

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

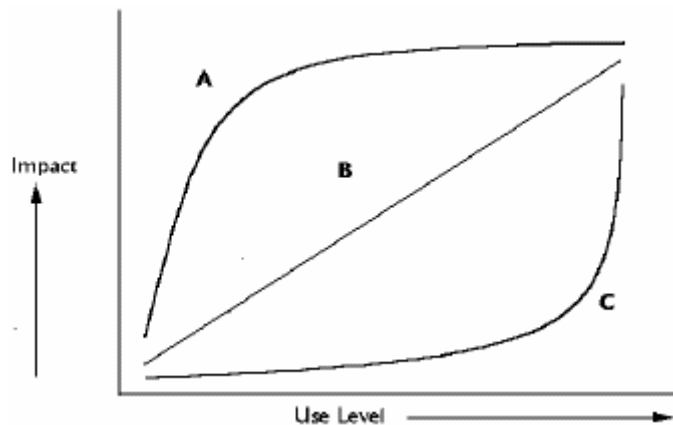
The analysis area includes all National Forest System lands of the Fishlake National Forest. The environmental setting of the analysis area is described in the current Forest Plan, and in current revision documents. Many resource values and experiences are provided and sought after. Numerous recreational 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 enforceability 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 indicators 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 decrease 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/mile²)	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.

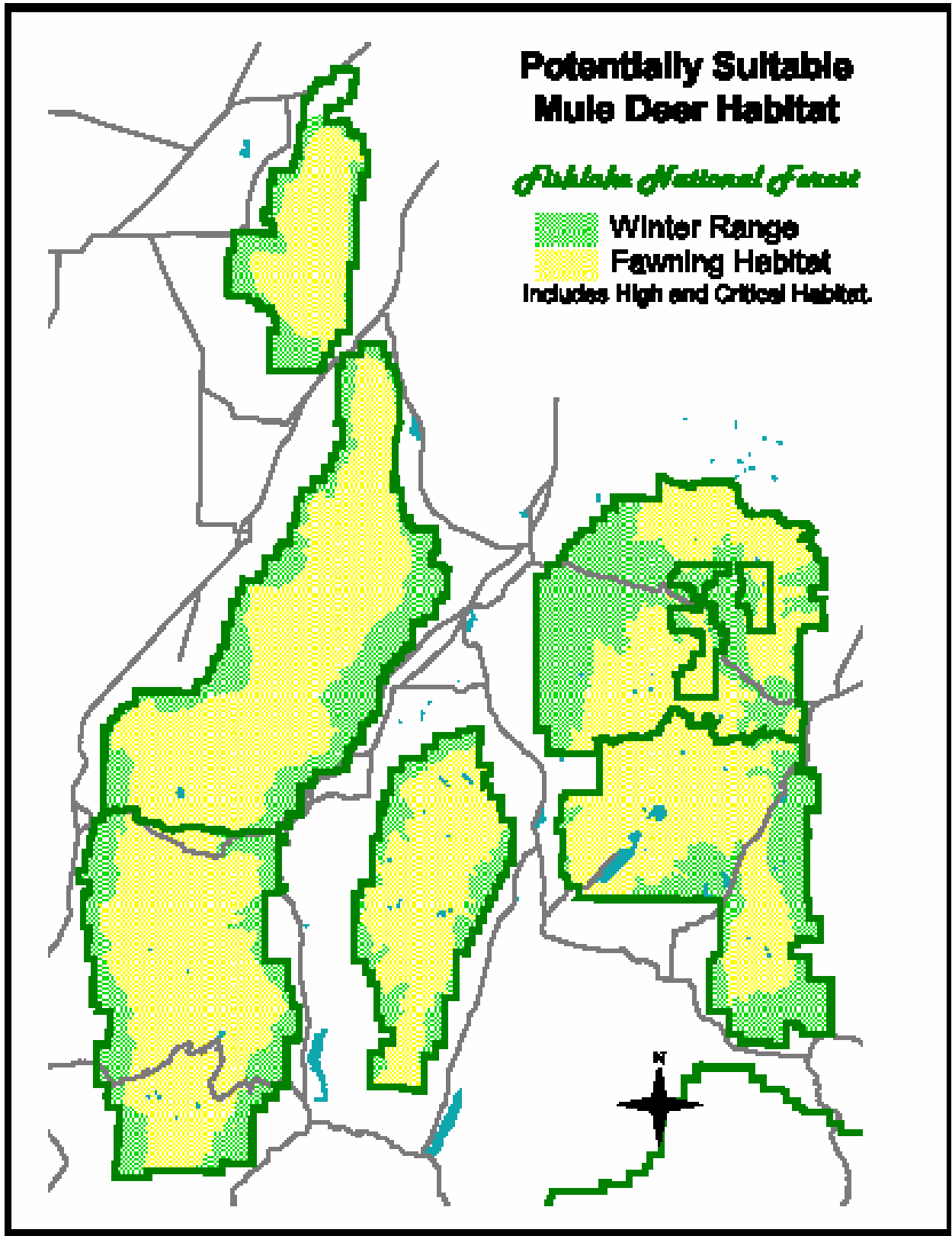


Table 3-3 compares deer winter habitat on the Fishlake Forest by Ranger District and GA showing the relative route density and amount of “unrestricted” travel acres, where cross-country travel is allowed, between alternatives.

Table 3-3. Route density and open use / exemption area in critical mule deer winter habitat by alternative.										
Geographic Area Name	Route density (miles/mile²)					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/mile²)					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).

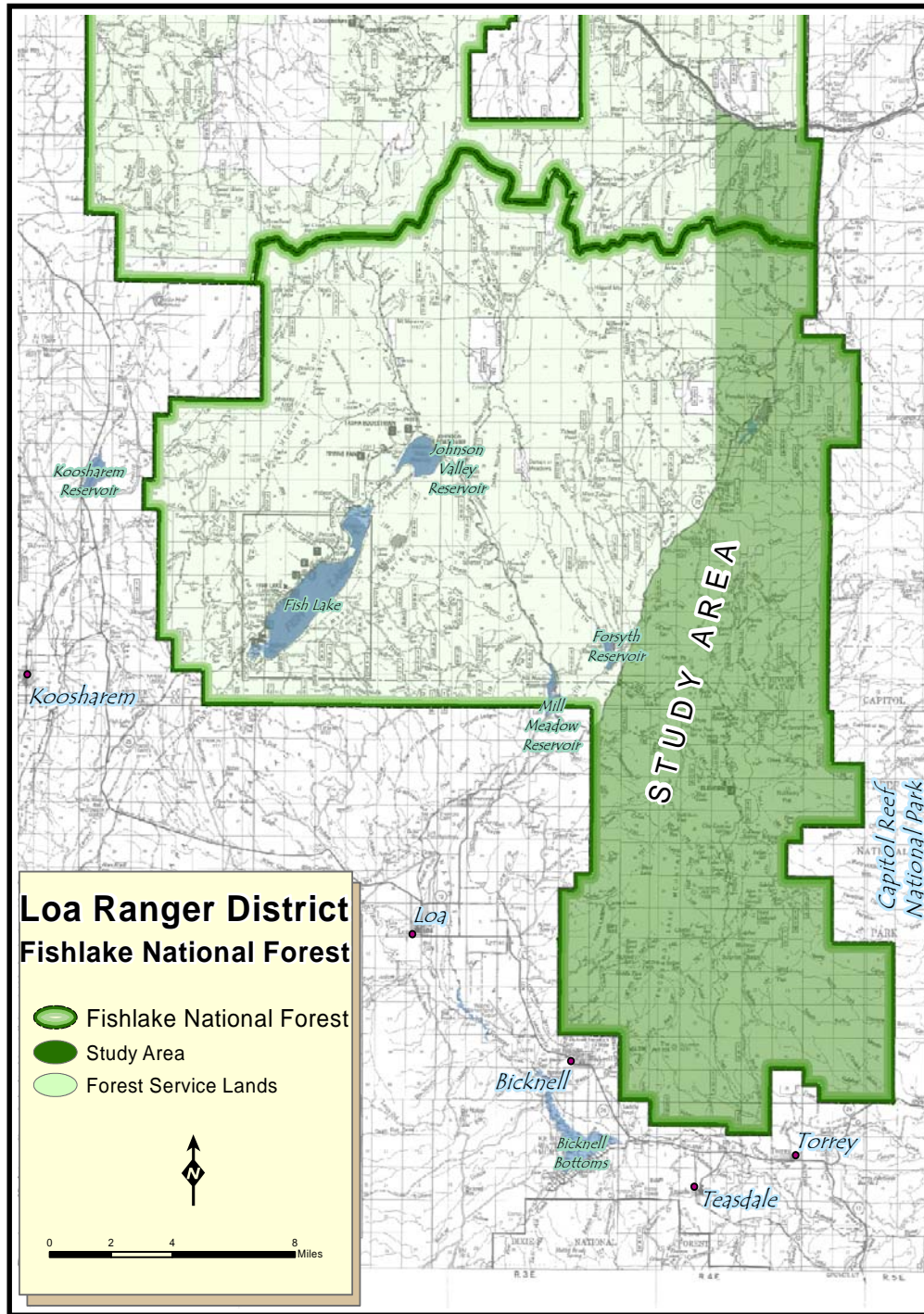
Last Chance townsendia (*Townsendia aprica*) is a member of the sunflower family and grows to be about 0.5 to 1 inch tall. This species is endemic; its worldwide distribution is limited to portions of Emery, Sevier and Wayne counties in south-central Utah. It is found in pinyon/juniper and salt desert 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					
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					
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					
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



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.

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

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.

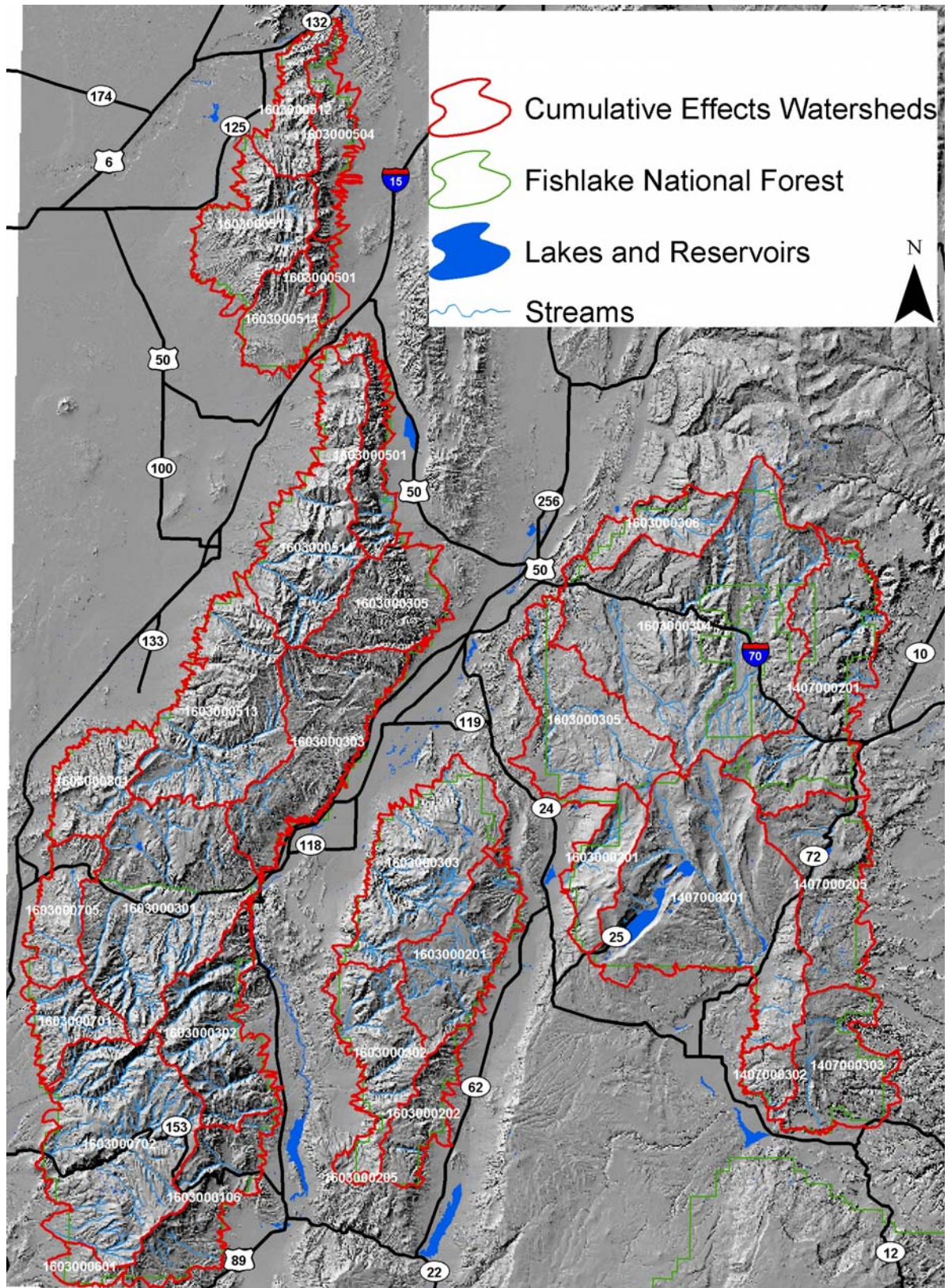


Table 3-8. Riparian motorized route cumulative effects indicator.

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 impactful 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 enclosure 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 alternative, 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

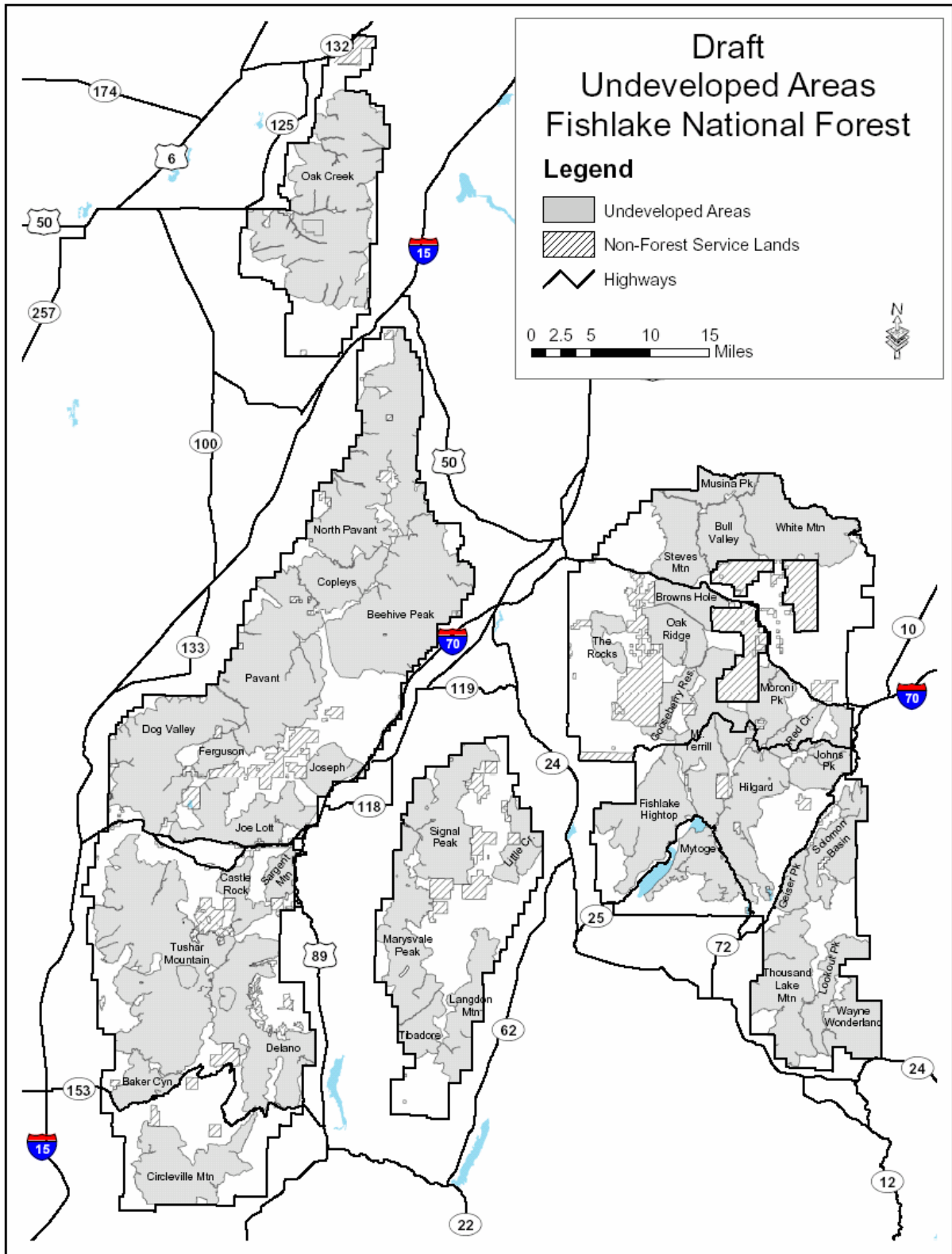
Changes in wilderness characteristics for any affected undeveloped area are consistent with decisions made in the existing 1986 Forest Plan and the 1984 Utah Wilderness Act.

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.

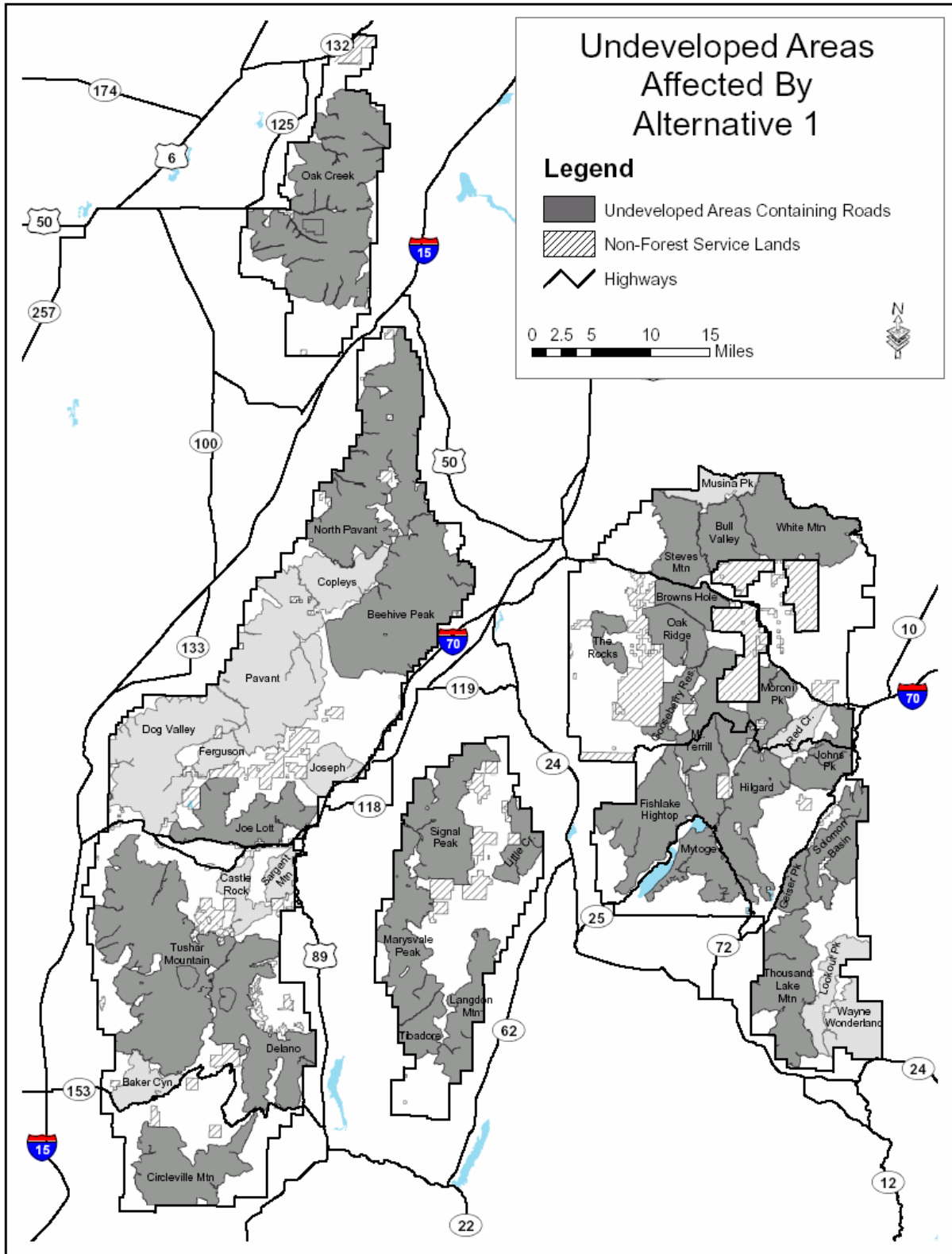


Table 3-18. Undeveloped Areas, Alternative 1 - Acres by Area and Motorized Miles by Area

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
Marysval 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.

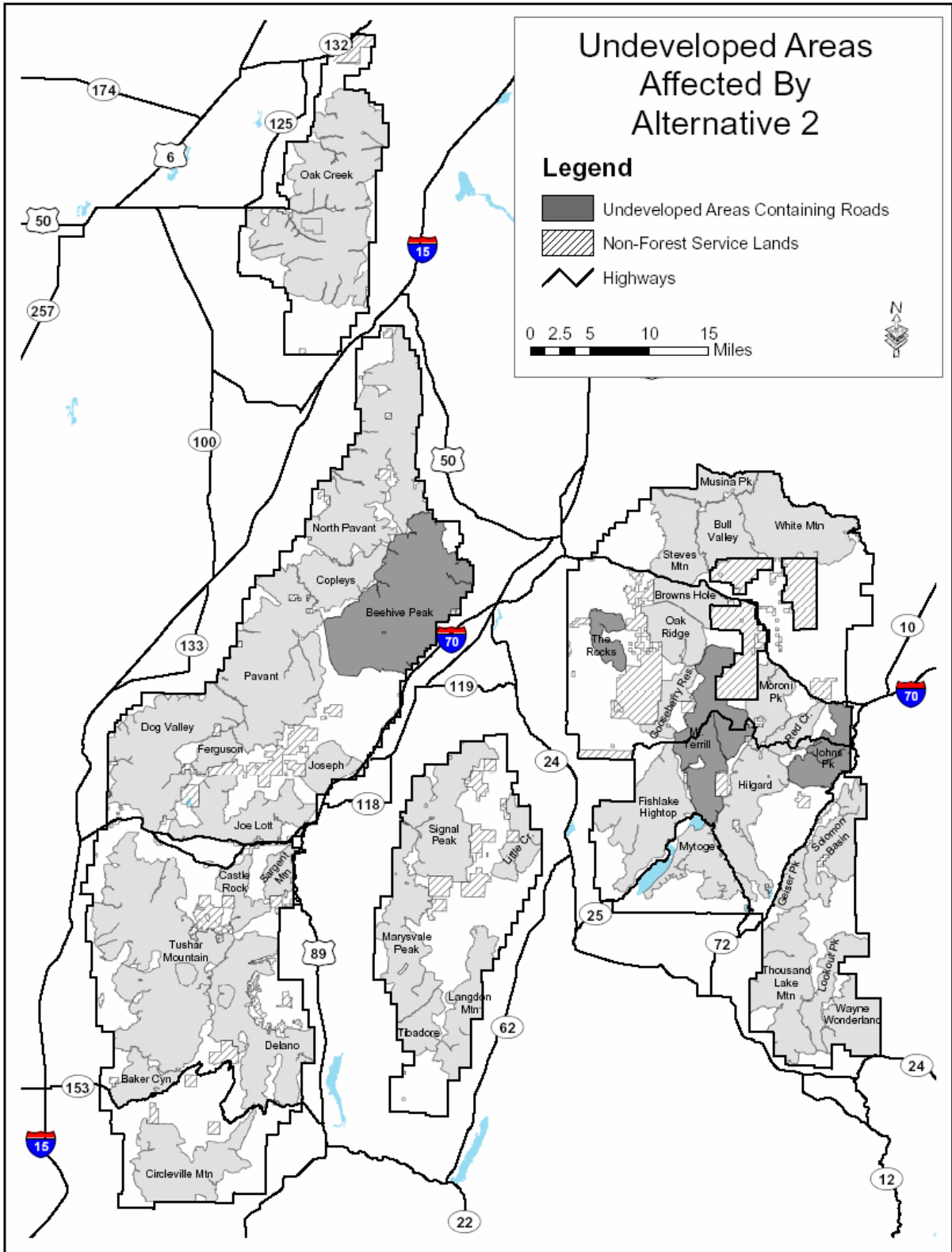


Table 3-19. Undeveloped Areas, Alternative 2 - Acres by Area and Motorized Miles by Area

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
Marysval 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.

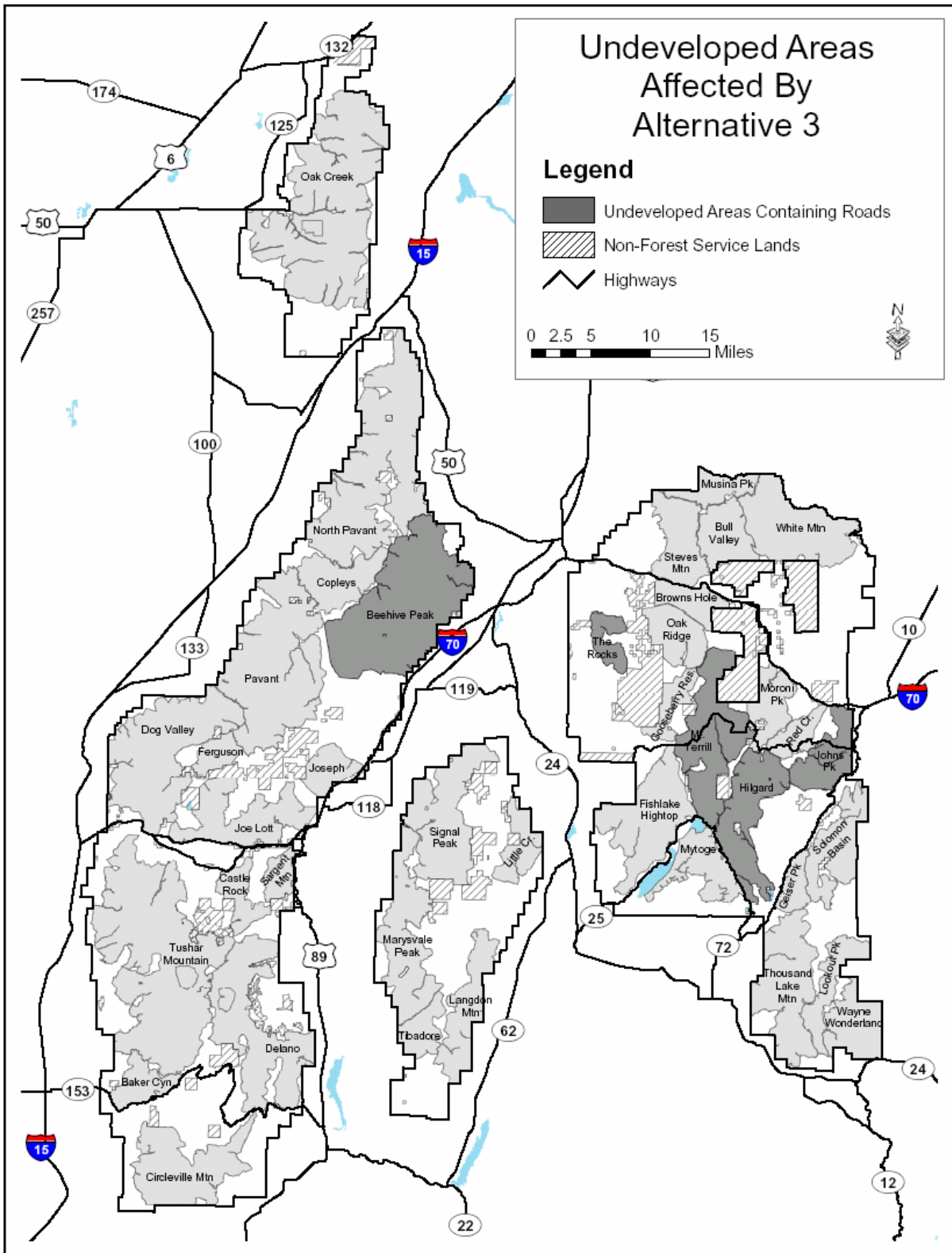


Table 3-20. Undeveloped Areas, Alternative 3 - Acres by Area and Motorized Miles by Area

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
Marysval 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.

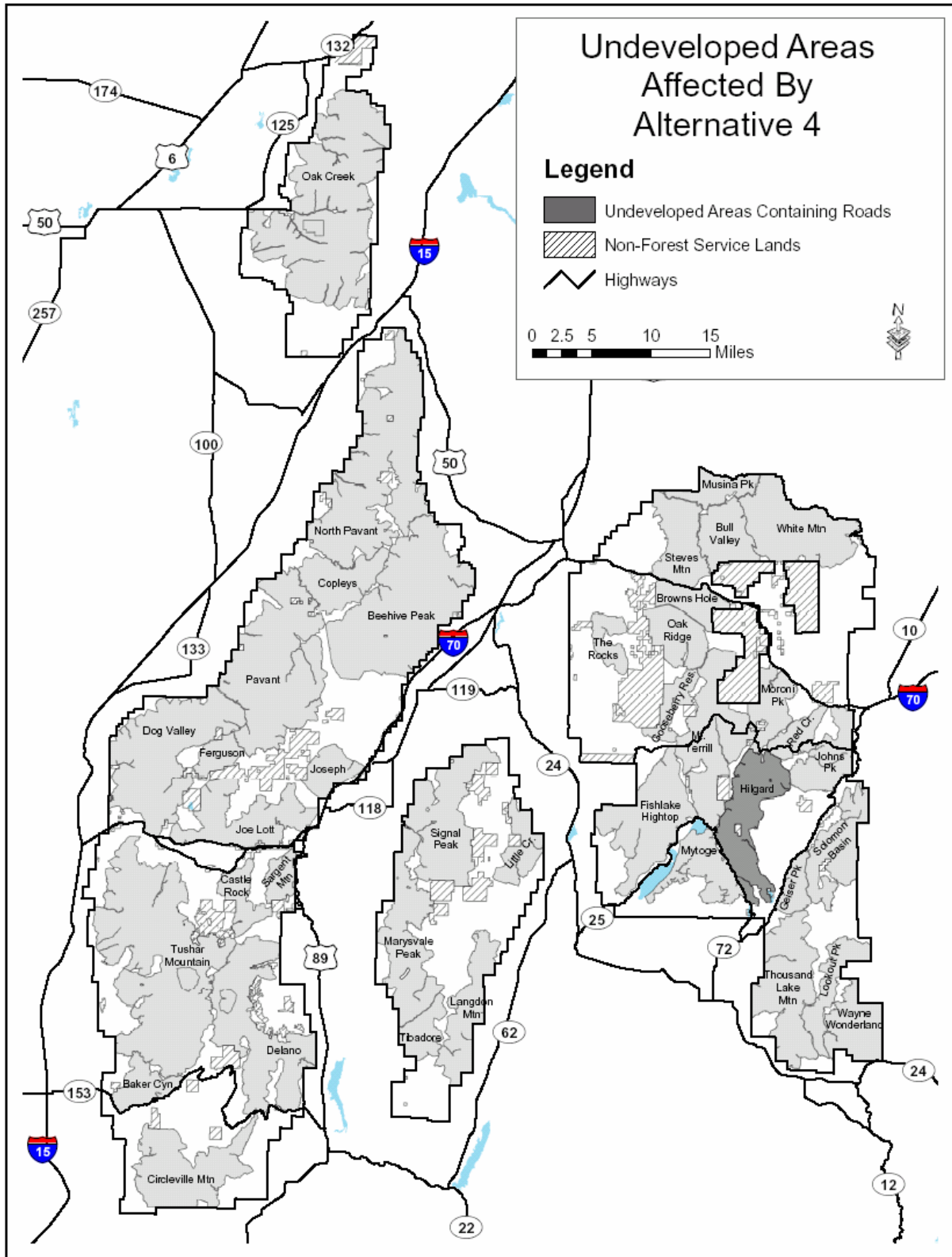


Table 3-21. Undeveloped Areas, Alternative 4 - Acres by Area and Motorized Miles by Area

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
Marysval 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.

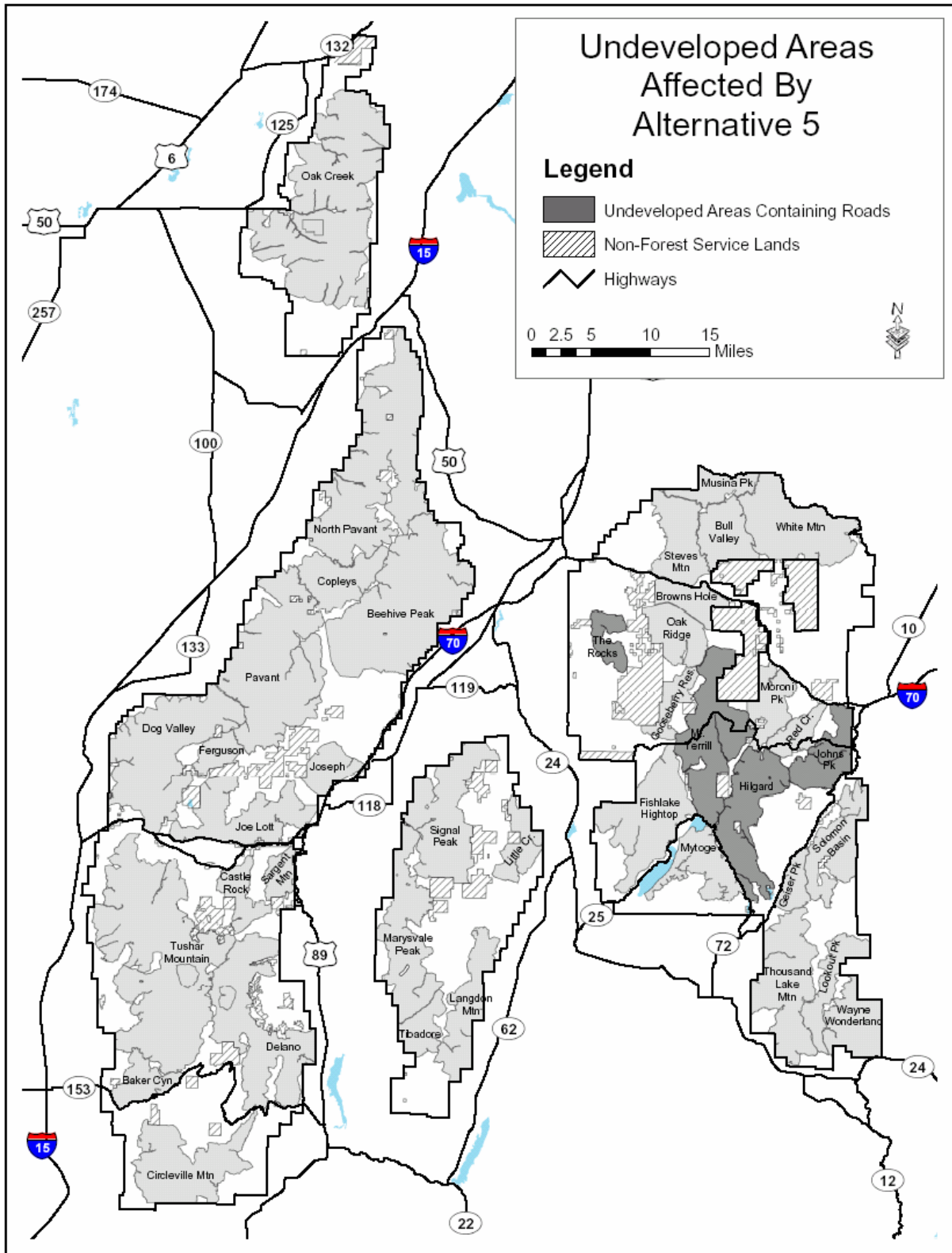


Table 3-22. Undeveloped Areas, Alternative 5 - Acres by Area and Motorized Miles by Area

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
Marysval 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 barred 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 vice 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
More Types	Longer Season	14.8	5.0	39.6	0.9	60.3
	Same Season	0.3	0.7	2.5	12.0	15.2
New Use	Shorter Season	0	0	0.4	0	0.4
	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.