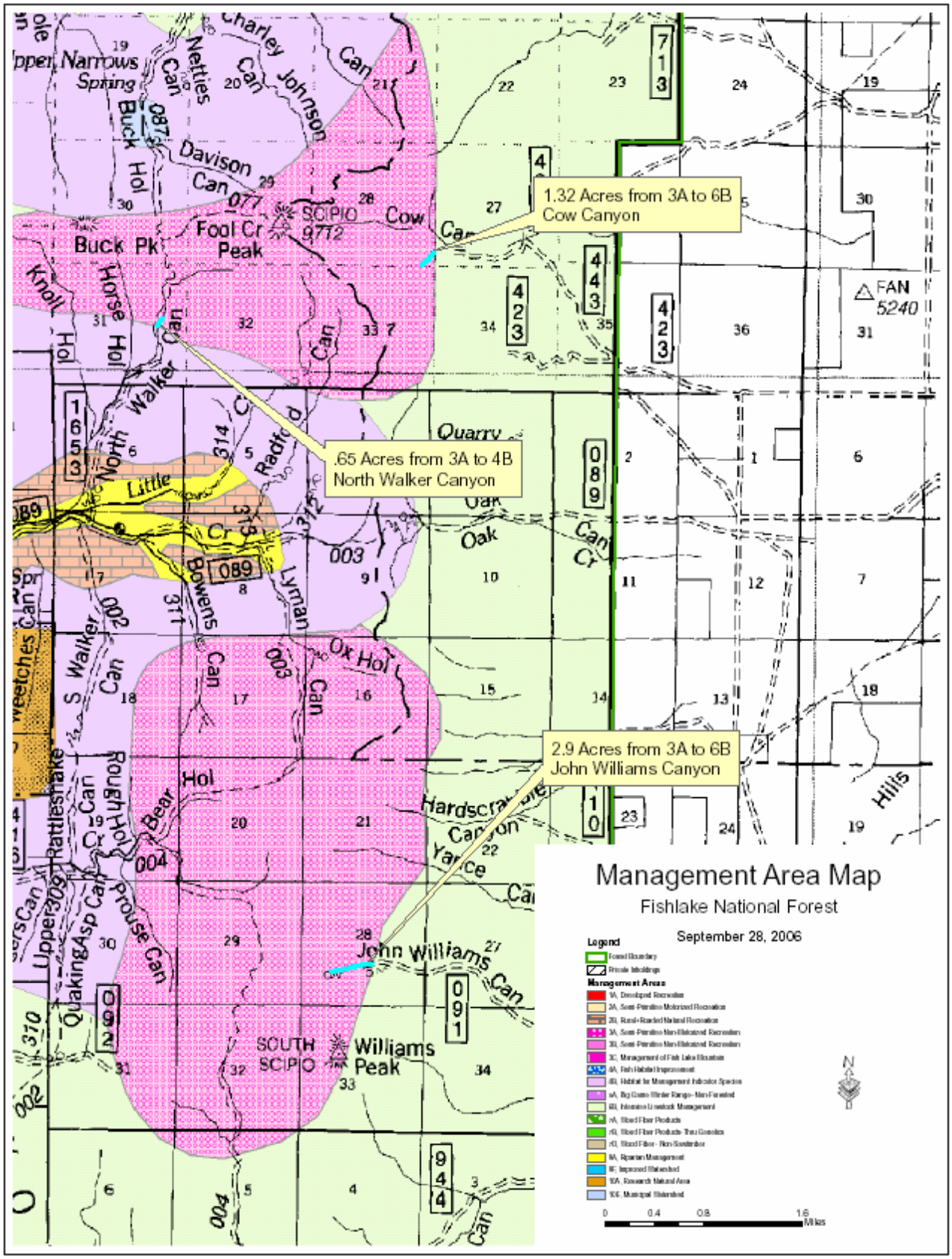


Figure G-2. Fremont River Ranger District Management Area 3A Proposed Amendments

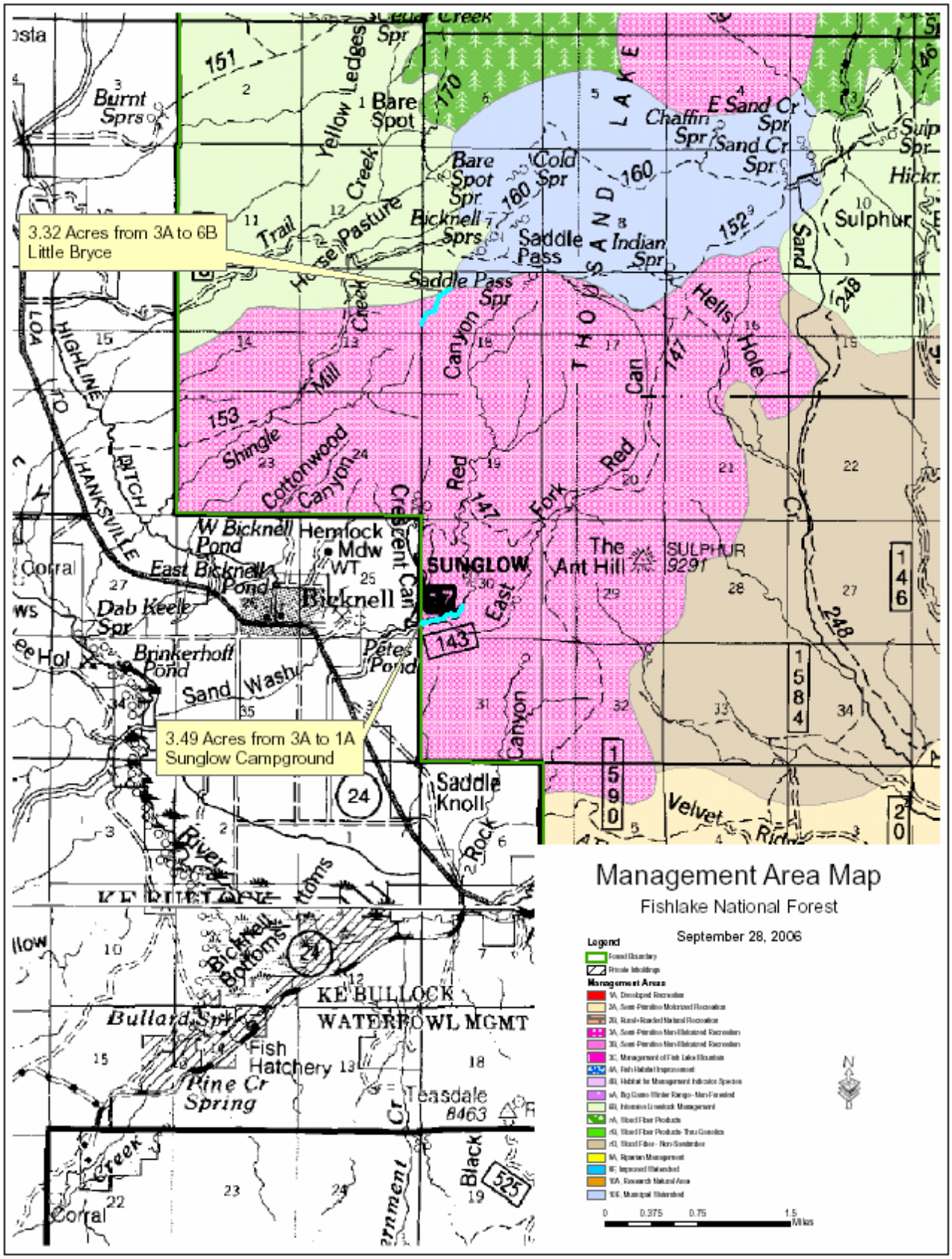


Figure G-3. Fremont River Ranger District Management Area 3A Proposed Amendments

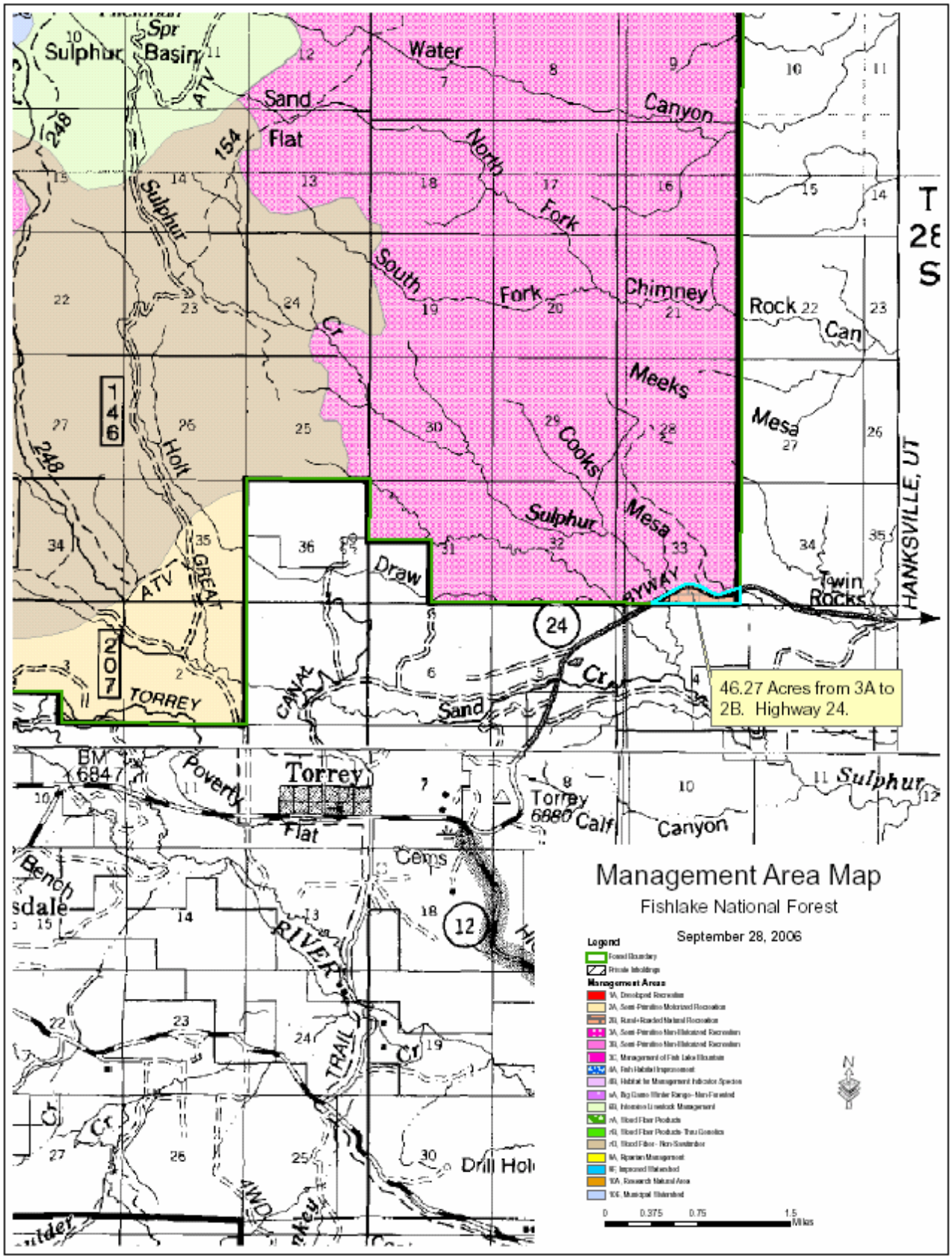


Figure G-4. Beaver Ranger District Management Area 3A Proposed Amendments