CHAPTER 4 – CUMULATIVE EFFECTS

Introduction

This chapter discloses the cumulative effects of the actions proposed in the alternatives. It includes past, ongoing, and reasonably foreseeable projects on Forest Service or other lands – including private. The resources are organized in the same order as in Chapter 3. Each specialist addressed projects that would impact their resource by either time or space. If the resource has cumulative effects that are common to all the alternatives, it is identified as such at the beginning of each resource section. Additional information, including a complete listing of the projects, is in the project file.

Recreation

Cumulative Effects Common to All Alternatives

Travel management decisions resulting from this project could contribute to the cumulative effect of other decisions and actions on recreation opportunities in the north Big Belt Mountains. This document identifies various past, current, and future actions on the Helena NF and adjacent Federal, State and private land that are germane to the cumulative effects analyses for this project. These include on-going projects, those that have occurred within last decade, and those that will occur within the next 3-5 years.

Many of these past and on-going Forest Service actions have had, or will have, little to no long-term or cumulative effect on outdoor recreation or the north Belts travel plan decision. The cumulative effect of past, current and proposed vegetation treatment projects are minor and short-term. Public access may be restricted while logging or prescribed burns are occurring and these activities may have scenic consequences that deter recreation in the short-term. On the other hand, past and on-going (i.e., Bull Sweats, Wagner-Atlanta) or proposed (i.e., Jimtown Stewardship) projects that reduce ladder fuels and open up the forest canopy may improve scenery and increase recreational access and use.

The cumulative effect of past, current and future of Forest Service wildlife and fisheries management and watershed restoration activities on recreation or the North Belts travel plan is likewise limited. These activities result in little ground-disturbance and may enhance recreational opportunities. Efforts to re-establish viable fisheries in mountain streams, as is proposed by the Magpie Creek Restoration project scheduled for 2004 or in Beaver Creek in 2005, may eliminate some streamside dispersed recreation spots. Ultimately, these projects will make the area more attractive for recreation once displaced users are provided with alternative camping and picnic sites.

Current and proposed noxious weed control could have a minor but cumulative effect on recreation in the north Big Belts. In the long-term, weed control would undoubtedly improve landscape conditions in the drainage bottoms where people congregate to recreate. But in the short-term, noxious weed control using

mechanized equipment (ATVs) could pose some problems. First, the use of ATVs cross-country is an exception to both the 2001 State OHV and proposed North Big Belts travel plans. Even one pass through high grass during spring and early summer when spraying is done frequently leaves a noticeable ATV track. Repeated (multi-year) spraying episodes in areas full of weeds could amplify the visibility of these ATV tracks. For some people, particularly those unfamiliar with OHV regulations, these tracks could encourage cross-country OHV riding. On-site signing indicating both the chemical application and the application method (ATV use) could mitigate this cumulative effect situation.

Livestock grazing over many years has raised havoc with riparian and meadow areas where people recreate in the north Big Belts. However, past and recent AMP revisions--Wagner-Atlanta, Beaver-Soup, and Magpie-Confederate—have benefited recreation by both reducing livestock numbers and implementing various riparian protection measures (although livestock grazing in any number still reduces the recreational experience for some people).

Past historic hydraulic and dredge mining has created an “industrial” landscape in many drainage bottoms in the west flank of the Big Belts, and thus has reduced opportunities for outdoor recreation in relatively undisturbed forest settings. Some commercial and recreational prospecting on public lands and some mine development on private claims continues to occur in Confederate Gulch, White’s Gulch, Thomas Creek and other drainages. The cumulative effect of past and current mining on recreation is difficult to quantify. It has created a less recreation-friendly landscape than would have existed without such an extensive mining history and altered the naturalness of valley bottoms and slopes. However, past mining also created many of the roads and trails that are the subject of this travel plan analysis.

The Big Belts lie in close proximity to Canyon Ferry Reservoir and the Helena Valley. Past, current and proposed recreational and commercial development and subdivision along the east and west reservoir shorelines are cumulative with the actions described in these alternatives. Continued subdivision and demographic growth up to the Helena NF boundary in the north Big Belts is foreseeable into the future. User-built OHV, horse and pedestrian trail proliferation from private property, and other encroaching private uses of Federal land are therefore likely to continue. Several paving projects (i.e., Highway 208, York Road) attest to the growing recreational, commercial, and commuter traffic on main road arteries in the project area. Kim’s Marina and other private commercial facilities, and BLM-BOR campgrounds on the north end of Canyon Ferry continue to receive a high-level of summer use.

Dams along the Missouri-Madison Rivers corridor were recently re-licensed by the Federal Energy Regulatory Commission (FERC). A revolving trust fund among Pennsylvania Power and Light-Montana (PPL), BLM, BOR and FS set up through this process is now being used to extensively improve recreation facilities along Hauser, Holter, and other reservoirs in the corridor. Thus, the overall cumulative effect of these actions is that more people will be drawn to the Missouri River corridor and that increased recreational pressure will be exerted on the north Big Belts travel plan area. These effects may be magnified by the expected increase in visitation caused by the Lewis and Clark Bicentennial.

In spring of 2003, PP&L closed fishing access across Hauser and Holter Dams in deference to public safety and homeland security concerns. It is unlikely that displaced fishermen will head to the north Big Belts but this action may contribute to negative (and cumulative) public sentiment about access restrictions and area closures to historically available public and private lands.

The travel management decision made with this project, in combination with other travel management decisions made on the Helena NF and other federal and state lands, has the greatest potential cumulative effect on recreation, and specifically transport-related recreation activities. The general trend in recent years has been to restrict motorized use of public lands for purposes of environmental or resource protection. This perceived "squeeze-out" from public lands has become a rallying point and political focus among OHV enthusiasts in Montana (see CTRVA 2003) and elsewhere that, in turn, has caused push back from the non-motorized recreation and environmental communities (see Schubert and Associates ND).

Travel restrictions affect a broad range of forest users including ATV, motorcycle and 4-wheel drive sport riders but also people who access the outdoors in passenger cars and vans, SUVs and pickups, and trucks and horse trailers. Travel decisions may preclude access to trailheads, horse and pedestrian trails, picnic areas, dispersed campsites, fishing holes, hunting areas, wildlife viewing sites, historic ruins, rock climbing spots, and other recreational places. Thus, the simple (and often stereotypic) "non-motorized" and "motorized" recreation dichotomy may not completely display the full effect of travel plan decisions among all forest users.

The Helena NF has closed, under a special order, various roads and trails to motorized use in order to address resource damage or administrative problems. In the Big Belts, since 1986, about eighteen separate closure orders have been issued to close about 42.15 miles of road or trail. Although the recreational value of some of these road segments is questionable, particularly short segments that primarily accessed old timber harvest units and mining claims, these closures have affected some recreation opportunities (i.e., OHV riding and hunting) in the Big Belts. Outside of the Big Belts, similar administrative closures since 1986 on the rest of the Helena NF have closed another 130 miles of road and trail (excluding roads/trails in the Elkhorn Mountains discussed below) to deal with various resource protection issues.

In 1995, the Helena NF and Butte District-BLM signed the *Elkhorn Mountains Travel Plan* decision. This plan closed year-round about 191,000 acres to motorized travel. It permanently closed approximately 75 miles of road and "troads" and established seasonal restrictions on a variety of designated routes to protect forest resources, especially big game. This decision was a departure from past "area open unless otherwise signed and closed" travel management policy on the Helena NF, and anticipated the approach taken in the 2001 State OHV plan.

The 2001 *Off-Highway Vehicle-Final EIS and Proposed Plan Amendment for Montana, North Dakota, and Portions of South Dakota* restricts motorized use to designated routes, which is a substantial departure from past management.

While the intent of the plan was to protect various forest resources, it has also reduced motorized recreation opportunities and, by default, enhanced non-motorized opportunities. About 625,447 acres available to cross-country travel across the Helena NF was closed by the OHV decision. The State OHV plan is to be replaced by site-specific travel plans that identify all routes suitable for roads and trails and those requiring closure and obliteration.

In 2003, the *Clancy-Unionville Vegetation Manipulation and Travel Management Project Environmental Impact Statement* decision calls for decommissioning about 28 miles of road that were previously open to motorized travel. Approximately 136 miles of road and 6 miles of motorized trail remain open for public use in the Clancy-Unionville area. This travel plan, when coupled with the previous Elkhorn decision, have reduced the amount of roads and trails historically available for motorized use in the Elkhorn Mountain Range.

Decrease in Motorized Opportunities on Helena Forest Lands

Acres Closed to Wheeled Motorized Travel Since 1986 Forest Plan	**265,710 acres**
Miles of Road & Trail Closed to Wheeled Motorized Travel Since 1986 Forest Plan*	**246 miles**

***** All road and trail closures on the Lincoln RD have not yet been incorporated into this total so it may be greater than the figure given above.

In addition to the north Big Belts analyses, travel plan revision is now underway for the entire Helena NF, including the Blackfoot (321,500 acres, Lincoln RD), Divide (155,300 acres, Helena RD) and South Belts (82,500 acres, Townsend RD) areas. Although these analyses are all presently incomplete, it is foreseeable that these too could result in road closures and restrictions that would limit both motorized and non-motorized recreation opportunities.

Over the last decade, recreation in the north Big Belts has benefited by the construction of various trails and trailheads. The Spruce Creek and Stove Camp non-motorized trails were built in 1993 and 1994, respectively. Trail improvements have occurred, or are scheduled to occur, at the Hunters Gulch (#293), Nary Time (#234) and Thompson Gulch (#264) motorized trails. The effects of these trail constructions and improvements are cumulative with the north Big Belts travel plan decision because they enhance recreation opportunities over the current situation.

Travel plan analyses are occurring on other federal lands adjacent to or near the Helena NF. Recently, the BLM completed a travel plan for the Whitetail-Pipestone Pass area near Butte, which has become a highly popular area with OHV enthusiasts. The plan allows motorized use on 71 miles of road and trail and permanently closes (32 miles) or implements seasonal restrictions (20) on another 52 miles of road-trail. The Beaverhead-Deerlodge NF is resuming this travel plan process in 2004 and will tackle to others (Ron Roginski, personal communications, 2003).

The Lewis and Clark National Forest is also developing a travel plan for the Rocky Mountain Front. The Gallatin National Forest near Bozeman has also recently initiated travel planning. The City of Helena and Helena NF have identified opportunities for developing non-motorized trails along the urban-forest interface in the *South Hills Trail Plan*. Currently, as many as 75 miles of existing user-built routes may become a formal part of the trail system and new (usually connector) routes are also proposed. As this trail system slowly becomes a reality, non-motorized opportunities would be cumulative with the Clancy-Unionville decision in the same area, because they also enhance non-motorized opportunities over the current situation.

These various travel plans also call for both road and trail obliteration or reclamation. In the Elkhorn Mountains (east of the Clancy-Unionville project) obliteration has already occurred on some 27 miles of road and troad. Opportunities to re-establish roads or trails in these locations would not be possible without considerable expense. This road obliteration would be cumulative with the road obliteration proposed under Alternatives 2, 3, 4 and 5 for the north Big Belts project. Some recreationists see road obliteration as a positive benefit to their outdoor experiences (it removes scars on the land and prevents illegal motorized use) while others who enjoy using old roadbeds for hiking, hunting, visiting historic ruins, wildlife photography and other activities see this as a detriment to their activities.

The cumulative effects of more restrictive travel plan decisions, as described above, are to concentrate use on fewer miles of road and trail, such that traffic density is increased and recreation enjoyment is reduced. Conversely, to people who are non-motorized (ATV, motorcycle, 4-wheel drive) recreation enthusiasts, more travel restrictions would reduce traffic, noise, and dust which detract from their outdoor experience.

A related cumulative effect is the displacement of people—whether they are OHV enthusiasts or people who prefer “quiet” recreation upon arriving at their forest destination. Economic data show that OHV use is growing in the local area both as a riding sport and in conjunction with hunting. Current OHV use is primarily focused on public lands. Travel decisions affecting public lands that restrict motorized recreation in one area may consequently increase motorized use in another where site-specific travel plans are not yet in place. Cumulatively then, this “leapfrog” effect may increase resource damage, create more law enforcement problems, generate discord between motorized and non-motorized recreationists, and make future site-specific travel planning more difficult.

The increasing popularity of ATV’s has dramatically altered recreation use on many public lands, including the north Big Belt Mountains of the Helena National Forest. Many publics utilize ATV’s to access the National Forest for recreation activities. In particular, ATV’s are frequently used during the fall hunting season. Because ATV’s are stable and easy to operate, many people enjoy them for the off-highway trail experience they provide. ATV travel in the north Big Belts has substantially increased motorized use in that area. Private lands are increasingly being closed to any type of public use. In addition, public land management agencies are restricting motorized travel to mitigate growing social and resource conflicts.

The north Big Belts and other travel plan decisions may have some cumulative economic effect. Recreation around Canyon Ferry Reservoir and in the Big Belt Mountains generates revenue for the Helena-Townsend Valley economy. The fishing, hunting, boating, camping and motorized sport riding industries all contribute substantially to the area economy. The cumulative economic effect of the north Big Belts and other travel plans is complicated but travel plans that attempt to balance motorized and non-motorized recreation use may have less cumulative economic consequences than those that favor one type of recreation over the other.

Alternative 1

In light of the growth and development around Canyon Ferry and the Missouri River corridor, this alternative would still provide ample access into the north Big Belts as guided by the recent State OHV Plan. It supports the status quo and would not drastically affect any particular recreation user group. It would not add much to the perceived cumulative "squeeze out" of motorized recreation on public lands.

On the other hand, the existing condition provides little clarity to some travel management issues, particularly the unclassified road situation. There would be no specific management in place to indicate what roads, troads, and trails should become legitimate parts of the travel system and which should be eliminated. As described previously, with changing demographics and suburban growth and sprawl, more road and trail encroachments would occur, only complicating the existing unclassified trail situation. As a result, there would be continuing management and law enforcement problems related to outdoor recreation. This is the largest overall adverse cumulative effect created by Alternative 1.

Alternative 2

A site-specific travel plan would be a positive step towards better management of the north Big Belt Mountain's road and trail system. It would solve on a large scale (rather than case by case) the unclassified road problem and thus simplify the travel situation for forest visitors. With all of the activities and growth around Canyon Ferry, this would be a positive cumulative effect.

This travel plan would benefit motorized recreation by promoting OHV use and would abate the perceived and cumulative squeeze-out of motorized recreation on National Forest (and other public) lands. This could help to absorb displaced OHV enthusiasts from other areas whose sport activities have been limited by OHV restrictions. It would be consistent with and support the growing OHV use around Canyon Ferry Reservoir and the Helena-Townsend Valley areas. It would not be a radical departure from current forest management in the north Big Belts.

Conversely, this alternative could displace the non-motorized recreationists who enjoy the north Big Belts. Although there are plenty of other places to recreate in the area this would conflict with the Forest Service's goal of providing a broad range of recreation uses in any given mountain range, or portion thereof. Accelerated OHV use could add to the law enforcement problems already associated with recreation in BLM-BOR campgrounds around Canyon Ferry Reservoir. An increase in ATV use could benefit some local businesses,

particularly around Canyon Ferry Reservoir, but over the long-term could slowly encroach on boating operations and cause conflicts and displacement.

Alternative 3

The cumulative effects of this alternative are very similar to Alternative 2. It would not contribute to the cumulative reduction of the OHV-riding base on public lands. The emphasis on 4x4 driving in this alternative could negate some of the ATV problems associated with commercial and public facilities around the Canyon Ferry area (overcrowding, noise etc.)

This alternative (and Alternative 2) could eventually and perhaps subtly create an environment where the primary accepted use of the North Belts is for motorized travel rather than quiet recreation as well.

Alternative 4

Alternative 4 radically changes FS management direction, changing historical recreation use and trends, in the north Big Belts. Like the other Action Alternatives, a bona fide, site-specific travel plan would clarify the unclassified road issue, which is important in a growing recreational area like Canyon Ferry. It would mitigate past confusion about open versus closed routes, and explain FS management priorities and direction.

Motorized recreationists would be seriously displaced from the Big Belts, which could then affect management in other areas of the forest and on adjacent private, BLM and State ground. It would add substantially to the cumulative reduction of motorized recreation opportunities on Helena NF lands. Put in another context, the loss of motorized recreation in the north Big Belts could have a host of negative cumulative effects, such as causing an OHV “leap frog” effect to other areas or revenue loss for OHV businesses in Helena and Townsend, or businesses that help support OHV recreation around Canyon Ferry Reservoir. Public acceptance would slow and there would likely be plenty of OHV encroachments to deal with and public discord against the Forest Service.

However, this plan would obviously benefit those who enjoy quiet recreation and trails in the north Big Belts. Given all the growth and development around Canyon Ferry (and the Helena-Townsend Valley areas), any public policy on adjoining public lands that limits infrastructure development and certain types of public use could be considered a positive cumulative effect.

Alternative 5

Like all the Action Alternatives, this alternative imposes a site-specific travel plan that would eliminate confusion about unclassified roads and travel routes.

The Alternative 5 travel plan reduces the amount of OHV use in the area, so it adds to the cumulative reduction of motorized recreation opportunities on public lands. There could be associated displacement to other areas of the Forest or onto adjacent private and public land. This displacement could create additional law enforcement problems for those areas and perhaps have some long-term economic effect on OHV and recreation businesses in the analysis area.

This alternative increases the number of non-motorized trail miles in the north Big Belts. On one hand, this could eventually invite and accommodate more use (although see the terrain limitation discussion in the Affected Environment) but on the other create additional long-term maintenance costs. Whether non-motorized use justifies the additional trail development and maintenance is an issue that would need to be monitored.

Transportation

Alternative 1

Past travel management decisions in the North Belts and surrounding National Forest land have closed many roads and trails on public land to motorized vehicles. The road and trail closures in the Elkhorn Mountains and in surrounding National Forests have made some users spend more time in the North Belts. This trend was largely halted after the Cave Gulch Fire of 2000, but as the fire area is reopened, the upward trend in use will continue. This has resulted in increased use on the roads and trails in this area, but the traffic increase has not adversely affected the traffic service levels on any of the forest roads or trails. The Multi-State OHV Decision of 2001 restricted wheeled motorized vehicles to existing roads and trails, but this decision had no effect on the existing transportation system.

Other past management activities within the North Belts, such as timber and grazing management, and fire and watershed restoration efforts, have had little effect on the transportation system. These activities have often closed a section of road for several days or weeks, but when the road was reopened the effects disappeared. Some roads in the North Belts have been decommissioned as mitigation for timber sales, but since there are alternate routes to most of the areas accessed by the decommissioned roads there has been little loss in public access to National Forest Land. In a few cases, decommissioned roads have prevented individuals from driving to a particular site, but there have been only a few of these displacements.

The transportation system will be affected by the Forest-wide travel management planning effort now underway on the Helena National Forest. These decisions may close local roads in much of the forest and that may shift some traffic to the North Belts, such as what happened with the Elkhorns Travel Decision of 1995. This increased use would not adversely affect the traffic service levels of any roads or trails in the North Belts, because none of the routes are near their capacity. The increased traffic may cause crowding at transportation related facilities such as trailhead or dispersed camping areas.

The only other reasonably foreseeable action by the Forest Service that may have an impact on the transportation system is the possible adoption of the Public Forest Service Roads (PFSR) system. This would be a new way for the Forest Service to maintain and reconstruct its road system. All of the major roads in the area are potential PFSR's. The potential PFSR routes are: Willow Creek, Beaver Creek, American Bar, York to Nelson, Favorite Gulch, Trout Creek, York Gulch, Jimtown Road, Magpie, Hellgate, Avalanche White, Springs, Long, Wagner and Confederate Gulches, Blacktail Creek, and Atlanta Creek. If

any or all of these roads are reconstructed it may lead to increased traffic on those roads and any other open roads in the area. A separate environmental analysis would be done before any PFSR work would be done.

Continued population growth in the Helena area would lead to increased traffic on the transportation of the North Belts. Although there is some private land within the area, most of the traffic increase would be by persons living outside the forest traveling to recreate on National Forest Land. This increased use would grow slowly and would not adversely affect the transportation system in the next ten years. There may be periods of congestion during particularly busy times, such as the first week of hunting season, but these periods would be infrequent and of short duration.

Alternative 2

The cumulative effects of this alternative would be the same as Alternative 1.

Alternative 3

The cumulative effects of this alternative would be the same as Alternative 1.

Alternative 4

The cumulative effects of this alternative would be the same as Alternative 1.

Alternative 5

The cumulative effects of this alternative would be the same as Alternative 1.

Heritage

Cumulative Effects Common to All Alternatives

The area that would be cumulatively affected by these activities described in the Action Alternatives includes the entire Big Belt Mountains. This area was chosen because it is a cohesive environmental unit that lies between two major river valleys that have been the focus of prehistoric human use for a long time. The Missouri River has been termed the “lifeblood” of much Montana history, to which prehistory might be appropriately added.

Present Actions – Heritage inventory and evaluation has preceded restoration work—fencing, weed treatment, road and trail repairs, reforestation and stock watering repairs--in the Cave Gulch wildfire area. Some restoration work has also been directed at stabilizing prehistoric and historic ruins threatened by erosion and slumping, such as the Hellgate pictographs and placer camps in Cave Gulch. The fire has done most of the damage and these restorative actions have had limited cumulative effect on heritage resources when combined with past projects in the area.

Some emergency and administrative measures, which are part of Alternative 1 (Existing Condition), do contribute to the cumulative effects on heritage resources. These include interagency erosion control work at the mouth of Cave Gulch, construction of road into a private mining claim in Cave Gulch, repair of

the Hunters Gulch trailhead, and repairs to the Hellgate Gulch road. Because of the prevailing need to address emergency environmental problems (i.e., flooding and erosion), heritage preservation concerns may take a backseat unless the affected heritage resource is particularly significant.

Ongoing minerals exploration and small-scale mining operations should also be included in the cumulative effects. Mining today in the various gulches of the Big Belts pales in comparison to the operations of bygone days, but mineral exploration under the 1872 mining law often leaves limited maneuvering (i.e., avoidance) room to protect project-affected heritage sites. Likewise, past and current stream restoration projects, such as the Magpie-Confederate (1999) and Whites Gulch (1995, 1998) watershed projects, present heritage preservation challenges because they often target mining-related features (i.e., placer piles) and landscapes.

On-going forest activities will continue to have a cumulative effect of heritage resources. Livestock grazing, in particular, continues to degrade prehistoric and historic resources, especially where they concentrate near water sources in the dry Big Belt Mountains. Roads and trails have been constructed through archaeological and historic sites over a period of many years. Regardless of alternative, road maintenance, especially road grading, and road use will continue to degrade old Indian camps, mining ruins and homesteads. Sites exposed in roadbeds and borrow pits will invite illegal artifact collecting. System and non-system roads and trails provide access to sensitive prehistoric rock art and caves, and historic homestead and mining ruins with standing structures, bottle dumps and other features. While most people chose only to admire and photograph picturesque ruins, a minority collects artifacts and old building wood, paints or carves graffiti, or simply tears or burns the structures down.

Reasonably Foreseeable Future Actions – Future actions in the analysis area focus on public safety and environmental health and include fire and watershed restoration, hazardous fuels reduction, travel planning, minor recreation developments, and mineral operations (see list in DEIS). In all likelihood, impacts to sites identified in these future fuels reduction and travel planning projects can be avoided through project re-design. However, fire, watershed, and minerals projects will be more complicated because they frequently target or affect historic mining features or occur in historic mining districts. There is often little maneuvering room for site avoidance so detailed inventory, significance evaluations, mitigation plans and Montana SHPO consultations are often necessary.

Despite economic uncertainty and other factors, the Canyon Ferry area will continue to be developed at an incremental pace. The cumulative effect of this demographic growth and change on heritage resources is difficult to estimate but easy access into Big Belts may increase the problems described above, such as user-built trail proliferation atop heritage sites, artifact collecting and vandalism.

The various travel plan efforts now underway on the Helena NF and other National Forests, as well as on adjacent BLM lands, will afford greater protection to heritage resources in the long-term by precluding access to a widespread number of sites. The State OHV plan has already changed agency management

direction from “open unless closed” to designated routes but site-specific travel plans should add another layer of protection. Conversely, these travel plans are likely to require road obliteration and other ground disturbances which may affect heritage resources. They may also preclude access to historic ruins and discourage visitation and firsthand enjoyment of Montana’s cultural history.

Alternative 1

This Alternative largely supports the status quo, as of 2001 when the State OHV plan was implemented. This alternative would provide plentiful access to heritage sites, which has both positive and negative implications, as described above. In the longer view, the lack of an area-specific travel plan would contribute to gradual attrition of the heritage resource base in the north Big Belts, especially in the face of demographic growth and changes just outside the project area boundaries. An area-specific travel plan, as proposed for the north Big Belts, could potentially direct public activities away from those sites and areas.

Alternative 2

This alternative imposes a mountain range-specific travel plan that would decommission about 100 miles of road and trail, but create some 33 miles of new, mostly motorized trail and an OHV riding area. This OHV riding system could eventually attract more riders to the area, given both its accessibility to urban areas and if surrounding public lands become more restrictive of OHV use. Even if identified sites were protected through avoidance and monitoring, the effectiveness of this approach is questionable. Thus, in the long term, Alternative 2 could contribute to the more rapid attrition and long-term (cumulative) demise of the heritage resource base in the project area than the other alternatives.

Alternative 3

This alternative adheres closely to the State OHV plan by keeping the mountain range open to motorized travel on designated routes. No trails or roads would be obliterated but some would be gated shut. It would create another 18 miles of mostly motorized trail, including areas rich in history such as Cave Gulch. Like Alternative 2, an area that provides for numerous OHV opportunities will eventually attract more riders and use. Heritage site protection and monitoring would be difficult. Alternative 3 would contribute to the gradual attrition and demise of the heritage resource base in the project area.

Alternative 4

This alterative would, in the long term, reduce impacts to heritage resources in the north Big Belts by restricting a wide range of vehicle access. From this perspective, it would help abate the cumulative effects of other agency actions on heritage resources, as well as those on private land outside Helena NF boundaries. At the same time, in the short term, the amount of road obliteration proposed in this alternative would require concerted heritage resource inventory, evaluation and mitigation work to remove affected heritage sites from harm’s way.

Alternative 5

This alternative is a mixture of road closures and recreation (trails, trailheads) and watershed developments. It would contribute to the gradual attrition and demise of the heritage resource base in the project area.

Lands/Special Uses

Cumulative Effects Common to All Alternatives

Permitted private uses of the National Forest will continue to occur over time, and will be authorized by permit, easement, or license. Growing population demands for energy and communication needs may lead to additional Special Use authorizations within the project area. Yellowstone Pipe Line Company, owners of the buried 6-inch petroleum pipeline that crosses the project area, continues to make repairs/improvements to their line. Their entries require ongoing evaluation of service access routes. Various government agencies are currently evaluating the need for additional communications capabilities on the Hogback Mountain Communications Site. This is as a direct result of lessons learned during the 2000 fire season and the subsequent homeland security issues that surfaced after the 9/11 terrorist attacks.

Land under Forest Service ownership within the Dry Range will continue to decrease as parcels are exchanged for private parcels elsewhere on the Forest. There is currently a land exchange being considered with an adjacent landowner. If this exchange were completed, there would only be 5 sections of land under Forest Service ownership within the Dry Range and the acquisition of two sections of private land under federal ownership within the southern Big Belt Mountains. It is expected that these remaining federal sections would be placed under private ownership within the foreseeable future, but there are currently no know interested parties. This effort should lead to fewer isolated private land inholdings within the Helena National Forest, thus improving public use and access to the Forest.

Alternative 1

See Cumulative Effects Common to All Alternatives section.

Alternative 2

Under Alternative 2, portions of the Northwestern Corporation power line access trail would be re-routed under a future decision in order to mitigate resource concerns (a feature of all action alternatives is that all designated roads and trails would be brought to standards—this is a reasonably foreseeable action associated with implementation of the alternative).

See Cumulative Effects Common to All Alternatives Section.

Alternative 3

Under Alternative 3, portions of the Northwestern Corporation power line access trail would be re-routed under a future decision in order to mitigate resource concerns (a feature of all action alternatives is that all designated roads and trails

would be brought to standards—this is a reasonably foreseeable action associated with implementation of the alternative).

See Cumulative Effects Common to All Alternatives section.

Alternative 4

See Cumulative Effects Common to All Alternatives section.

Alternative 5

Under Alternative 5, portions of the Northwestern Corporation power line access trail would be re-routed under a future decision in order to mitigate resource concerns (a feature of all action alternatives is that all designated roads and trails would be brought to standards—this is a reasonably foreseeable action associated with implementation of the alternative).

See Cumulative Effects Common to All Alternatives section.

Subdivision and development of private property adjacent to the Forest boundary will continue. This is especially pertinent along the western side of Magpie Creek, Trout Creek (York), Beaver Creek (Nelson), American Bar, and Eldorado Heights. All of the noted areas are experiencing on-going private development, which will undoubtedly lead to increased public use of the forest. This increased use will require additional law enforcement monitoring, and will likely result in more travel plan violations as private property owners drive directly onto the forest from their private land.

Fire

Common to All Alternatives

The following cumulative effects are coon to all of the alternatives. Recent actions that may result in having an effect on fire risk, intensity, severity, rate of spread, and/or occurrence include the following:

- Personal use forest products – annual and ongoing: The Helena Forest sells approximately 50 personal use post and pole permits, 1,000 firewood permits and approximately 2,300 Christmas tree permits. These may be issued for various areas across the forest.
- Removal of these types of forest products would generally have the effect of reducing fire intensity and severity in localized areas by reducing the amount of available fuel. There would be an increase in fire risk associated with an increase in forest use in the execution of these permits. However, increased detection opportunities would also occur as man-hours of forest use increases.
- Jimtown Vegetation Stewardship Project - Project includes: 860 acres of forest thinning utilizing timber harvest, cutting of non-commercial trees and subsequent lowering of fire intensities; 220 acres of Ponderosa Pine

forest underburning; public green firewood opportunities; approximately 0.9 miles of temporary new road construction that would be re-contoured after treatments, and 500 acres of dispersed weed management activities, in addition to the regular weed program with emphasis along the Jimtown road. This project has yet to be initiated.

- This project will have a very beneficial impact in reducing fire risk, intensity, and severity by reducing fuel loading through mechanical treatments and prescribed fire application.
- Hogback Salvage (1996) - Project included salvage harvest of about 141 acres in Hogback Mtn area.
- This project was successful in removing dead and dieing trees that would have eventually fallen to the ground and contributed to an increased fuel loading causing the potential for increased fire intensities and severity.
- Bull/Sweats Vegetation Treatment (1996 decision - activity ongoing). Project includes harvest of about 1129 acres of Ponderosa pine by thinning which was/will be followed by low-intensity underburns. Harvest completed. About 95% of underburning completed.
- This project will have a very beneficial impact in reducing fire risk, intensity, and severity by reducing fuel loading through mechanical treatments and prescribed fire application.
- Cave Gulch Salvage (2003). Project includes timber harvest and mitigation activities within the Cave Gulch Fire area of 2000. Activities include harvest of 490 acres of dead/dieing trees, construction of temporary roads and log landings, and closure and decommissioning of 3.5 miles of road. Activities are occurring in the upper Magpie and Hellgate watersheds. Also includes construction of 0.85 miles of temporary road, 1.4 miles of reconstruction of existing roads, and replanting 1,475 acres.
- This project will remove dead and dying trees that would have eventually fall to the ground and contribute to an increased fuel loading causing the potential for increased fire intensities and severity.
- Maudlow-Toston Salvage Sale (2002-2003). Salvage harvest is approximately 1770 acres primarily in the Sulphur Bar and Blacktail watersheds. Project included seasonal road closures in the Sulphur Bar and Black Butte areas.
- This project was successful in removing dead and dying trees that would have eventually fallen to the ground and contributed to an increased fuel loading causing the potential for increased fire intensities and severity.
- Wagner-Atlanta Vegetation Treatment (1996-Ongoing). Decision included 1665 acres of timber harvest and 740 acres of prescribed burning. Miles of roads closed year long as part of decision was 14.5. Watersheds included in vegetation treatment included Wagner, Beaver, Vermont, and Benton gulches, and their tributaries. No harvest activities occurred south of the Benton Gulch watershed in this implementation area. Harvest will be completed in 2003. Prescribed burning is ongoing.

- This project has been successful in thinning out large stands of timber and creating a patch effect in breaking up fuel continuity. Prescribed fire has reduced fuel loadings in activity units, restored nutrients to the soil, and has removed ladder fuels and regenerated grass and forbs in the natural fuels units. Fire severity and intensity will be greatly reduced in all areas that have received treatments.
- Kissing Gipsy Timber Sale (1998). Harvest included a total of 184 acres in the area northwest of Gipsy Lake and above Thompson Guard Station; also included 2.2 miles of new road, 2.7 miles of road reconditioning and 4.6 miles of road closure.
- Like the larger Wagner-Atlanta project, this project has been successful in thinning out large stands of timber and creating a patch effect in breaking up fuel continuity. Prescribed fire has reduced fuel loadings in activity units and restored nutrients to the soil.
- Past timber harvest (pre-1990's) - Harvest acres prior to 1960 – 95 acres

  Harvest acres 1960-1970 – 1,972 acres

  Harvest acres 1970-1980 – 1,280 acres

  Harvest acres (no date) – 680

  Harvest acres 1990-present (identified by project above)
- In general, most of these harvest acres still contribute to lessening the intensity and severity of wildland fires occurring within their boundaries by containing lower fuel loadings than the surrounding stands.
- Big Belts Fire Plan – Draft completed 2002. Plan would provide for use of wildfire to accomplish resource improvement objectives (vegetation and wildlife habitat benefits), as well as increased firefighter safety and more cost-efficient fire fighting tactics.
- Gates of the Mountains Fire Plan – Draft 2003 Plan would provide for use of prescribed fire within Gates of Mountains wilderness area in association with implementation of an effective fire plan.

Forested Vegetation

Cumulative Effects Common to All Alternatives

The travel management decision made with this analysis, in combination with other travel management decisions made with the forest wide travel planning effort on the Helena National Forest, has the greatest potential to reduce cost effective harvest opportunities and availability of firewood to the public across the Forest. Most recently two vegetation treatment projects, Wagner Atlanta Vegetation Treatment EIS and the Clancy-Unionville Vegetation Manipulation and Travel Management EIS will permanently close approximately 49 miles of existing road. These road closures have reduced the amount of road miles historically available to the public to gather firewood. This road decommissioning directly increases administrative costs to monitor the sites.

Alternative 1

This alternative proposes no new road construction.

Reduced timber harvest and new road construction since 1986 and what was projected in the Forest Plan have lead to reduced opportunities for public firewood gathering. Any further reduction in road access would contribute to less firewood gathering opportunities. The reduction would be directly related to the amount of roads available for use.

Alternative 2

This alternative proposes no new road construction.

Reduced timber harvest and new road construction since 1986 and what was projected in the Forest Plan have lead to reduced opportunities for public firewood gathering. Any further reduction in road access would contribute to less firewood gathering opportunities. The reduction would be directly related to the amount of roads available for use.

Alternative 3

This alternative proposes no new road construction.

Reduced timber harvest and new road construction since 1986 and what was projected in the Forest Plan have lead to reduced opportunities for public firewood gathering. Any further reduction in road access would contribute to less firewood gathering opportunities. The reduction would be directly related to the amount of roads available for use.

Alternative 4

This alternative proposes no new road construction.

Reduced timber harvest and new road construction since 1986 and what was projected in the Forest Plan have lead to reduced opportunities for public firewood gathering. Any further reduction in road access would contribute to less firewood gathering opportunities. The reduction would be directly related to the amount of roads available for use.

Alternative 5

Approximately 0.9 miles of new road construction is proposed with Alternative 5. All other alternatives propose no new road construction. Accessibility through new travel routes in Alternative 5 would not change opportunities for timber management, monitoring, or gathering of fuel wood in any action alternatives.

Reduced timber harvest and new road construction since 1986, and what was projected in the Forest Plan have lead to reduced opportunities for public firewood gathering. Any further reduction in road access would contribute to fewer firewood gathering opportunities. The reduction would be directly related to the amount of roads available for use.

Sensitive Plants

Cumulative Effects Common to All Alternatives

Livestock grazing, herbicide use, mining, road maintenance and other soil disturbing activities could have adverse impacts on sensitive plant populations. In addition, the musk thistle weevil has an impact on seed production of *Cirsium longistylum*.

Alternative 1

Alternative 1 has the potential to impact sensitive plant populations through normal road and trail maintenance unless known populations are identified and protected. It is standard practice for all known populations to be identified and protected prior to these types of activities. New surveys are ongoing for various projects, and new populations are protected whenever they are found as well. This protection is mandated by FSM 2670 and would continue under this alternative.

Alternative 2

Alternative 2 has the potential to impact sensitive plant populations through road and trail decommissioning and new construction unless known populations are identified and protected. It is standard practice for all known populations to be identified and protected prior to these types of activities. New surveys are ongoing for various projects, and new populations are protected whenever they are found as well. This protection is mandated by FSM 2670 and would continue under this alternative.

Alternative 3

Alternative 3 has the potential to impact sensitive plant populations through normal road and trail maintenance unless known populations are identified and protected. It is standard practice for all known populations to be identified and protected prior to these types of activities. New surveys are ongoing for various projects, and new populations are protected whenever they are found as well. This protection is mandated by FSM 2670 and would continue under this alternative.

Alternative 4

Alternative 4 has the potential to impact sensitive plant populations through road and trail decommissioning and new construction unless known populations are identified and protected. It is standard practice for all known populations to be identified and protected prior to these types of activities. New surveys are ongoing for various projects, and new populations are protected whenever they are found as well. This protection is mandated by FSM 2670 and would continue under this alternative.

Alternative 5

Alternative 5 has the potential to impact sensitive plant populations through road and trail decommissioning and new construction unless known populations are

identified and protected. It is standard practice for all known populations to be identified and protected prior to these types of activities. New surveys are ongoing for various projects, and new populations are protected whenever they are found as well. This protection is mandated by FSM 2670 and would continue under this alternative.

Watershed

Watershed

Past, present, and reasonably foreseeable projects that have or are expected to have a beneficial watershed impact for all alternatives include:

- Upper Whites Reclamation
- Other transportation yearlong road closures
- Magpie Area culvert removal and road decommissioning
- Hunters Gulch trail improvements
- Hellgate area road/trail improvements
- Avalanche area road/trail improvements
- Statewide OHV decision
- Mid-White's reclamation project
- White's Gulch reclamation
- Magpie-Confederate AMP watershed projects
- New bridge at Spring Creek
- Wagner-Atlanta AMP revision
- Beaver-Soup AMP revision
- Magpie-Confederate AMP revision
- Cave Gulch fire area restoration work
- Magpie Creek restoration project
- Forest-wide noxious weed EIS and implementation
- Beaver Creek watershed restoration
- Routine maintenance of roads and trails
- Argo land exchange
- BLM RMP revision.

There may be short term impacts for some of these projects, but the amount of sediment entering streams in the analysis area in the long-term would decrease.

Past, present, and reasonably foreseeable projects that have or are expected to have a negative watershed impact for all alternatives include:

- Wagner-Atlanta vegetation treatment
- Tiddy cabin culvert removal (short term impact, long term beneficial)
- Cave Gulch Salvage
- Historic and recurring minerals activities
- Increased noxious weed infestations on private land
- Repavement of York road
- Ongoing dispersed recreation

Timber Harvest

Since the late 1950's, timber has been harvested on approximately 9330 acres of National Forest land within the North Belts Travel Planning Project Area. The arces harvested by decade are displayed in Table – Past Timber Harvest. Of these harvested areas, clear cutting or clear cutting with reserves was conducted on about half of the treated units, or 4700 acres. The remaining areas were harvested with other methods, such as group or individual select cut, and shelterwood cut.

Past Timber Harvest

Decade of Harvest	Acres of Harvest
Undated	680
1950's	95
1960's	1972
1970's	2762
1980's	1280
1990's	2527
2000 to Present	17

Based on the WATSED model, only those units that are six years old and younger are producing sediment of any magnitude. The recent vegetation treatment projects that have the potential of producing sediment are the Wagner-Atlanta timber sale and the Cave Gulch Salvage sale. Sediment projections from the Wagner-Atlanta timber sale are minor at this point in time. Sediment projections from the Cave Gulch Salvage sale are displayed in the watershed analysis section of the Cave Gulch EIS. The major sediment producer by far is the Cave Gulch fire of 2000. Sediment projections from this fire are displayed in the recent Cave Gulch EIS.

None of the harvest displayed above is of sufficient magnitude on a watershed scale to cause accelerated stream bank erosion due to water yield increases. The only event of sufficient size to cause increases in water yield of sufficient size that would result in accelerated stream bank erosion is the Cave Gulch fire of 2000.

Livestock Grazing

Most of the allotments within the analysis area have undergone AMP revisions since 1996. Under these revisions the Helena National Forest riparian guidelines have been implemented. These guidelines limit the amount of stream bank trampling that is permissible with the goal of attaining proper functioning condition on streams within the allotments.

Mining

Most of the mining that that has occurred in the analysis area that affects streams has been the historic placer mining in Cave Gulch, Avalanche Gulch, Confederate Gulch, Elk Creek, White's Gulch, Vermont Gulch, Beaver Creek (Smith River side), Lower Oregon Gulch, Magpie Creek and Hellgate Gulch. For a description of recent minerals activities see the North Belts Travel Plan – Cumulative Effects Project List Descriptions. Both historic and ongoing mining activities can affect water quality in terms of sediment. The amount of sediment coming from these mineral activities is unquantifiable and impossible to model at this time. However, the amount of abandoned mine restoration that has been accomplished, such as White's Gulch, or planned will result in substantial amounts of sediment reductions.

Dispersed Recreation

Areas within a 300-foot buffer surrounding existing roads and trails are currently "open" to off-road vehicle travel for purposes of accessing dispersed recreation use at campsites (USDA Forest Service 2001, page 8). Areas of soil within these buffers have been subject to various degrees of impact, such as compaction, rutting or denudation, depending on type and amount of dispersed recreational use.

The exact amount of area affected by these soil impacts has not been measured for the North Belts Travel Planning Project Area. However, a field inventory of number and location for dispersed campsites is used to approximate the area of land affected by dispersed recreation. Assigning an average size value of two-thirds acre to each of 76 inventoried sites, the area affected by dispersed recreation use has been approximated as 50 acres within the North Belts Travel Planning Project area.

Alternative 1

The cumulative watershed effects boundary is established to define a point within the watershed where the effects from upland activities are no longer detectable using the most modern and advanced measurement indicators. The boundary is designed to incorporate the differences in sediment and water production and transport processes within each of the major drainages in the analysis area. The cumulative watershed effects boundary for this analysis is the Helena 6th code

Hydrologic Unit Code (HUC) boundary for the 47 different watersheds within the analysis area.

The primary sediment sources for these drainages include roads, livestock grazing in riparian areas, mining activities, and timber harvest. By far, the major sediment producer from anthropogenic sources on the forest is roads. As noted above the only timber harvest activity that is expected to produce any sediment is the Cave Gulch Salvage sale. For a more complete discussion of this project and its effects on sediment please refer to the Cave Gulch EIS. Also as noted above, most of the allotments within the analysis area have undergone Allotment Management Plan revisions and the Helena National Forest riparian guidelines are being implemented. This is expected to result in streams moving toward proper functioning condition with an expected reduction in sediment. There are many watershed improvement projects listed that are also expected to result in a long-term reduction in sediment. While there are increases in sediment due to ongoing minerals activities, abandoned mine restoration such as White's Gulch and the proposed Magpie restoration seem to far out weigh any increases in sediment coming from these ongoing activities.

When this alternative is combined with other past, present, and reasonably foreseeable actions, it is anticipated that there will be short-term increases in sediment, but in the long-term there will be an overall sediment reduction. The short-term increases in sediment will come as result of implementing some of the watershed improvement projects. This alternative rates low in terms of watershed improvement when compared to some of the other alternatives.

As noted above none of the timber harvest activities have resulted in sufficient water yield increases to the point where we can see accelerated stream bank erosion due to harvest activity. However, like sediment, roads are probably the most important anthropogenic source in terms of modifying the hydrology of these drainages. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flow paths. These changes in routing can result in increases in peak flows by both a volumetric increase and changes in the timing of storm runoff to streams. Because this alternative does not reduce the road density at all it is expected that when this alternative is combined with other past present and reasonably foreseeable activities there would not be any change in timing and amount of flows.

Alternative 2

The primary sediment sources for these drainages include roads, livestock grazing in riparian areas, mining activities, and timber harvest. By far, the major sediment producer from anthropogenic sources on the forest is roads. As noted above the only timber harvest activity that is expected to produce any sediment is the Cave Gulch Salvage sale. For a more complete discussion of this project and its effects on sediment please refer to the Cave Gulch EIS. Also as noted above, most of the allotments within the analysis area have undergone Allotment Management Plan revisions and the Helena National Forest riparian guidelines are being implemented. This is expected to result in streams moving toward proper functioning condition with an expected reduction in sediment. There are

many watershed improvement projects listed that are also expected to result in a long term reduction in sediment. While there are increases in sediment due to ongoing minerals activities, abandoned mine restoration such as White's Gulch and the proposed Magpie restoration seem to far out weigh any increases in sediment coming from these ongoing activities.

When this alternative is combined with other past present and reasonably foreseeable actions it is anticipated that there will be short-term increases in sediment, but in the long term there will be an overall sediment reduction. The short-term increases in sediment will come as result of implementing some of the watershed improvement projects. Because of the amount of ripping and seeding along with other listed watershed improvement projects this alternative rates moderate in terms of sediment reductions when compared to the other alternatives.

As noted above, none of the timber harvest activities have resulted in sufficient water yield increases to the point where we can see accelerated stream bank erosion due to harvest activity. However, like sediment, roads are probably the most important anthropogenic source in terms of modifying the hydrology of these drainages. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flowpaths. These changes in routing can result in increases in peak flows by both a volumetric increase and changes in the timing of storm runoff to streams. Because this alternative incorporates a fair amount of ripping and seeding (69 miles) it is expected that when this alternative is combined with other past present and reasonably foreseeable activities there would be a reduction in peak flows and that the overall timing of flows would be improved so as to reduce accelerated stream bank erosion. This alternative would rate moderate when compared to the other alternatives in terms of timing and quantity of flows.

Alternative 3

The primary sediment sources for these drainages include roads, livestock grazing in riparian areas, mining activities, and timber harvest. By far, the major sediment producer from anthropogenic sources on the forest is roads. As noted above the only timber harvest activity that is expected to produce any sediment is the Cave Gulch Salvage sale. For a more complete discussion of this project and its effects on sediment please refer to the Cave Gulch EIS. Also as noted above, most of the allotments within the analysis area have undergone Allotment Management Plan revisions and the Helena National Forest riparian guidelines are being implemented. This is expected to result in streams moving toward proper functioning condition with an expected reduction in sediment. There are many watershed improvement projects listed that are also expected to result in a long term reduction in sediment. While there are increases in sediment due to ongoing minerals activities, abandoned mine restoration such as White's Gulch and the proposed Magpie restoration seem to far out weigh any increases in sediment coming from these ongoing activities.

When this alternative is combined with other past present and reasonably foreseeable actions it is anticipated that there will be short-term increases in sediment, but in the long term there will be an overall sediment reduction. The

short-term increases in sediment will come as result of implementing some of the watershed improvement projects. This alternative rates low, however, in terms of watershed improvement when compared to some of the other alternatives.

As noted above, none of the timber harvest activities have resulted in sufficient water yield increases to the point where we can see accelerated stream bank erosion due to harvest activity. However, like sediment, roads are probably the most important anthropogenic source in terms of modifying the hydrology of these drainages. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flowpaths. These changes in routing can result in increases in peak flows by both a volumetric increase and changes in the timing of storm runoff to streams. Because this alternative does not reduce the road density at all it is expected that when this alternative is combined with other past present and reasonably foreseeable activities there would not be any change in timing and amount of flows from existing conditions.

Alternative 4

The primary sediment sources for these drainages include roads, livestock grazing in riparian areas, mining activities, and timber harvest. By far, the major sediment producer from anthropogenic sources on the forest is roads. As noted above the only timber harvest activity that is expected to produce any sediment is the Cave Gulch Salvage sale. For a more complete discussion of this project and its effects on sediment please refer to the Cave Gulch EIS. Also as noted above, most of the allotments within the analysis area have undergone Allotment Management Plan revisions and the Helena National Forest riparian guidelines are being implemented. This is expected to result in streams moving toward proper functioning condition with an expected reduction in sediment. There are many watershed improvement projects listed that are also expected to result in a long-term reduction in sediment. While there are increases in sediment due to ongoing minerals activities, abandoned mine restoration such as White's Gulch and the proposed Magpie restoration seem to far out weigh any increases in sediment coming from these ongoing activities.

When this Alternative is combined with other past present and reasonably foreseeable actions, it is anticipated that there would be short-term increases in sediment, but in the long-term there would be an overall sediment reduction. The short-term increases in sediment would come as a result of implementing some of the watershed improvement projects including the road closures. Because of the amount of decommissioning (287 miles) through ripping, seeding and recontouring, along with other listed watershed improvement projects, this alternative rates high in terms of sediment reductions when compared to the other alternatives.

As noted above none of the timber harvest activities have resulted in sufficient water yield increases to the point where we can see accelerated stream bank erosion due to harvest activity. However, like sediment, roads are probably the most important anthropogenic source in terms of modifying the hydrology of these drainages. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flowpaths.

These changes in routing can result in increases in peak flows by both a volumetric increase and changes in the timing of storm runoff to streams. Because this alternative incorporates a fair amount of decommissioning (287 miles) it is expected that when this alternative is combined with other past present and reasonably foreseeable activities there would be a reduction in peak flows and that the overall timing of flows would be improved so as to reduce accelerated stream bank erosion. This alternative would rate high when compared to the other alternatives in terms of timing and quantity of flows.

Alternative 5

The primary sediment sources for these drainages include roads, livestock grazing in riparian areas, mining activities, and timber harvest. By far, the major sediment producer from anthropogenic sources on the forest is roads. As noted above the only timber harvest activity that is expected to produce any sediment is the Cave Gulch Salvage sale. For a more complete discussion of this project and its effects on sediment please refer to the Cave Gulch EIS. Also as noted above, most of the allotments within the analysis area have undergone Allotment Management Plan revisions and the Helena National Forest riparian guidelines are being implemented. This is expected to result in streams moving toward proper functioning condition with an expected reduction in sediment. There are many watershed improvement projects listed that are also expected to result in a long-term reduction in sediment. While there are increases in sediment due to ongoing minerals activities, abandoned mine restoration such as White's Gulch and the proposed Magpie restoration seem to far out weigh any increases in sediment coming from these ongoing activities.

When this alternative is combined with other past present and reasonably foreseeable actions, it is anticipated that there would be short-term increases in sediment, but in the long-term there would be an overall sediment reduction. The short-term increases in sediment would come as result of implementing some of the watershed improvement projects. Because of the amount of ripping, seeding and recontouring along with other listed watershed improvement projects this alternative rates moderate in terms of sediment reductions when compared to the other alternatives.

As noted above none of the timber harvest activities have resulted in sufficient water yield increases to the point where we can see accelerated stream bank erosion due to harvest activity. However, like sediment, roads are probably the most important anthropogenic source in terms of modifying the hydrology of these drainages. Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural flow paths. These changes in routing can result in increases in peak flows by both a volumetric increase and changes in the timing of storm runoff to streams. Because this alternative incorporates a fair amount of ripping and seeding (63 miles) it is expected that when this alternative is combined with other past present and reasonably foreseeable activities there would be a reduction in peak flows and that the overall timing of flows would be improved so as to reduce accelerated stream bank erosion. This alternative would rate moderate when compared to the other alternatives in terms of timing and quantity of flows.

Fisheries

The following table summarizes past and ongoing actions affecting certain watersheds. It is followed by geographic and temporal discussions by alternative.

Watershed	Past & Ongoing Actions	Sediment Yield Change from Natural
Confederate/Boulder Cr	Upper Whites reclamation. Statewide OHV Decision. Big Belts Fire Plan. Past timber harvest--pre-90s. Historic/recurring mining. Mag-Conf AMP watershed proj Private development.	No increase from increased traffic. Minor decrease due to restrictions. Minor short-term increase/risk. Moderate increase from acc. roads. Moderate increase. Minor decrease. Minor increase.
Whites Gulch	Upper Whites Reclamation. Statewide OHV Decision. Mid-Whites reclamation. Whites Gulch reclamation. Mag-Conf AMP watershed proj Spring Cr bridge project. Big Belts Fire Plan. Past timber harvest—pre-90s. Historic/recurring mining. Special-use road access. Private development.	Moderate decrease. Minor decrease due to restrictions. Moderate decrease. Significant decrease. Minor decrease. Minor decrease. Minor short-term increase/risk. Moderate increase from acc. roads. Moderate increase. Minor increase. Minor increase.
Avalanche Cr	Road-trails improvements. Statewide OHV Decision. Mag-Conf AMP watershed proj Big Belts Fire Plan. Past timber harvest—pre-90s. Historic/recurring mining. Special-use road access. Private development.	Moderate decrease. Minor decrease due to restrictions. Minor decrease. Minor short-term increase/risk. Moderate increase from acc. roads. Moderate increase. Minor increase. Minor increase.

Watershed	Past & Ongoing Actions	Sediment Yield Change from Natural
Magpie Cr	Hunter's G trail improvements	Minor decrease.
	Statewide OHV Decision.	Minor decrease due to restrictions.
	Mag-Conf AMP watershed proj	Minor decrease.
	Cave G Salvage.	Minor increase (short term).
	Big Belts Fire Plan.	Minor short-term increase/risk.
	Past timber harvest—pre-90s.	Moderate increase from acc. Roads.
	Historic/recurring mining.	Moderate increase.
	Aspen fence projects.	Minor decrease.
	Noxious weed control.	Minor decrease.
	Bar G cabin well and rental	No change.
	Emergency road closures.	Minor decrease.
	Cave G Restoration project.	Minor decrease.
	BAER work (2000-01).	Minor decrease.
	Reforestation (2002-2004).	No change.
	Private development.	Minor increase.
	Magpie culvert/road decomm.	Minor decrease.
Trout Cr	Statewide OHV Decision	Minor decrease due to restrictions.
	Big Belts Fire Plan.	Minor short-term increase/risk.
	Past timber harvest—pre-90s.	Moderate increase from acc. Roads.
	York townsite act exchange.	No change.
	Private development.	Significant increase.
Beaver Cr (Missouri R)	Statewide OHV Decision.	Minor decrease due to restrictions.
	Beaver-Soup AMP revision.	Minor decrease.
	Beaver-Soup veg treatment.	No change.
	Hogback salvage.	No change.
	Bull/Sweats veg treatment.	No change.
	Big Belts Fire Plan.	Minor short-term increase/risk.
	Gates of Mtns Fire Plan.	No change.
	Yellowstone Pipeline burial.	Minor increase.
	NW Energy utilities corridor.	Minor increase.
	Harlan land exchange.	No net change.
	Rehab of user created route.	No change.
	Private development.	Moderate increase.
Atlanta Cr	Wagner-Atlanta veg treatment.	Minor increase.
	Wagner-Atlanta AMP revision.	Minor decrease.
	Statewide OHV Decision.	Minor decrease due to restrictions.
	Big Belts Fire Plan.	Minor short-term increase/risk.
	Historic/recurring mining.	Moderate increase.

Watershed	Past & Ongoing Actions	Sediment Yield Change from Natural
Benton/Vermont Cr	Wagner-Atlanta veg treatment. Statewide OHV Decision. Big Belts Fire Plan. Past timber harvest—pre-90s. Historic/recurring mining. Private development.	Minor increase. Minor decrease due to restrictions. Minor short-term increase/risk. Moderate increase from acc. roads. Significant increase. Significant increase.
Elk/Slough Cr	Wagner-Atlanta veg treatment. Statewide OHV Decision. Wagner-Atlanta AMP revision. Big Belts Fire Plan. Past timber harvest—pre-90s. Historic/recurring mining.	Minor increase. Minor decrease due to restrictions. Minor decrease. Minor short-term increase/risk. Minor increase. Moderate increase.
Beaver Cr (Smith R)	Wagner-Atlanta AMP revision. Statewide OHV Decision. Big Belts Fire Plan. Past timber harvest—pre-90s. Historic/recurring mining. Private development.	Minor decrease. Minor decrease due to restrictions. Minor short-term increase/risk. Minor increase. Moderate increase. Minor increase.
French Cr	Beaver-Soup AMP revision. Statewide OHV Decision. Historic/recurring mining. Big Belts Fire Plan. Private development.	Minor decrease. Minor decrease due to restrictions. Minor increase. Minor short-term increase/risk. Minor increase.

Alternative 1

Geographic: The geographic scope for fisheries is the 6th Level Hydrologic Unit Code (HUC) boundaries (watershed boundaries in the common vernacular) for eleven fishbearing watersheds. Larger watersheds like Trout and Beaver Creek (Missouri R.) fall under the 5th code HUC size. A map displaying these watersheds is shown in figure 1. These boundaries are necessary to account for differences in water, sediment and organic debris processes as well as varying levels of land-use activities. Activities affecting one watershed may be totally isolated from another.

Past and ongoing projects and activities influencing these watersheds are listed in Table 2 under the Affected Environment section. A common denominator of these activities affecting fish habitat is sediment because any ground disturbance has high potential to increase erosion and therefore sedimentation into the stream system. The watershed report identifies livestock grazing, mining, timber harvest, and roads as four primary sediment sources, but roads produce the most chronic sediment (Anderson et al. 1971, Cederholm 1981, Furniss et al. 1991).

Temporal: Combined with past and present actions (see Table 2), this alternative sets the baseline for unnatural sediment conditions in fishbearing drainages. Activities resulting in minor short-term (1-5 years) sediment increases include: Cave Gulch Salvage project, Big Belts Fire Plan, Hunter's Gulch trail improvements, and Wagner-Atlanta vegetation treatments. Actions that result in long-term (5+ years) or recurring sediment increases include: past timber access roads, historic/recurring mining operations, private development, Yellowstone Pipeline burial and NorthWest Energy utility corridor (Beaver Creek). Activities that decrease sediment are mainly attributable to AMP (grazing) revisions; stream/watershed restoration projects including Whites Gulch, Mid-Whites Gulch, upper Whites Gulch; Magpie-Confederate watershed projects; Avalanche culvert replacements; aspen fence projects; and the statewide OHV decision.

Reasonably foreseeable future actions increasing sediment include: recurrent mining operations, grazing and timber harvest on private inholdings, private development, and road/utilities maintenance. Conversely, foreseeable future projects benefiting (lowering) sediment inputs include: Beaver Creek restoration project, Magpie Creek restoration project, Forest Weed EIS, Tiddy stream crossing removal, trail improvements, and the WCT Conservation Agreement/MOU. Action plans under development within the context of the WCT conservation strategy include habitat protection and restoration.

Depending on the watershed, this alternative likely results in minor reductions in sedimentation over the long term when combined with reasonably foreseeable future actions. Based on the list of foreseeable future projects compiled for this project, the general trend in sedimentation in area watersheds is expected to increase in the short-term (1-5 years) and slowly decrease over the long-term (5+ years) largely as a function of watershed improvement actions and AMP revisions. Watersheds like Elk Creek and French Creek may experience more fixed levels of sedimentation due to lack of project plans in the foreseeable future for each of those drainages.

Alternative 2

Geographic: The geographic scope for fisheries is the 6th Level Hydrologic Unit Code (HUC) boundaries for eleven fishbearing watersheds. Larger watersheds like Trout and Beaver Creek (Missouri R.) fall under the 5th code HUC size. A map showing these watersheds is displayed in figure 1. The rationale for these boundaries is that they account for differences in water, sediment and organic debris processes as well as varying levels of land-use activities. Activities affecting one watershed may be totally isolated from another.

Past and ongoing projects and activities influencing these watersheds are the same as those listed in Table 2 under the Affected Environment section. The common denominator of these activities as they affect fisheries is sediment because any ground disturbance has high potential to increase erosion and therefore sedimentation into the stream system. The watershed report identifies livestock grazing, mining, timber harvest and roads as four primary sediment sources, but roads produce the most chronic sediment (Anderson et al. 1971, Cederholm 1981, Furniss et al. 1991).

Temporal: When combined with past and present actions (Table 2), this alternative closely resembles the no action alternative. All the same activities affecting existing conditions apply. Those resulting in minor short-term (1-5 years) sediment increases include: Cave Gulch Salvage project, Big Belts Fire Plan, Hunter's Gulch trail improvements, and Wagner-Atlanta vegetation treatments. Actions that result in long-term (5+ years) or recurring sediment increases include: past timber access roads, historic/recurring mining operations, private development, Yellowstone Pipeline burial and NorthWest Energy utility corridor (Beaver Creek). Activities that decrease sediment are mainly attributable to AMP (grazing) revisions; stream/watershed restoration projects including Whites Gulch, Mid-Whites Gulch, upper Whites Gulch; Magpie-Confederate watershed projects; Avalanche culvert replacements; aspen fence projects; and the statewide OHV decision.

Reasonably foreseeable future actions increasing sediment include: recurrent mining operations, grazing and timber harvest on private inholdings, private development, and road/utilities maintenance. Conversely, foreseeable future projects benefiting (lowering) sediment inputs include: Beaver Creek restoration project, Magpie Creek restoration project, Forest Weed EIS, Tiddy stream crossing removal, trail improvements, and the WCT Conservation Agreement/MOU. Action plans under development within the context of the WCT conservation strategy include habitat protection and restoration.

This alternative would likely result in minor long-term reductions in sedimentation from baseline conditions as a function of watershed improvement actions, AMP revisions, and minor reductions in high/moderate risk roads and stream-route interactions. The two exceptions are Trout Creek and Magpie Creek. High/moderate risk routes would increase in Trout Creek by 1.13 miles with 28 additional stream-route interactions. Magpie Creek would experience a net increase of 0.7 miles of high/moderate risk routes. Consequently, there would be an increasing trend in sediment for these two stream systems. Elk Creek and French Creek may experience more fixed levels in sedimentation based on the lack of project plans in the foreseeable future for these drainages.

Alternative 3

Geographic: The geographic scope for fisheries is the 6th Level Hydrologic Unit Code (HUC) boundaries for eleven fishbearing watersheds. Larger drainages like Trout and Beaver Creek (Missouri R.) fall under the 5th code HUC size. A map showing these watersheds is displayed in figure 1. The rationale for these boundaries is that they account for differences in water, sediment and organic debris processes as well as varying levels of land-use activities. Activities affecting one watershed may be totally isolated from another.

Past and ongoing projects and activities influencing these watersheds are the same as those listed in Table 2 under the Affected Environment section. The common denominator of these activities as they affect fisheries is sediment because any ground disturbance has high potential to increase erosion and therefore sedimentation into the stream system. The watershed report identifies livestock grazing, mining, timber harvest and roads as four primary sediment

sources, but roads produce the most chronic sediment (Anderson et al. 1971, Cederholm 1981, Furniss et al. 1991).

Temporal: When combined with past and present actions (Table 2), this alternative would result in a minor increasing trend in sediment inputs. The same activities affecting existing conditions would apply. Those resulting in minor short-term (1-5 years) sediment increases include: Cave Gulch Salvage project, Big Belts Fire Plan, Hunter's Gulch trail improvements, and Wagner-Atlanta vegetation treatments. Actions that would result in long-term (5+ years) or recurring sediment increases include: past timber access roads, historic/recurring mining operations, private development, Yellowstone Pipeline burial and NorthWest Energy utility corridor (Beaver Creek). Activities that would decrease sediment are mainly attributable to AMP (grazing) revisions; stream/watershed restoration projects including Whites Gulch, Mid-Whites Gulch, upper Whites Gulch; Magpie-Confederate watershed projects; Avalanche culvert replacements; aspen fence projects; and the statewide OHV decision.

Reasonably foreseeable future actions that would increase sediment include: recurrent mining operations, grazing and timber harvest on private inholdings, private development, and road/utilities maintenance. Conversely, foreseeable future projects that would benefit (lowering) sediment inputs include: Beaver Creek restoration project, Magpie Creek restoration project, Forest Weed EIS, Tiddy stream crossing removal, trail improvements, and the WCT Conservation Agreement/MOU. Action plans under development within the context of the WCT conservation strategy include habitat protection and restoration.

This alternative would likely result in a minor long-term increase in sediment conditions over baseline as a function of a net increase of 1.08 miles of high/moderate risk roads and three more stream-route interactions. This is due to route proposals in Magpie Creek. Magpie Creek would experience a net increase of 2.35 miles of high/moderate risk routes and two additional stream-route interactions over baseline despite project improvements listed in Table 2. It is the only drainage that would experience a downward trend in habitat conditions under this alternative. Watershed improvement actions and AMP revisions under Alternative 1 that serve to lower sediment tend to become offset when new stream-route interactions and high risk routes occur in a drainage. All other drainages except Elk and French Creeks could experience minor long-term lowering of sediment inputs as described under the no action alternative. Elk Creek and French Creek are not expected to vary in sedimentation up or down for lack of project plans in the foreseeable future.

Alternative 4

Geographic: The geographic scope for fisheries is the 6th Level Hydrologic Unit Code (HUC) boundaries for eleven fishbearing watersheds. Larger drainages like Trout and Beaver Creek (Missouri R.) fall under the 5th code HUC size. A map showing these watersheds is displayed in figure 1. The rationale for these boundaries is that they account for differences in water, sediment and organic debris processes as well as varying levels of land-use activities. Activities affecting one watershed may be totally isolated from another.

Past and ongoing projects and activities influencing these watersheds would be the same as those listed in Table 2 under the Affected Environment section. The common denominator of these activities as they affect fisheries is sediment because any ground disturbance has high potential to increase erosion and therefore sedimentation into the stream system. The watershed report identifies livestock grazing, mining, timber harvest and roads as four primary sediment sources, but roads produce the most chronic sediment (Anderson et al. 1971, Cederholm 1981, Furniss et al. 1991).

Temporal: When combined with past and present actions (Table 2), this alternative would result in reductions of sediment across all watersheds but one. All the same activities affecting existing conditions would apply. Those resulting in minor short-term (1-5 years) sediment increases include: Cave Gulch Salvage project, Big Belts Fire Plan, Hunter's Gulch trail improvements, and Wagner-Atlanta vegetation treatments. Actions that result in long-term (5+ years) or recurring sediment increases include: past timber access roads, historic/recurring mining operations, private development, Yellowstone Pipeline burial, and NorthWest Energy utility corridor (Beaver Creek). Activities that would decrease sediment are mainly attributable to AMP (grazing) revisions; stream/watershed restoration projects including Whites Gulch, Mid-Whites Gulch, upper Whites Gulch; Magpie-Confederate watershed projects; Avalanche culvert replacements; aspen fence projects; and the statewide OHV decision.

Reasonably foreseeable future actions increasing sediment include: recurrent mining operations, grazing and timber harvest on private inholdings, private development, and road/utilities maintenance. Conversely, foreseeable future projects benefiting (lowering) sediment inputs include: Beaver Creek restoration project, Magpie Creek restoration project, Forest Weed EIS, Tiddy stream crossing removal, trail improvements, and the WCT Conservation Agreement/MOU. Action plans under development within the context of the WCT conservation strategy would include habitat protection and restoration.

All watersheds except Elk Creek would undergo long-term declines in sedimentation from baseline as a function of watershed improvement actions, AMP revisions, and major reductions in high/moderate risk roads and stream-route interactions. In Elk Creek the high/moderate risk road is private outside of agency control. Miles of high/moderate risk routes would decrease ranging from 0.04 in French Creek to 9.59 in Trout Creek. Stream-route interactions would decrease, ranging from one in French Creek to as many as 78 in Avalanche Creek. Consequently, there would be substantial declines in sediment sources for most drainages. For watersheds supporting westslope cutthroat trout, this would be consistent with the state WCT Conservation Agreement/MOU.

Alternative 5

Geographic: The geographic scope for fisheries is the 6th Level Hydrologic Unit Code (HUC) boundaries for eleven fishbearing watersheds. Larger drainages like Trout and Beaver Creek (Missouri R.) fall under the 5th code HUC size. A map showing these watersheds is displayed in figure 1. The rationale for these boundaries is that they account for differences in water, sediment and organic

debris processes as well as varying levels of land-use activities. Activities affecting one watershed may be totally isolated from another.

Past and ongoing projects and activities influencing these watersheds are the same as those listed in Table 2 under the Affected Environment section. The common denominator of these activities as they affect fisheries is sediment because any ground disturbance has high potential to increase erosion and therefore sedimentation into the stream system. The watershed report identifies livestock grazing, mining, timber harvest and roads as four primary sediment sources, but roads produce the most chronic sediment (Anderson et al. 1971, Cederholm 1981, Furniss et al. 1991).

Temporal: When combined with past and present actions (Table 2), this alternative would result in reductions of sediment across all watersheds but three. All the same activities affecting existing conditions would apply. Those resulting in minor short-term (1-5 years) sediment increases include: Cave Gulch Salvage project, Big Belts Fire Plan, Hunter's Gulch trail improvements, and Wagner-Atlanta vegetation treatments. Actions that would result in long-term (5+ years) or recurring sediment increases include: past timber access roads, historic/recurring mining operations, private development, Yellowstone Pipeline burial, and NorthWest Energy utility corridor (Beaver Creek). Activities that would decrease sediment are mainly attributable to AMP (grazing) revisions; stream/watershed restoration projects including Whites Gulch, Mid-Whites Gulch, upper Whites Gulch; Magpie-Confederate watershed projects; Avalanche culvert replacements; aspen fence projects; and the statewide OHV decision.

Reasonably foreseeable future actions that would increase sediment include: recurrent mining operations, grazing and timber harvest on private inholdings, private development, and road/utilities maintenance. Conversely, foreseeable future projects that would benefit (lower) sediment inputs include: Beaver Creek restoration project, Magpie Creek restoration project, Forest Weed EIS, Tiddy stream crossing removal, trail improvements, and the WCT Conservation Agreement/MOU. Action plans under development within the context of the WCT conservation strategy include habitat protection and restoration.

All but three watersheds would undergo long-term declines in sedimentation from baseline as a function of watershed improvement actions, AMP revisions, and reductions in high/moderate risk roads and stream-route interactions. Elk Creek, French Creek and Atlanta Creek would not experience much change apart from minor sediment declines due to AMP (grazing) revisions, WCT Conservation Agreement/MOU and the state OHV decision. Miles of high/moderate risk routes would decrease ranging from 0.14 in Beaver Creek (Smith R.) to 4.76 in Avalanche Creek. Stream-route interactions would increase only in Benton/Vermont Creek up by two over existing conditions. The remaining watersheds would experience decreases in stream-route interactions ranging from one in Beaver Creek (Smith R.) to 64 in Avalanche Creek. Consequently, there would be minor to moderate declines in sediment sources for most drainages. For watersheds supporting westslope cutthroat trout, all would experience some declines in amount of high/moderate risk routes and stream-route interactions. This is consistent with the state WCT Conservation Agreement/MOU.

Wildlife

Dispersal, Migration, and Travel Corridors, Cumulative Effects

A variety of activities occur on private and state lands adjacent to the project area in all directions. Actions adjacent to the North Belts Travel Planning area can be generally characterized as livestock grazing (primarily cattle and horse), timber harvest and urban development. The surrounding area is primarily undeveloped rangeland and forested land, with large blocks of private land intermixed with home and some subdividing with the exception of the Missouri River corridor area. Cumulative actions in the area on adjacent private lands will occur despite any decisions made by the Helena National Forest. Addition of any of the proposed actions in alternatives 2, 4, and 5 all have potential in reducing impacts in connectivity for wildlife and habitat given the amount of road/trail decommissioning. Alternative 3 may actually accentuate the potential to decrease connectivity for certain species of wildlife and habitat due to increased motorized use levels. Potential levels of use may be acceptable however more site-specific information is needed to determine the extent of potential risk.

Elk, Cumulative Effects

A variety of activities occur on private and state lands adjacent to the project area in all directions. Actions adjacent to the North Belts Travel Planning area can be generally characterized as livestock grazing (primarily cattle and horse), timber harvest and urban development. The surrounding area is primarily undeveloped rangeland and forested land, with large blocks of private land intermixed with home and some subdividing. Cumulative actions in the area on adjacent private lands will occur despite any decisions made by the Helena National Forest. Adding the additional effects of any alternative to these actions would cause change in security both increasing and decreasing in some of the elk analysis units. Where retrieval routes and extended motorized use is allowed may cause the potential to displace elk use in elk analysis units.

Lynx, Cumulative Effects

Past activities are considered part of the environmental baseline for lynx habitat. Ongoing activities in the project area have addressed effects to lynx habitat where applicable (i.e. Cave Gulch and Maudlow Toston Salvage Sales). Reasonably foreseeable activities that might impact lynx habitat include activities on private land. Private land adjacent to lynx habitat may experience snow compaction activities providing access onto the National Forest into lynx habitat.

Winter use in the South Belts is also another potential cumulative effect on lynx. There are approximately 3 miles of groomed snowmobile routes in the South Belts. Acres open and closed to snowmobile use in the South Belts are 3652.2 and 24,137.5, respectively. There are approximately 27,789.7 acres of lynx habitat in the South Belts.

Wolverine, Cumulative Effects

Natal Denning Habitat

Cumulative effects on natal denning habitat are described in terms of non-federally managed land in the North Belts and all land ownerships in the South Belts. The following table summarizes these effects.

Total protected and unprotected wolverine natal denning habitat in the Big Belt Mountain Range

	Total Wolverine Natal Denning Habitat/Acres	Total Protected Acres/Percent	Total Unprotected/ Percent
North Belts/Non-National Forest	2,253	934/41	1319/59
South Belts / National Forest	28,257	25,766/91	2,491/9
South Belts/Non-National Forest	6,188	0	6,188/100

Additional roadless areas in the south belts will also provide some degree of refugia. These areas include Mount Baldy and Grassy Mountain at about 16,100 and 6,400 net acres respectively.

Past activities are considered part of the environmental baseline for wolverines. Ongoing activities in the project area have addressed effects to wolverines where applicable. Reasonably foreseeable activities that might impact wolverine habitat include the Forest-wide Weed EIS the results of which may lead to increased disturbance.

Range

Cumulative Effects Common to All Alternatives

Increases in private land development and its resultant increase in use on adjacent forest areas could lead to increased conflicts between vehicle uses and range administration. Conflicts include damage to infrastructure, gates, and other improvements.

Alternative 1

Closing some existing roads could potentially impact the implementation of the new AMP revisions for the Wagner/Atlanta and Magpie/Confederate analysis areas. Effects of this would be minimal if implementation was completed prior implementing the decision of this analysis.

Alternative 2

An increase in more designated available OHV routes could result in an increase in the number of users and lead to range administration conflicts. Building new trails could potentially lead to livestock using the trail system to move from one area to the next. The effect of this activity could be minimal if fencing was used to stop livestock from entering unauthorized areas. Closing existing roads using the rip and slash method could potentially block livestock driveways, resulting in livestock concentrations in sensitive upland and riparian areas. Closing existing roads could potentially impact the implementation of the new AMP revisions for the Wagner/Atlanta and Magpie/Confederate analysis areas. Effects of this would be minimal if implementation was completed prior implementing the decision of this analysis.

Alternative 3

Building new trails could potentially lead to livestock using the trail system to move from one area to the next. The effect of this activity could be minimal if fencing was used to stop livestock from entering unauthorized areas. Closing existing roads using the rip and slash method could potentially block livestock driveways, resulting in livestock concentrations in sensitive upland and riparian areas. Closing existing roads could potentially impact the implementation of the new AMP revisions for the Wagner/Atlanta and Magpie/Confederate analysis areas. Effects of this would be minimal if implementation was completed prior implementing the decision of this analysis.

Alternative 4

Building new trails could potentially lead to livestock using the trail system to move from one area to the next. The effect of this activity could be minimal if fencing was used to stop livestock from entering unauthorized areas. Closing existing roads using the rip and slash method could potentially block livestock driveways, resulting in livestock concentrations in sensitive upland and riparian areas. Closing existing roads could potentially impact the implementation of the new AMP revisions for the Wagner/Atlanta and Magpie/Confederate analysis areas. Effects of this would be minimal if implementation was completed prior implementing the decision of this analysis.

Alternative 5

Building new trails could potentially lead to livestock using the trail system to move from one area to the next. The effect of this activity could be minimal if fencing was used to stop livestock from entering unauthorized areas. Closing existing roads using the rip and slash method could potentially block livestock driveways, resulting in livestock concentrations in sensitive upland and riparian areas. Closing existing roads could potentially impact the implementation of the new AMP revisions for the Wagner/Atlanta and Magpie/Confederate analysis areas. Effects of this would be minimal if implementation was completed prior implementing the decision of this analysis.

Weeds

All ground disturbing activities have the potential to increase noxious weed infestations. While the N. Belts currently has about 9,600 acres of weed infestations, the concentration and acres of weed infestations on adjacent private (particularly around Canyon Ferry) and other lands far exceeds those on National Forest Lands. The result is constant efforts and dollars spent on federal lands to retain them in a more uninfested condition.

Even with the large level of ongoing treatment on National Forest lands, infestations are expected to increase unless other available tools are provided (i.e. aerial spraying).

List of Preparers

The following individuals comprised the Interdisciplinary Team:

Name	Responsibility	Education	Experience
Larry Cole	Lands/Spec. Uses	B.S. Forest Management	24 years
Carl Davis	Heritage and Recreation Resources	M.S. Anthropology	22 years
Sue Farley	Soils	BS, Soil Science	16 years
Chip Fisher	GIS	B.S. Forestry & B.S. Computer Science	8 years
Jan FuantLeRoy	NEPA	B.S. Natural Res. Mgt.	25 years
Archie Harper	Fisheries	B.S. Fish & Wildlife Mgt.	14 years
Dennis Heffner	GIS	B.S. Forestry	22 years
Beth Ihle	Team Leader	M.S. Earth Sciences	15 years
Diane Johnson	Noxious Weeds		14 years
Alisha Kitto	Team Support	B.S. Fish & Wildlife Mgt.	4 years
Charlie McKenna	Transportation	M.S. Civil Engineering	22 years
Jim O'Dell	Fire	B.S. Fisheries Resources	23 years
Lois Olsen	Sensitive Plants	B.S. Agriculture Production, Range Mgt.	24 years
Dave Payne	Recreation	B.S. Resource Mgt.	25 years
Denise Pengeroth	Wildlife	M.S. Wildlife Biology	11 years
Dave Romero	Wildlife	B.S. Agriculture	8 years
Tracy Schilling	Range	B.S. Range Sciences	6 years
Sharon Scott	Vegetation	B.S. Forestry	15 years
Bo Stuart	Hydrology	M.S. Microbiology	24 years
Ann Sullivan	GIS		12 years
Liz VanGenderen	Writer/Editor	B.S. Natural Res. Mgt.	14 years
Jay Winfield	Range	B.S. Range Science	15 years
Steve Wyatt	Lands/Spec. Uses	B.S. Range Conservation	25 years

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Glossary and Acronyms

Glossary

Affected Environment. The natural, physical, and human-related environment that is sensitive to changes due to proposed actions.

Age Classes. Intervals (commonly 10 years) into which the age range of a tree crop is divided; also trees falling into such an interval.

Air Quality. Refers to standards for various 1classes of land as designated by the Clean Air Act, P.L. 88-206: Jan. 1978

Airshed. A geographical area that, because of topography, meteorology, and climate, shares the same air.

Alternative. A mix of management prescriptions applied to specific land areas to achieve a set of goals and objectives. Each alternative represents a different way of achieving a set of similar management objectives. Sometimes the term "action alternative" is used when it is desirable to recognize that there is a "no action" alternative under which the proposed activity would not take place.

Analysis Area. In contrast with implementation/project area, which is comprised of and defined by the general area in which activities are proposed under the various alternatives, the analysis area varies by resources and issues. It is defined by the area and resources which could potentially be affected or influenced by proposed activities.

BEHAVE. A software application to predict wildland fire behavior for fire management purposes. It is designed for use by fire and land managers who are familiar with fuels, weather, topography, wildfire situations and the associated terminology.

Best Management Practices. A set of practices which, when applied during implementation of a project, ensures that water-related beneficial uses are protected and that State water quality standards are met.

Big Game. Those species of large mammals normally managed as a sport hunting resource.

Biological Assessment. An evaluation conducted on Federal projects requiring an environmental impact statement, in accordance with the Endangered Species Act. The purpose of the assessment is to determine whether the proposed action is likely to affect an endangered, threatened, or proposed species

Biological Evaluation. An evaluation conducted on Forest Service projects in accordance with Forest Service policy. The purpose is to determine whether any of the project alternatives are likely to affect threatened, endangered, or sensitive species.

Bulk Density. Used to measure soil compaction. The mass of dry soil per unit volume, corrected for weight and volume of coarse fragments greater than 2 millimeters in diameter, often expressed as grams per cubic centimeter.

Canopy. The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth. Layers of canopy may be called stories.

Canopy Closure. The progressive reduction of space between tree crowns as they spread laterally; a measure of the percent of potential open space occupied by the collective tree crowns in a stand.

Cavity. The hollow, excavated in snags by birds; used for roosting and reproduction by many birds and mammals.

Channel Morphology. The physical form and structure of a stream channel as a product of a complex set of variables operating within a watershed. Any imposed changes upon these variables can result in changes to the natural structure of the stream.

Classified Road. Road wholly or partially within or adjacent to National Forest System land that is determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service.

Closed Canopy. The condition that exists when the canopy created by trees or shrubs or both is dense enough to exclude most of the direct sunlight from the forest floor.

Closed Road. A National Forest road or segment which is restricted from certain types of use during certain seasons of the year. The prohibited use and the time period of closure must be specified. The closure is legal when the Forest Supervisor has issued an order and posted it in accordance with chapter 36 of the CFR section 261.

Coarse Filter. A broad view of wildlife populations, considering a larger area and looking at few details.

Colluvium. A general term applied to loose and incoherent deposits, usually at the foot of a slope or cliff and brought there by gravity.

Compaction. A physical change in soil properties from compression, vibration, or shearing that increases soil bulk density and decrease porosity, air exchange, root penetration, soil filtration, and permeability.

Conifer. Any of a group of needle and cone-bearing evergreen trees.

Cover. Vegetation used by wildlife for protection from predators, breeding and rearing of young (hiding cover), or to ameliorate conditions of weather (thermal cover).

Cover/forage Ratio. The ratio, in percent, of the amount of area providing cover as compared to that providing forage.

Cultural Resources. The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) having scientific, prehistoric, or social values. More commonly referred to as Heritage Resources.

Cumulative Effect. The impact on the environment which results from the incremental impact of the action when added to other actions. Cumulative impacts can also result from individually minor but collectively significant actions taking place over a period of time.

Decadent. Deteriorating; when used in reference to stand condition there are inferences of the loss of trees from the overstory and of the presence of disease, or indications of loss of vigor in dominant trees so that the mean annual increment is negative.

Decision Area. The geographic area defining the scope of this document and the alternatives proposed by it.

Denning Site. A place of shelter for an animal; also where an animal gives birth and raises young.

Designated Motorized Routes.

Detrimental Soil Disturbance. Soil which is physically or chemically altered to the degree that vegetative production and health is assumed to be adversely affected.

Diversity. The relative distribution and abundance of different plant and animal communities and species within an area.

Duff. An organic surface soil layer, below the litter layer, in which the original form of plant and animal matter cannot be identified with the unaided eye.

Dominant. Plant species or species groups which, by means of their numbers, coverage, or size, influence or control the existence of associated species. Also, individual animals which determine the behavior of one or more other animals, resulting in the establishment of a social hierarchy.

Dual Use. Roads available for full size and off-highway vehicles. Not necessary to meet State licensing requirements.

Ecological Landscape Unit. Areas which on a broad scale portray zones of common climate, elevation, and orientation. The composition is further refined into Landtype Associations, which reflect common landforms, bedrock geology, and watershed characteristics and fairly accurately define potential vegetative communities.

Ecosystem. An interacting natural system including all the component organisms together with the abiotic environment.

Ectomychorrizae. A symbiotic union between a fungus and plant root, especially conifers, with specific characteristics. These "special" roots are critical to the ability of conifers to thrive in relatively infertile, dry, or competitive environments.

Effects (impacts). Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Effects may be either direct, which are caused by the action and occur at the same time and place, or indirect, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable, or cumulative.

Emigration. The behavior of individuals or populations of animals leaving an area to settle elsewhere.

Endangered Species. Any plant or animal species which is in danger of extinction throughout all or a significant portion of its range. (Endangered Species Act of 1973).

Environment. The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

Environmental Analysis. An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; direct, indirect, and cumulative effects.

Environmental Impact Statement. A detailed statement prepared by the responsible official in which a major Federal action which significantly affects the quality of the human environment is described, alternatives to the proposed action provided, and effects analyzed.

Ephemeral Streams. Streams that flow only as a direct response to rainfall or snowmelt events. They have no baseflow.

Epidemic. The populations of plants, animals, and diseases that build-up, often rapidly, to highly abnormal and generally injurious levels.

Erosion. Detachment or movement of soil or rock fragments by water, wind, ice, or gravity. Accelerated erosion is much more rapid than normal, natural, or geologic erosion, primarily as a result of the influence of activities of people, animals, or natural catastrophes.

Evapotranspiration. The process of water loss by leaf surface evaporation and the replacement of that water from soil back to stem and leaf. The more leaf surface available, the greater the water removal from the soil.

Federal Register. A daily publication which reports Presidential and Federal Agency documents.

Fine Filter. A close-up view of wildlife populations, considering a small area and looking at much detail.

FOFEM. First Order Fire Effects Model. A computer program for predicting tree mortality, fuel consumption, smoke production, and soil heating caused by prescribed fire or wildfire.

Forage. Vegetation used for food by wildlife, particularly big game wildlife and domestic livestock.

Forest Land. Land at least 10 percent occupied by forest trees or formerly having had such tree cover and not currently developed for nonforest use.

Fuels. Combustible materials present in the forest which potentially contribute a significant fire hazard.

Fuels Management. Manipulation or reduction of fuels to meet Forest protection and management objectives while preserving and enhancing environmental quality.

Habitat. The sum total of environmental conditions of a specific place occupied by a wildlife species or a population of such species.

Habitat Component. A simple part, or a relatively complex entity regarded as a part, or an area or type of environment in which an organism or biological population normally lives or occurs.

Habitat Type. An aggregation of all land areas potentially capable of producing similar plant communities at climax.

Head Month. For grazing fee purposes, a head month (HM) is a month's use and occupancy of rangeland by one weaned or adult cow, bull, steer, heifer, horse, burro or mule, or 5 sheep or 5 goats.

Healthy Ecosystem. A healthy ecosystem is one which structure and functions allow the maintenance of the desired condition of biological diversity, biotic integrity, and ecological processes *(Kaufman, et al. 1994)*.

Heritage Resources. The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) having scientific, prehistoric, or social values. Also referred to as Cultural Resources.

Hiding Cover. Vegetation capable of hiding 90 percent of a standing adult deer or elk at 200 feet or less. Includes some shrub stands and all forested stand conditions with adequate tree stem density or shrub layer to hide animals. In some cases, topographic features also can provide hiding cover.

Immigration. The behavior of individuals or populations of animals moving into an area to settle there.

Implementation Area. As used in this document, essentially synonymous with project area, which is comprised of and defined by the general area in which activities are proposed under the various alternatives. Contrast with analysis area.

Indirect Effects. Secondary effects which occur in locations other than the initial action or significantly later in time.

INFISH. Short form for Inland Native Fish Strategy. INFISH amended Forest Plans to ensure conservation practices are applied in applicable watersheds until the Columbia River Basin EIS is completed.

INFRA. A computer application where Forests can enter, manage, and report accurate information and associated financial data on the inventory of their constructed features – features such as buildings, dams, bridges, water systems, roads, trails, developed recreation sites, range improvements, administrative sites, heritage sites, general forest areas and wilderness.

Interdisciplinary Team. A group of resource professionals with different expertise that collaborate to develop and evaluate resource management decisions.

Intermittent Stream. A stream which flows sporadically during the summer months, with occasional surface flows interrupted by stretches with subsurface flows.

Inventoried Roadless Area. An area officially delineated under the Forest Plan roadless inventory. On the Helena National Forest, these roadless areas include all lands which were originally designated, regardless of subsequent management actions such as road building or timber harvest, that have occurred since the Forest Plan consideration.

Juxtaposition. To place, or compare, side by side.

Landscape. The aspect of the land that is characteristic of a particular region or area.

Landtype. A unit of land with similar designated soil, vegetation, geology, topography, climate and drainage. The basis for mapping units in the land systems inventory.

Litter. An organic surface soil layer usually composed of identifiable leaves, branches, other vegetative material, and animal remains.

Loess. A blanket deposit of buff-colored calcareous silt - homogeneous, nonstratified, weakly coherent, porous and friable.

Management Area. Geographic areas, not necessarily contiguous, which have common management direction, consistent with the Forest Plan allocations.

Management Direction. A statement of multiple use and other goals and objectives, along with the associated management prescriptions and standards and guidelines to direct resource management.

Metapopulation. A large population located across a large area

Mitigation. Actions to avoid, minimize, reduce, eliminate, replace, or rectify the impact of a management practice.

Monitoring and Evaluation. The evaluation, on a sample basis, of Forest Plan management practices to determine how well objectives are being met, as well as the effects of those management practices on the land and environment.

NEPA Process. An interdisciplinary process, mandated by the National Environmental Policy Act, which concentrates decision making around issues, concerns, alternatives and the effects of alternatives on the environment.

No Action Alternative. The No Action alternative is required by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The no action alternative provides a baseline for estimating the effects of other alternatives. Where a project activity is being evaluated, the no action alternative is defined as one where no action or activity would take place.

Nonstocked. A stand of trees or aggregation of stands that have a stocking level below the minimum specified for meeting the prescribed management objectives.

Non-system Road. Another name for an unclassified road.

Noxious Weeds. Rapidly spreading plants that can cause a variety of major ecological impacts to both agriculture and wild lands.

Old Growth Habitat. Old growth is a distinct successional stage in the development of a timber stand that has special significance for wildlife, generally characterized by: (1) large diameter trees (often exceeding 19" dbh) with a relatively dense, often multilayer canopy. (2) the presence of large, standing dead or dying trees. (3) down and dead trees, (4) stand decadence associated with the presence of various fungi and heartrots, (5) and an averageage often in excess of 200 years.

Open Road Density. A standard set in the Forest Plan that is applied to most Management Areas important to big game. This road density standard of three-quarters of a mile of open road per square mile of habitat correlatesdirectly to the elk habitat effectiveness of the area.

Overstory. The portion of trees in a forest which forms the uppermost layer of foliage.

Perennial Streams. Streams that flow continuously throughout the year.

Preferred Alternative. The agency's preferred alternative, one or more, that is identified in the impact statement (40 CFR 1502.14).

Prescribed Burning. The intentional application of fire to wildland fuels in either their natural or modified state under such conditions as to allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further certain planned objectives (ie: silviculture, wildlife management, reduction of fuel hazard, etc.)

Project Area. As used in this document, essentially synonymous with implementation area, which is comprised of and defined by the general area in which activities are proposed under the various alternatives. Contrast with analysis area.

Project File. An assemblage of documents that contains all the information developed or used during an environmental analysis. This information may be summarized in an Environmental Assessment or an Environmental Impact Statement.

Record of Decision. A concise public document disclosing the decision made following preparation of an EIS and the rationale used by the deciding officer to reach that decision.

Reforestation. The natural or artificial restocking of an area with forest trees. It may include tree planting and seeding measures to obtain natural regeneration.

Refugia. An area that provides a safe haven for wildlife.

Regeneration. The renewal of a tree crop, whether by natural or artificial means. This term may also refer to the crop (seedlings, saplings) itself.

Resiliency. Resiliency is the ability to recover quickly to conditions and relationships existing prior to a disturbance, e.g. wildfire (*Hollings, 1973*).

Riparian Areas/Habitats. Land areas where the vegetation and microclimate are influenced by perennial and/or intermittent water.

Road. A wide range of definitions have been used, however, for this document the definition from the Forest Transportation Planning Rule: designated motorized travelways over 50 inches wide, unless designated as a trail.

Savannah. A more or less open woodland having an undergrowth mainly of grasses.

Scarification. Physical disturbance of surface soil horizons, usually to improve germination and early survival of natural seed-based regeneration. This disturbance is not excessive enough to be considered detrimental soil disturbance.

Scoping. The procedures by which the Forest Service determines the extent of analysis necessary for a proposed action, i.e., the range of actions, alternatives, and impacts to be addressed, identification of significant issues related to a proposed action, and establishing the depth of environmental analysis, data, and task assignments needed.

Sediment. Any material carried in suspension by water, which will ultimately settle to the bottom. Sediment has two main sources: from the channel area itself and from disturbed sites.

Sediment Yield. The amount of material eroded from the land surface by runoff and delivered to a stream system.

Seedlings and Saplings. Non-commercial-size young trees, generally occurring in plantations.

Sensitive Species. Those species identified by the Regional Forester for which population viability is a concern as evidenced by significant current or predicted downward trends in (a) population numbers or density, or (b) habitat capability that would reduce a species' existing distribution.

Seral Stage. A transitory or developmental stage of a biotic community in an ecological succession (does not include climax successional stage or pioneer stage).

Shrub. A plant with persistent woody stems and relatively low growth form; usually produces several basal shoots as opposed to a single bole; differs from a tree by its low stature and nonarborescent form.

Slash. The residue left on the ground after felling and other silvicultural operations and/or accumulating there as a result of storm, fire, girdling, or poisoning of trees.

Slash Burning. The treatment or burning of slash so as to reduce fire or insect hazards.

Snag. A standing dead tree usually without merchantable value for timber products, but may have characteristics of benefit to some cavity nesting wildlife species.

Soil Hydrologic Function. The process of soil absorbing, storing, and releasing precipitation – either rain or snow melt.

Species. A unit of classification of plants and animals consisting of the largest and most inclusive array of sexually reproducing and cross-fertilizing individuals which share a common gene pool.

Stand. A community of trees or other vegetation uniform in composition, constitution, spatial arrangement, or condition to be distinguishable from adjacent communities.

Standard. A particular action, level of performance, or threshold specified by the Forest Plan for resource protection or accomplishment of management objectives. Unlike "guidelines" which are optional, standards specified in the Forest Plan are mandatory.

Stream-route interactions. Sites in a watershed are stream crossings or roads adjacent to a stream as depicted in the spatial analysis.

Succession. The changes in vegetation and in animal life that take place as the plant community evolves from bare ground to climax.

Successional Stage. A stage or recognizable condition of a plant community which occurs during its development from bare ground to climax.

Summer Range. A range, usually at higher elevation, used by deer and elk during the summer; a summer range is usually much more extensive than a winter range.

Surface Erosion. The detachment and transport of soil particles by wind, water, or gravity. Surface erosion is the loss of soil in a fairly uniform layer across the land surface (sheet erosion), in many small rills, or as larger gullies.

Sustainability. Sustainability means that desired ecological conditions or flows or benefits can be maintained over time (*A National Framework Ecosystem Management, USDA Forest Service, Washington, DC, 1994*)

System Road. Another name for classified road

Thermal Cover. Vegetation used by animals to modify the adverse effects of weather. A forest stand that is at least 40 feet in height with tree canopy cover of at least 70 percent provides thermal cover. These stand conditions are achieved in closed sapling-pole stands and by all older stands unless the canopy cover is reduced below 70 percent. Deciduous stands may serve as thermal cover in summer, but not in winter.

Threatened Species. Any species of plant or animal which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Tiering. The use of a previously written environmental document with a broad scope to cover discussion of issues common to both.

Troads. An unclassified motorized route (trail and/or road) that is not part of the road inventory

Unclassified Road. Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

Unroaded Area. These areas are defined as unroaded blocks having a common boundary with an Inventoried Roadless. They must include at least 1000 acres and be over ¼ mile wide.

User Created Road. A road that has appeared on National Forest System land without Forest Service authorization. These roads were constructed through use and have no engineered features of drainage structures.

Ustic Moisture Regime. This term refers to a soil condition of limited moisture, but where the moisture is present at a time when conditions are suitable for plant growth.

Visual Quality Objective (VQO). A system of indicating the potential expectations of the visual resource by considering the frequency an area is viewed and the type of landscape.

Visual Resource. The composite of landforms, water features, vegetative patterns and cultural features which create the visual environment.

Wildfire. Any wildfire not designated and managed as a prescribed fire with an approved prescription.

Wildlife Diversity. The relative degree of abundance of wildlife species, plant species, communities, habitats or habitat features per unit area.

Winter Range. A range, usually at lower elevation, used by migratory deer and elk during the winter months; usually better defined and smaller than summer ranges.

Acronyms

AMP	Allotment Management Plan
BLM	Bureau of Land Management
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CLCAS	Canada Lynx Conservation and Assessment Strategy
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
ELU	Ecological Landscape Unit
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
FP	Forest Plan, Forest Land and Resource Management Plan
FSH	Forest Service Handbook
FSM	Forest Service Manual
GIS	Geographic Information System
HUC	Hydrologic Unit Code
HE	Habitat Effectiveness
IA	Implementation Area
IDT	Interdisciplinary Team
INFRA	Infrastructure Database
LAU	Lynx Analysis Units
MCA	Montana Code Annotated
MIS	Management Indicator Species
MM	Meaningful Measures
NFMA	National Forest Management Act
NEPA	National Environmental Policy Act
NOI	Notice of Intent to Prepare an EIS
NVUM	National Visitor Use Monitoring
OHV	Off Highway Vehicle
PA	Proposed Action
PNF	Prescribed Natural Fire
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum

RHCA	Riparian Habitat Conservation Area
USDA	United States Department of Agriculture
VQO	Visual Quality Objective
WATSED	Water and Sediment Yield Model
WCT	Westslope Cutthroat Trout

Appendix A, Roads and Trails

On the following pages, are lists of the roads and trails in the analysis area broken down by alternative. They are grouped into geographic areas. The geographic areas can be found on the following pages:

Appendix A, Summary of Route Information by Alternative

KEY

(a) – Road open to all motorized vehicles
(l) – Road open to licensed vehicles
(m) – Trail designated for motorcycle use
(n) – Non-system or unclassified road
(t) – Trail, motorized or non-motorized

Note: Routes described as 'restricted' during a time period are open for the portions not restricted.
Routes described as 'retrieval only' are only available for retrieval and only during the period described.
Routes described as 'retrieval' with a date, are open during the time periods not designated for retrieval. During the retrieval period, other motorized use is prohibited.
Non-motorized trails are open year-long to non-motorized uses.
'Restricted yearlong' routes are closed to use by the general public.

North of Trout Creek Motorized Roads and Trails

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
138	BEAVER CREEK	13.06	(l) open year long	(l) open year long	(l) restricted 04/15-05/31	(l) restricted 04/15-05/31	restricted year long
138-A1	WINTERBURN COW CAMP	0.36	(l) open year long	restricted year long	(a) restricted 10/15-12/01p	restricted year long	restricted year long
138-B1	INDIAN FLATS	0.05	(l) open year long	restricted year long	restricted year long	restricted year long	(l) open year long
138-B1	INDIAN FLATS	1.41	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
138-B2	INDIAN FLATS	0.08	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
138-C1	GROUSE RIDGE DIVIDE (WEST END)	3.04	(l) open year long	(a) open year long	(a) open year long	(l) restricted 04/15-05/31	restricted year long
138-C1	GROUSE RIDGE DIVIDE (EAST END)	3.16	(l) open year long	(a) restricted 12/02-05/15	(a) restricted 12/02-05/31	(l) restricted 04/15-05/31	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
138-D1, F1, G1	ROCKY BOWMAN, BEAVER CREEK SPURS	0.26	(I) open year long	restricted year long	restricted year long	restricted year long	restricted year long
138-E1	BOWMAN GULCH	1.42	(I) open year long	restricted year long	(a) restricted 10/15-12/01	restricted year long	restricted year long
138-H1	BEAVER CREEK SPUR	0.14	(I) open year long	restricted year long	(I) open year long	restricted year long	restricted year long
138-I1	BEAVER CREEK SPUR	0.48	(I) open year long	restricted year long	restricted year long	restricted year long	restricted year long
1812	AMERICAN BAR	4.5	(I) open year long	(I) open year long	(I) open year long	(I) open year long	(I) open year long
1812-A1	SPRING GULCH ROAD	0.5	(I) open year long	(a) open year long	(a) open year long	(I) open year long	non-motorized
1812-B1	AMERICAN BAR #1 (WEST END)	0.37	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
1812-B1	AMERICAN BAR #1 (EAST END)	0.3	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	(I) open year long	restricted year long
1812-C1	AMERICAN BAR #2 (EAST END)	0.66	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	restricted year long	restricted year long
1812-C1	AMERICAN BAR #2 (WEST END)	0.61	(I) restricted 12/02-05/15	(I) open year long	(I) open year long	restricted year long	(I) open year long
1812-D1, D2, E1	AMERICAN BAR SPURS	2.38	(I) restricted 12/02-05/15	restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
1812-E1	AMERICAN BAR SPUR	0.11	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	(I) restricted 12/02-05/15	restricted year long	restricted year long
1812-G1	BIG LOG GULCH	0.05	(I) open year long	(I) open year long	(I) open year long	(I) open year long	(I) open year long
280	TROUT CREEK	14	(I) open year long	(I) open year long	(I) open year long	(I) open year long	(I) open year long
298	HOGBACK MOUNTAIN	0.74	(I) open year long	(a) retrieval 10/15-12/01	(a) open year long	restricted year long	(I) open year long
298-A1,A2	HOGBACK MOUNTAIN	2.34	restricted year long	restricted year long	(a) restricted 10/15-12/01	restricted year long	restricted year long
298-B1	HOGBACK MOUNTAIN	0.8	(I) open year long	(a) retrieval 10/15-05/15	(a) open year long	non-motorized	restricted year long
298-B2	HOGBACK MOUNTAIN	0.56	restricted year long	restricted year long	(a) restricted 10/15-12/01	non-motorized	(I) open year long
COUNTY RD 4	NELSON-YORK ROAD (COUNTY)	12	(I) open year long	(I) open year long	(I) open year long	(I) open year long	(I) open year long
4-A1	KELLY GULCH SPUR (OFF NELSON-YORK RD)	0.53	restricted year long	(a) open year long	(a) open year long	restricted year long	Restricted year long
4118	GROUSE RIDGE	3.8	(I) open year	(a) restricted	(a) open year	restricted year	(I) open year

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
			long	12/02-05/15	long	long	long
4118-A1	UPPER GROUSE RIDGE	1.09	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
4118-A2	UPPER GROUSE RIDGE SPUR	0.24	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
4118-A3,A4,A5	UPPER GROUSE RIDGE SPUR	0.51	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
4119, A1,C1,D1,D2,E1	HIDDEN VALLEY ROADS	7.0	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4119, B1,B2,F1,G1,G2	HIDDEN VALLEY ROADS	3.08	(t) restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	(l) restricted 10/15-12/01
4125	FAVORITE GULCH/ELDORADO BAR	7	open year long	open year long	open year long	open year long	open year long
4125-A1	DEVILS TOWER #1/FAVORITE GULCH LOOP	1.13	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4125-A1	DEVILS TOWER #1/FAVORITE GULCH LOOP	2.51	(l) restricted 12/02-05/15	(a) retrieval only 12/2-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4125-A2	DEVILS TOWER #2	0.38	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4125-A2	DEVILS TOWER #2	0.61	(l) restricted 12/02-05/15	(a) retrieval only 12/2-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4125-C1	DEVILS TOWER SPUR	1.1	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4125-E1	DEVILS TOWER SPUR	1.32	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4127	OWL GULCH ROAD	5.0	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long
4127-A1	PIPE LINE (WEST END)	0.79	(l) open year long	(a) open year long	(a) open year long	restricted year long	restricted year long
4127-A1	PIPE LINE (MIDDLE SECTION)	0.25	(l) restricted 12/02-05/15	(a) restricted 12/2-05/15	(a) retrieval 12/2-05/15	restricted year long	(l) restricted year long
4127-A1	PIPE LINE (EAST END)	0.27	(l) open year long	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4127-A2	PIPE LINE LOOP (WEST END)	2.4	(l) restricted 12/02-05/15	(a) retrieval 10/15-12/01	(a) open year long	restricted year long	(l) restricted 12/02-05/15
4127-A2	PIPE LINE LOOP (LOOP TO EAST END)	0.55	(l) restricted 12/02-05/15	(a) restricted 10/15-12/01	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4127-B1,B2	PIPE LINE SPURS	2.58	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4127-C1	PIPE LINE SPUR	0.35	(l) restricted 12/02-05/15	restricted year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
4137	BEAR TRAP (LOWER PORTION)	0.15	restricted year long	(t) restricted 10/15-05/15 (upper), restricted 12/01-05/15 (lower)	(t) motorized, retrieval 10/15-12/01	non-motorized	(l) open year long
4137	BEAR TRAP (UPPER PORTION)	1.96	restricted year long	(t) motorized retrieval 10/15-12/01	(t) motorized retrieval 10/15-12/01	non-motorized	non-motorized
4140	HUNTERS GULCH (TRAILHEAD SPUR)	0.7	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
4141	KELLY GULCH/BULL RUN RIDGE	1.77	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) restricted 12/02-05/15
4141-A1	KELLY GULCH SPUR	0.34	(l) open year long	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4141-B1	KELLY GULCH SPUR/BROWNS GULCH	1.3	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) motorized, restriction 12/2-05/15
4141-B2	KELLY GULCH SPUR	1.23	(l) open year long	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4142	BULL RUN GULCH TO RIDGE (ALSO 4139-C1)	1.46	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15
4143	JIM BALL BASIN	4.0	(l) open year long	(l) open year long	(a) open year long	restricted year long	(a) open year long
4143-A1(EAST PART),A2	JIM BALL SPUR/ELK RIDGE (EAST PART)	7.25	(l) open year long	(a) restricted 10/15-12/01	(a) restricted 10/15-12/01	restricted year long	restricted year long (except section 16)
4143-A1	JIM BALL SPUR/ELK RIDGE (WEST PART)	1.31	(l) restricted year long	(a) restricted 10/15-12/01	(a) restricted 10/15-12/01	restricted year long	(l) open year long
4153	DRY GULCH LOOP	0.77	(l) open year long	(a) open year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4154	SWEATS GULCH ROAD (LOWER END)	0.5	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) restricted 12/02-05/15	(l) open year long	(l) restricted 12/02-05/15
4154	SWEATS GULCH (NEW MIDDLE SECTION)	2.0	restricted year long	(t) motorized, restriction 12/02-05/15	(a) restricted 12/02-05/15	non-motorized	restricted year long
4154	SWEATS TO POWERLINE	3.5	(n) open year long	(t) motorized restriction 12/02-05/15	(a) retrieval 10/15-05/15	non-motorized	restricted year long
4154-A1,B1,B2	SWEATS GULCH CONNECTION & SPURS	0.84	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15
4155	COTTONWOOD GULCH (POWERLINE, WEST END)	0.53	(l) restricted 12/02-05/15	(a) retrieval 10/15-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
4155	POWERLINE	3.8	(l) restricted 12/02-05/15	(a) retrieval 10/15-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) restricted 10/15-05/15
684	WILLOW CREEK	2.2	(l) open year long (west end), restricted 12/2-05/15 (east end)	(a) restricted 12/02-05/15	(a) restricted 12/02-05/15	(l) restricted 12/02-05/15	(l) restricted 12/02-05/15

North of Trout Creek Trails (Motorized and Non-motorized)

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
247	HANGING VALLEY	7.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
252	BIG LOG GULCH	12.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
253	MERIWEATHER	9.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
254	MISSOURI-BEAVER	2.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
255	HUNTERS GULCH	5.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
257	MISSOURI RIVER		non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
258	MANN GULCH		non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
259	REFRIGERATOR CANYON	15.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
260	WILLOW CREEK	23.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
263	PORCUPINE	2.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
270	TROUT CREEK	5.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
298-B2	HOGBACK MOUNTAIN	0.56	restricted year long	restricted year long	(a) restricted 10/15-12/01	non-motorized	(l) open year long
4137	BEAR TRAP (LOWER PORTION)	0.15	restricted year long	(t) restricted 10/15-05/15 (upper), restricted 12/01-05/15 (lower)	(t) motorized retrieval 10/15-12/01	non-motorized	(l) open year long
4137	BEAR TRAP (UPPER PORTION)	1.96	restricted year long	(t) motorized retrieval 10/15-12/01	(t) motorized retrieval 10/15-12/01	non-motorized	non-motorized
4141-B1	KELLY GULCH SPUR/BROWNS GULCH	1.3	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) motorized, restriction 12/2-05/15

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
4154	SWEATS GULCH (NEW MIDDLE SECTION)	2.0	restricted year long	(t) motorized, restriction 12/02-05/15	(a) restricted 12/02-05/15	non-motorized	restricted year long
4154	SWEATS TO POWERLINE	3.5		(t) motorized, restriction 12/02-05/15	(a) retrieval 10/15-05/15	non-motorized	restricted year long
4155	POWERLINE	3.8	(l) restricted 12/02-05/15	(a) retrieval 10/15-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) restricted 10/15-05/15
NEW	COCHRAN GULCH	2.5	N/A	N/A	N/A	(t) non-motorized new	(t) non-motorized new
NEW	COTTONTAIL GULCH	4.5	N/A	N/A	N/A	Non-motorized	N/A
NEW	UPPER TROUT CREEK TO SUNSHINE BASIN	3.2	N/A	(m) open year long	N/A	non-motorized	N/A
NEW	BULL RUN TO SWEATS GULCH CONNECTION	2.0	N/A	(t) motorized, restriction 12/02-05/15	(t) motorized, restriction 10/15-05/15	restricted year long	(t) motorized, restriction 12/02-05/15
NEW	SOUP CREEK TO SWEATS GULCH CONNECTION	1.5 (NEW) 2.0	restricted year long	(t) motorized, restriction 12/02-05/15	restricted year long	restricted year long	restricted year long
NEW	KELLY GULCH TO HIDDEN VALLEY TRAIL (UPPER SECTION)	4.0	restricted year long	(t) motorized north section restriction 10/15-05/15, south section restriction 12/02-05/15	(t) motorized, restriction 10/15-05/15	restricted year long	restricted year long
NEW	KELLY GULCH TO HIDDEN VALLEY TRAIL (LOWER SECTION)	4.5	restricted year long	(t) motorized, restriction 12/02-05/15	(t) motorized, restriction 12/02-05/15	restricted year long	restricted year long

Trout Creek to Avalanche Creek Motorized Roads/Trails

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
231 (COUNTY)	JIMTOWN ROAD (COUNTY)	9	(a) open year long	(a) open year long	(a) open year long	(a) open year long	(l) open year long
359	AVALANCHE ROAD TO DOOLITTLE	3.8	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
359	AVALANCHE ROAD – DOOLITTLE TO END	13.0	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long
4136	YORK GULCH (LOWER 1.5 MILES)	1.5	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long
4136	YORK GULCH (MIDDLE 1.5 MILES)	1.5	(l) open year long	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) open year long
4136	YORK GULCH (UPPER END)	7.0	(l) open year long	(a) restricted 12/02-05/15	(a) restricted 12/02-05/15	restricted year long	(l) open year long
4136-A1	KINGSBERRY LOOP (LOWER PART)	0.48	(l) restricted 12/02-05/15	(a)restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) open year long
4136-A1	KINGSBERRY LOOP (UPPER .4 MILES)	0.4	(l) restricted 12/02-05/15	(a) restricted year long	(a) restricted year long	restricted year long	(l) open year long
4136-A2	OREGON GULCH CONNECTION/ LOWER OREGON GULCH	1.57	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15
4136-A3	KINGSBERRY – OREGON RIDGE	3.7	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15 (lower 2.5mi.), restricted winter 12/02-05/15 (upper 1.2 mi.)	restricted year long	(l) restricted 12/02-05/15
4136-A4	HOLIDAY GULCH/HORSE GULCH	2.5	(l) restricted 12/02-05/15	(t) motorized, restriction 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15
4136-A6	KINGSBERRY GULCH	0.87	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4136-A7	KINGSBERRY GULCH	0.73	(l) restricted 12/02-05/15	restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
4136-A7,A8	KINGSBERRY GULCH	0.9	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) restricted 12/02-05/15	restricted year long	restricted year long
4136-A9	KINGSBERRY GULCH	0.2	(l) restricted 12/02-05/15	restricted year long	restricted year long	restricted year long	restricted year long
4136-B1	BIG RATTLESNAKE GULCH TO KINGSBERRY	1.2	(l)open year long	(a) restricted 12/02-05/15	(a) restricted 12/02-05/15	restricted year long	(l) restricted 12/02-05/15

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
4136-C1,C2	JIMTOWN SPURS	0.27	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
4136-D1	JIMTOWN SPUR	0.9	(l) restricted 12/02-05/15	restricted year long	restricted year long	restricted year long	restricted year long
4136-D2	HEDGES MOUNTAIN	0.25	(l) restricted 12/02-05/15	restricted year long	restricted year long	restricted year long	restricted year long
4136-E1	ROAD TO HEDGES MOUNTAIN	2.0	(l) open year long	(a) open year long	(a) restricted 12/02-05/31	non-motorized	(l) restricted 10/15-12/01
4150	JOHNNY'S GULCH OFF JIMTOWN ROAD	0.5	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long
4152	TRAIL GULCH/SAWMILL GULCH	1.84	(l) open year long	restricted year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4156	CAVE GULCH	0.5	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
4161-D1	BELT DIVIDE SPUR	0.41	restricted year long	(a) open year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
4161-J1	BELT DIVIDE SPUR/CAYUSE CREEK	1.82	restricted year long	restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
425	MAGPIE ROAD	27.0	(l) open year long	(l) open year long	(l) open year long	(l) open year long, restricted 04/15-05/31 between gates	(l) open year long
425-A1	COXCY GULCH	0.18	(l) open year long	(l) open year long	(l) open year long	restricted year long	(l) open year long
425-B1	BAR GULCH ROAD	0.74	(l) open year long	(l) open year long	(l) open year long with retrieval on upper portion	(l) open year long	(l) open year long
425-C1	NEVER SWEAT GULCH	0.55	(l) open year long	(a) open year long	(a) open year long	restricted year long	restricted year long
425-C2	WEST FORK NEVER SWEAT GULCH	1.55	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
425-D1	LOWER GROUSE CREEK	1.26	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
425-D2	GROUSE CREEK SPUR 2	0.78	restricted year long	(a) retrieval only	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-D3	GROUSE CREEK SPUR 3	0.45	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
425-E1	UPPER MAGPIE RIDGE	0.46	(l) open year long	(a) open year long	(a) open year long	restricted year long	restricted year long
425-E2	MAGPIE RIDGE	0.04	(l) open year	(a) open year	(a) open year	restricted year	(t) motorized

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
			long	long	long	long	open year long
425-E5,E6,E7	MAGPIE RIDGE SPURS	0.83	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-E8	MAGPIE RIDGE SPUR	0.36	(l) open year long	(a) open year long	(a) open year long	restricted year long	(t) motorized open year long
425-E9	MAGPIE RIDGE SPUR	0.12	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-F1	OLD MAGPIE SLUMP	0.56	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
425-F1	OLD MAGPIE SLUMP	0.05	restricted year long	(l) restricted 04/15-05/31	(l) restricted 04/15-05/31	restricted year long	restricted year long
425-G1	UPPER GROUSE GULCH	2.39	(l) open year long	(a) restricted 04/15-05/31	(a) restricted 04/15-05/31	restricted year long	(l) open year long
425-G1	UPPER GROUSE GULCH	0.92	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-G10	GROUSE CREEK SPUR	1.22	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-G2	GROUSE CREEK SPUR/ UPPER MAGPIE ROAD	0.67	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-G2,G3,G4, G5	GROUSE CREEK SPURS	0.06	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-G6	GROUSE CREEK SPUR	0.31	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-G7,G8,G9, H1	GROUSE CREEK SPURS, H1 – MAGPIE-HELLGATE	1.3	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-H1	MAGPIE-HELLGATE	0.21	(l) open year long	(t) motorized open year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-H2	MAGPIE-HELLGATE	0.03	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-H2,H4	MAGPIE-HELLGATE	0.58	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-I1	MAGPIE-HELLGATE/COONEY	1.56	restricted year long	(t) motorized open year long	(a) open year long	restricted year long	(t) motorized, restricted 10/15-12/01
425-I2	MAGPIE-HELLGATE/COONEY	3.8	restricted year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	(t) motorized, restricted 10/15-12/01
425-J1	SUNSHINE RIDGE/UPPER MAGPIE	2.36	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-J10,J11	SUNSHINE RIDGE	0.19	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
425-J12	SUNSHINE RIDGE	0.15	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-J12	SUNSHINE RIDGE	0.11	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-J13	SUNSHINE RIDGE	0.72	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-J14,J15	SUNSHINE RIDGE	0.87	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-J2	SUNSHINE RIDGE	2.2	(l) open year long	(a) open year long	(a) open year long	restricted year long	(t) motorized open year long
425-J3,J4	SUNSHINE RIDGE	1.23	(l) open year long	restricted year long	(a) open year long	restricted year long	restricted year long
425-J4,J5	SUNSHINE RIDGE	0.81	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-J6	SUNSHINE RIDGE	0.48	(l) open year long	restricted year long	(a) open year long	restricted year long	restricted year long
425-J8	SUNSHINE RIDGE	0.13	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-J9	SUNSHINE RIDGE	0.75	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-K1	SUNSHINE CONNECTION	0.5	(l) open year long	(t) motorized open year long	(a) open year long	non-motorized	restricted year long
425-K2	SUNSHINE CONNECITON	0.12	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-K2	SUNSHINE CONNECTION	0.23	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-L1	SUNSHINE CONNECTION	0.01	(l) open year long	(l) open year long	(l) open year long	restricted year long	(t) motorized open year long
425-L2	SUNSHINE CONNECTION	0.1	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-M1	SUNSHINE CONNECTION	0.46	(l) open year long	(l) open year long	(l) open year long	restricted year long	(l) restricted year long
425-N1	SUNSHINE CONNECTION	0.74	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-N2,P1	SUNSHINE CONNECTION	0.63	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
425-Q1	SUNSHINE CONNECTION	0.45	(l) open year long	restricted year long	(a) retrieval only	restricted year long	restricted year long
425-R1,R3,R4,S1	SUNSHINE CONNECTION	2.14	(l) open year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-XX	MAGPIE SPUR	0.08	(l) open year	restricted year	restricted year	restricted year	restricted year

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
			long	long	long	long	long
693	HELLGATE GULCH TO ARGO MINE	5.5	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long
4141-B1	BROWN'S GULCH	2.0	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) motorized, restriction 12/02-05/15

Trout Creek to Avalanche Trails (Motorized and Non-motorized)

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
239	HUNTERS GULCH TRAIL	4.0	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	(t) motorized, restricted 10/15-12/01
239	MAGPIE-HELLGATE RIDGE TRAIL	6.5	(t) motorized open year long	(t) motorized open year long (m) only south half	(t) motorized open year long	non-motorized	(t) motorized, restriction 10/15-12/01
240	LITTLE HELLGATE TRAIL (LOWER 3 MILES)	3.0	(t) motorized open year long	(m) open year long	(m) open year long	non-motorized	non-motorized
240	LITTLE HELLGATE TRAIL (MIDDLE SECTION TO HARRIS GULCH)	0.39	(t) motorized open year long	(t) motorized open year long	(a) open year long	non-motorized	restricted year long
240	LITTLE HELLGATE TRAIL (ABOVE HARRIS GULCH)	3.0	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	non-motorized
241	NEVER SWEAT		(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	(t) motorized open year long
243	CAVE GULCH TRAIL (LOWER PORTION)	3.5	(t) motorized, restriction 10/02-05/15	(t) motorized open year long	(a) motorized, retrieval 12/02-05/15	restricted year long	(t) motorized, restriction 10/02-05/15
243	CAVE GULCH TRAIL (UPPER PORTION)	1.65	(t) motorized, restriction 12/01-05/15	(t) motorized open year long	(a) motorized, restriction 12/02-05/15	restricted year long	(t) motorized, restriction 10/02-05/15
247	VIGILANTE-HANGING VALLEY TRAIL	8.5	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
264	THOMPSON GULCH TRAIL	2.8	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	(t)motorized, restriction 10/15-12/01
264	HELLGATE TRAIL BELOW CARPENTER GULCH	1.5	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	(t) motorized, restriction 10/15-12/01

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
264	HELLGATE TRAIL ABOVE CARPENTER GULCH	4.2	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	non-motorized
264-XX4,XX5	FISHER GULCH	2.45	(n) open year long	(t) motorized open year long	(t) motorized open year long	restricted year long	restricted year long
264-XX6	AVALANCHE-HELLGATE RIDGE TRAIL	2.89	(n) open year long	(t) motorized open year long	(t) motorized open year long	restricted year long	(t) motorized, restricted 10/15-12/01
264-XX7	GABISH GULCH	0.82	(n) open year long	(m) restricted 10/15-12/01	(t) motorized, restriction 10/15-12/01	(t) restricted year long	(t) motorized, restriction 10/15-05/15
264-XX8	GABISH GULCH	0.69	(n) open year long	(m) restricted 10/15-12/01	(t) motorized, retrieval 10/15-12/01	(t) restricted year long	(t) motorized, restriction 10/15-05/15
4136-A4	HOLIDAY GULCH/HORSE GULCH	2.5	(l) restricted 12/02-05/15	(t) motorized, restriction 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(l) restricted 12/02-05/15
4141-B1	BROWN'S GULCH	2.0	(l) restricted 12/02-05/15	(a) restricted 12/02-05/15	(a) retrieval 12/02-05/15	restricted year long	(t) motorized, restriction 12/02-05/15
4161-A3	JIMMY'S GULCH/MILLER MOUNTAIN	4.5	restricted year long	restricted year long	(a) retrieval 12/02-05/15	non-motorized	non-motorized
4161-B1	JOHNNIE'S GULCH	0.73	restricted year long	restricted year long	(a) retrieval 12/02-05/15	non-motorized	non-motorized
4161-K1	BELT DIVIDE SPUR	0.91	Restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long	restricted year long
425-E2	MAGPIE RIDGE	0.04	(l) open year long	(a) open year long	(a) open year long	restricted year long	(t) motorized open year long
425-E8	MAGPIE RIDGE SPUR	0.36	(l) open year long	(a) open year long	(a) open year long	restricted year long	(t) motorized open year long
425-H1	MAGPIE-HELLGATE	0.21	(l) open year long	(t) motorized open year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
425-I1	MAGPIE-HELLGATE/COONEY	1.56	restricted year long	(t) motorized open year long	(a) open year long	restricted year long	(t) motorized, restricted 10/15-12/01
425-I2	MAGPIE-HELLGATE/COONEY	3.8	restricted year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	(t) motorized, restricted 10/15-12/01
425-J1	SUNSHINE RIDGE/UPPER MAGPIE	2.36	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-J2	SUNSHINE RIDGE	2.2	(l) open year long	(a) open year long	(a) open year long	restricted year long	(t) motorized open year long

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
425-K1	SUNSHINE CONNECTION	0.5	(l) open year long	(t) motorized open year long	(a) open year long	non-motorized	restricted year long
425-K2	SUNSHINE CONNECTION	0.23	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
425-L1	SUNSHINE CONNECTION	0.01	(l) open year long	(l) open year long	(l) open year long	restricted year long	(t) motorized open year long
425-N1	SUNSHINE CONNECTION	0.74	(l) open year long	(t) motorized open year long	(a) open year long	restricted year long	restricted year long
	CARPENTER GULCH TRAIL	1.2	(n) open year long	(t) motorized open year long	(t) motorized open year long	restricted year long	(t) motorized, restricted 10/15-05/15
NEW	CAVE GUL. TO MAGPIE TRAIL, ALONG FOREST BOUNDARY	1.2	N/A	(t) motorized open year long	(t) motorized, restriction 12/02-05/15	restricted year long	(t) motorized, restriction 12/02-05/15
243	CAVE GULCH RIDGE TRAIL	7.0	(t) motorized, restriction 12/02-05/15	(t) motorized open year long	(t) motorized, restriction 12/02-05/15	restricted year long	(t) motorized, restriction 12/02-05/15
NEW	CAVE GULCH BOTTOM	7.0	N/A	(t) motorized, restriction 12/02-05/15	(t) motorized, restriction 12/02-05/15	non-motorized	N/A
	DOOLITTLE GULCH (LOWER SECTION)	1.0	(t) motorized open year long	(m) restriction 10/15-12/01	(m) restriction 10/15-12/01	restricted year long	restricted year long
	DOOLITTLE GULCH TRAIL LOOP	6.0	(t) motorized open year long	(m) restricted 10/15-12/01	restricted year long	restricted year long	restricted year long
	GROUSE RIDGE TRAIL TO MAGPIE (MOTORIZED)		N/A	(m) open year long	N/A	Non-motorized open year long	N/A
NEW	HANGING VALLEY TO UPPER MAGPIE	6.0	N/A	N/A	N/A	Non-motorized open year long	Non-motorized open year long
NEW	HEDGES MOUNTAIN NORTH TO VIGILANTE TRAIL	5.0	N/A	(t) motorized open year long	(a) restricted 12/02-05/15	non-motorized	N/A
NEW	KELLY GULCH 4142 TO HIDDEN VALLEY TRAIL (UPPER SECTION)	4.0	restricted year long	(t) motorized restriction 10/15-05/15 (north end), motorized restricted 12/02-05/15 (south end)	(t) motorized, restriction 10/15-05/15	restricted year long	restricted year long
NEW	KELLY GULCH 4142 TO HIDDEN VALLEY TRAIL (LOWER SECTION)	4.5	restricted year long	(t) motorized, restriction 12/02-05/15	(t) motorized, restriction 12/02-05/15	restricted year long	restricted year long
	MAGPIE TO HELLGATE TRAIL ALONG THE	5.0	(n) open year	(t) motorized	(t) motorized	restricted year	(t) motorized

Trail Number	Trail Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
	FOREST BOUNDARY		long	open year long	retrieval 12/02-05/15	long	restriction 12/02-05/15
248	MAGPIE TO VIGILANTE	1.5	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	non-motorized	non-motorized
	NEVER SWEAT GULCH TO CULP GUL.	0.5 (EXISTING) 4.5 (NEW)	(t) motorized open year long	(t) motorized open year long	(t) motorized open year long	restricted year long	(t) motorized open year long (existing part only)
NEW	NEVER SWEAT GULCH TO TROUT CREEK	8.0	N/A	non-motorized	N/A	N/A	N/A
NEW	UPPER TROUT CREEK TO SUNSHINE BASIN	4.6	N/A	(m) open year long	N/A	non-motorized	N/A
	OREGON-CAVE CONNECTION TRAIL	1.2	(n) restricted 12/02-05/15	(t) motorized, restriction 12/02-05/15	(t) motorized, restriction 12/02-05/15	restricted year long	(t) motorized, restriction 12/02-05/15

South of Avalanche Creek Motorized Roads and Trails

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
1020	SPRING GULCH	5.34	(l) restricted 04/15-05/31	(a) open year long	(a) open year long	restricted year long	(l) restricted 12/02-05/15
1020-A1, A2, B1	SPRING GULCH SPURS 1, 2, & 3	1.87	restricted year long	restricted year long	(a) open year long	restricted year long	restricted year long
287 (PART COUNTY)	CONFEDERATE	9.0	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
287-A1	MONTANA GULCH (EAST SECTION)	0.75	restricted year long	restricted year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long
287-A1	MONTANA GULCH (MAIN GULCH SECTION)	1.33	restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 12/02-05/15	restricted year long	restricted year long
287-C1	READY CASH GULCH	1.79	restricted year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
287-D1	CEMENT GULCH SPUR	0.62	restricted year long	restricted year long	(a) retrieval 10/15-12/01	restricted year long	restricted year long
287-E1	CEMENT RIDGE	0.31	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
287-E3,E4,E5,E6,E7,E8, E9,E10,E11,H1,I1	CEMENT RIDGE/UPPER IRISH GULCH	5.0	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
287-E2	CEMENT RIDGE-BELT DIVIDE	0.35	(l) open year long	(a) open year long	(a) open year long	restricted year long	restricted year long
287-F1, F4	BELT DIVIDE	1.2	(l) open year long	(a) open year long	(a) open year long	non-motorized	(l) open year long
287-F2	BELT DIVIDE-KEEP COOL CR.	0.8	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
287-F3	BELT DIVIDE	0.76	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
287-G1	BELT DIVIDE	1.2	(l) open year long	(a) open year long	(a) open year long	non-motorized	(l) open year long
287-G2	UPPER BENTON	1.5	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
4161	BELT DIVIDE/BELTS RIDGE ROAD (WHITES PASS TO CONFEDERATE)	10.5	(a) open year long	(a) open year long	(a) restricted 12/02-05/15	non-motorized	(l) open year long
4161	BELT DIVIDE/BELTS RIDGE ROAD (WHITES PASS TO WAGNER GULCH)	17.5	(l) restricted 09/01-12/01	(a) open year long	(a) restricted 12/02-05/31	non-motorized	(l) restricted 10/15-12/01
4161-A1,A2	GRUBB GULCH, SPRING CREEK	0.98	restricted year long	restricted year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4161-A3	JIMMY'S GULCH/ MILLER MOUNTAIN	4.5	restricted year long	restricted year long	(a) retrieval 12/02-05/15	non-motorized	non-motorized
4161-A4,B1	JIMMY'S GULCH RIDGE	0.62	restricted year long	restricted year long	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4161-B1	JOHNNIE'S GULCH (NEW)	1.7	N/A	N/A	N/A	non-motorized	non-motorized
4161-B2	JOHNNIE'S GULCH	0.1	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4161-C1	BEAVER CR.-GREENHORN DIVIDE (NORTH END)	1.32	(l) open year long	(a) retrieval 10/15-12/01	(a) restricted 12/02-05/15	restricted year long	restricted year long
4161-C1	BEAVER CR.-GREENHORN DIVIDE (SOUTH END)	0.5	(l) open year long	(a) retrieval 10/15-12/01	(a) restricted 12/02-05/31	non-motorized	restricted year long
4161-L1	BELT DIVIDE SPUR NEAR MILLER MTN	0.25	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4161-M1	BELT DIVIDE SPUR NEAR MILLER MTN	0.04	(l) open year long	(a) open year long	(a) retrieval 12/02-0515	restricted year long	restricted year long
4170	BLACKTAIL SPUR	2.5	(l) restricted 04/15-05/31	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	restricted year long
4171	BLACKTAIL CREEK	7.0	(l) restricted 04/15-05/31	(a) open year long	(a) open year long	(l) restricted 04/15-05/31	(l) open year long
4171-A1	DIAMOND #1/BLACKTAIL RD TO TR 142	3.58	restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 12/02-05/15	non-motorized	(l) restricted 12/02-05/15
4171-B1,C1,C2, C3	BLACKTAIL #1, BLACKTAIL #2, CAMP ROADS	1.4	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
4171-D1, E1	BLACKTAIL-SLOUGH/UPPER BLACKTAIL	4.5	restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	restricted year long
4171-G1,G2,G3	BLACKTAIL SPURS	0.87	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4172-A1	BOULDER CREEK	3.0	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
4173	SPRUCE CREEK	1.5	restricted year long	(a) retrieval 10/15-05/15	(a) retrieval 12/02-05/15	restricted year long	restricted year long
4174	BOULDER BAR	1.0	restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 12/01-05/15	restricted year long	restricted year long
587	WHITES GULCH	1.1	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
587	WHITES GULCH	0.02	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
587	WHITES GULCH	4.5	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
587	WHITES GULCH (UPPER)	2.7	(t) snowmobile only 12/02-05/15	(t) snowmobile only 12/02-05/15	(t) snowmobile only 12/02-05/15	restricted year long	(t) snowmobile only 12/02-05/15
587-A1	UPPER #2 DIVIDE – SPRING GULCH	2.57	restricted year long	restricted year long	(a) open year long	restricted year long	restricted year long
587-B1	PARK GULCH	1.02	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
	ROAD TO MILLER GULCH CAMPING AREA	0.05	(l) open year long	(a) open year long	(a) open year long	(l) open year long	(l) open year long

South of Avalanche Creek Trails (Motorized and Non-motorized)

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
118	BELT CREST TRAIL	8	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
142	BOULDER LAKES TRAIL	6	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
232	BILK MOUNTAIN-TIMBER GULCH	7	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
234	NARY TIME	5.5	(t) motorized open year long	(m) open year long	(t) motorized open year long	non-motorized	non-motorized
235	CAYUSE CREEK	6.0	non-motorized	(t) non-motorized	non-motorized	non-motorized	non-motorized
287-E1	CEMENT RIDGE	0.31	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
287-F1,F4	BELT DIVIDE	1.2	(l) open year long	(a) open year long	(a) open year long	non-motorized	(l) open year long
287-F3	BELT DIVIDE	0.76	(l) open year long	restricted year long	restricted year long	restricted year long	restricted year long
287-G1	BELT DIVIDE	1.2	(l) open year long	(a) open year long	(a) open year long	non-motorized	(l) open year long
4161-A3	JIMMY'S GULCH/ MILLER MOUNTAIN	4.5	restricted year long	restricted year long	(a) retrieval 12/02-05/15	non-motorized	non-motorized
4161-B1	JOHNNIE'S GULCH (NEW)	1.7	N/A	N/A	N/A	non-motorized	non-motorized
4161-C1	BEAVER CR.-GREENHORN DIVIDE	0.5	(l) open year long	(a) retrieval 10/15-12/01	(a) restricted 12/02-05/31	non-motorized	restricted year long
4171-A1	DIAMOND #1/BLACKTAIL RD TO TR 142	3.58	restricted year long	(a) retrieval 10/15-12/01	(a) retrieval 12/02-05/15	non-motorized	(l) restricted 12/02-05/15
587	WHITES GULCH (UPPER)	2.7	(t) snowmobile only 12/02-05/15	(t) snowmobile only 12/02-05/15	(t) snowmobile only 12/02-05/15	restricted year long	(t) snowmobile only 12/02-05/15
	SPRUCE CREEK TRAIL	4.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized

(Meager County) East of the Divide and Dry Range Motorized Roads and Trails

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
259	WAGNER GULCH TO GATE	3.5	(l) open year long	(a) open year long	(a) open year long	(t) open year long	(l) open year long
259	WAGNER GULCH – GATE TO SPRING CREEK	3.5	(l) restricted 09/1-12/01	(a) retrieval 10/15-12/01	(a) restricted 12/02-05/15	restricted year long	(l) restricted 10/15-12/01
259-A1	AVALANCHE BUTTE (NORTHWEST SECTION)	2.71	(l) open year long	(a) open year long	restricted year long	restricted year long	restricted year long
259-A1	AVALANCHE BUTTE (TO WAGNER GULCH ROAD)	1.18	(l) open year long	(a) open year long	restricted year long	restricted year long	(l) restricted 10/15-12/01
259-A1 (NEW)	WAGNER TO AVALANCHE BUTTE (REROUTE)	0.9	N/A	N/A	N/A	N/A	(l) restricted 10/15-12/01
259-A2	AVALANCHE BUTTE	0.38	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
259-A3	AVALANCHE BUTTE (TO MAGPIE)	0.42	(n) open year long	(a) open year long	(a) restricted 12/02-05/15	non-motorized	(n) open year long
259-B1,B2,B3, B4,B5,B6,B7,B8, C1,D1,E1,F1,F2,F3,F4, F5,F6,F7,F8	WAGNER GULCH/LIND CREEK LOGGING SPURS	8.0	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
287	BENTON GULCH (PART COUNTY)	6.0	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long
4161	BELT DIVIDE/WHITES PASS TO WAGNER GULCH	13	(l) restricted 09/01-12/01	(a) open year long	(a) retrieval 12/02-05/15	non-motorized	(l) restricted 10/15-12/01
4161-C2	BELT DIVIDE TO LAMBING CAMP ROAD (SOUTH END)	0.4	(l) open year long	(a) retrieval 10/15-12/01	restricted 12/02-05/15	non-motorized	(l) restricted 10/15-12/01
4161-C2	BELT DIVIDE TO LAMBING CAMP ROAD (NORTH END)	1.56	(l) open year long	restricted year long	(a) restricted 12/02-05/15	restricted year long	(l) restricted 10/15-12/01
4161-B1,F1,G2,G3	BELT DIVIDE SPURS	2.47	(l) open year long	restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
4161-I1	BELT DIVIDE SPUR/NEEDHAM MOUNTAIN	0.5	restricted year long	(a) open year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
4161-K1	BELT DIVIDE SPUR	0.91	Restricted year long	(a) restricted 12/02-05/15	restricted year long	Restricted year long	restricted year long
4161-G1	BELT DIVIDE SPUR/CAMPBELL CREEK	0.7	restricted year long	restricted year long	(a) restricted 12/02-05/15	restricted year long	restricted year long
4185	TRAIL FROM 140 TO ATLANTA CREEK ROAD	1.5	restricted year long	(t) motorized retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	restricted year long

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
575	ATLANTA-MULE ROAD	2.41	(l) restricted 10/15-12/01p	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	(l) restricted 10/15-05/15
575-B1	ATLANTA-MULE SPUR	0.63	(l) restricted 10/15-12/01p	restricted year long	restricted year long	restricted year long	restricted year long
575-B2	ATLANTA-MULE SPUR	0.89	(l) restricted 10/15-12/01p	(t) motorized, retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	restricted year long
575-C1	ATLANTA-MULE SPUR, PICKFOOT #1	0.61	(l) restricted 10/15-12/01p	restricted year long	restricted year long	restricted year long	restricted year long
575-D1	ATLANTA-MULE SPUR, PICKFOOT	1.67	(l) restricted 10/15-12/01p	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	restricted year long
575-E1 UPPER PART, E3	ATLANTA-MULE SPURS, PICKFOOT	1.2	(l) restricted 10/15-12/01	(a) retrieval 10/15-12/01p	(a) restricted 10/15-12/01p	restricted year long	restricted year long
575-E1	PICKFOOT #2 (LOWER PART)	1.7	(l) restricted 10/15-12/01p	restricted year long	restricted year long	restricted year long	restricted year long
575-XX	SPUR TO TRAIL 141 - OLD	0.09	(l) restricted 10/15-12/01	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	restricted year long
587	WHITES GULCH/HOUR GULCH	3.0	(l) open year long	(l) open year long	(l) open year long	restricted year long	(l) open year long
587-C1	VERMONT GULCH	3.03	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
587-C2	BEAVER DAM GULCH	0.81	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
8968	OHIO GULCH	1.19	(l) open year long	(a) open year long	(a) open year long	restricted year long	(l) open year long
8969, A1,B1	THOMAS GULCH ROADS		(l) restricted 10/15-05/15	(a) retrieval 10/15-05/15	(a) retrieval 10/15-05/15	restricted year long	restricted year long
8971	LONG GULCH ROAD- BELT DIVIDE TO LAMBING CAMP	2.75	(l) open year long	Restricted year long	(a) restricted 12/02-05/15	restricted year long	(l) restricted 10/15-12/01
8971	ROAD TO LAMBING CAMP GULCH	8.0	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
8971,A1,A2,A3, B1,B2,XX	LONG GULCH SPURS	12.0	restricted year long	restricted year long	restricted year long	restricted year long	restricted year long
397-A1,B1,B2, C1,D1,E1,F2,F3, F5,G1,H1,H2,J1 8976-A1,B1	DRY RANGE ROADS ON NFS LANDS	8.78	(l) open year long	(l) open year long	(l) open year long	restricted year long	restricted year long
397, F1,F4,F5 8976	DRY RANGE ROADS ON NFS LANDS	12.0	(l) open year long	(l) open year long	(l) open year long	(l) open year long	(l) open year long

East of the Divide Trails (Motorized and Non-motorized)

Rd. Number	Rd. Name	Length of rd - mi.	ALT.1	ALT.2	ALT.3	ALT.4	ALT.5
140	CAMAS RIDGE	3.2	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
4185	TRAIL FROM 140 TO ATLANTA CREEK ROAD	1.5	restricted year long	(t) motorized, retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	restricted year long
140	CAMAS RIDGE	2.0	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
141	ATLANTA CREEK TO CAMAS LAKES	2.5	non-motorized	non-motorized	non-motorized	non-motorized	non-motorized
145	KENTUCKY GULCH TRAIL	3.6	(t) motorized, restriction 10/15-05/15	(t) motorized, restriction 10/15-05/15	(t) motorized, restriction 10/15-05/15	non-motorized	non-motorized
259-A3	AVALANCHE BUTTE (TO MAGPIE)	0.42	(n) open year long	(a) open year long	(a) restricted 12/02-05/15	non-motorized	(n) open year long
4161	BELT DIVIDE/WHITES PASS TO WAGNER GULCH	13	(l) restricted 09/01-12/01	(a) open year long	(a) retrieval 12/02-05/15	non-motorized	(l) restricted 10/15-12/01
4161-K1	BELT DIVIDE TO LAMBING CAMP (SHORT CUT)	1.65	restricted year long	restricted year long	(a) retrieval 12/02-05/15	non-motorized	non-motorized
4161-C1	BEAVER CR.-GREENHORN DIV./BEAVER-ROCKER CR.	2.0	(l) open year long	(a) retrieval 10/15-12/01	(a) restricted 12/02-05/31	restricted year long	restricted year long
575	ATLANTA-MULE ROAD	2.41	(l) restricted 10/15-12/01	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	(l) restricted 10/15-05/15
575-B2	ATLANTA-MULE SPUR	0.89	(l) restricted 10/15-12/01	(t) motorized, retrieval 10/15-12/01	(a) retrieval 10/15-12/01	restricted year long	restricted year long
575-XX	SPUR TO TRAIL 141 - OLD	0.09	(l) restricted 10/15-12/01	(a) retrieval 10/15-12/01	(a) retrieval 10/15-12/01	non-motorized	restricted year long

Appendix B, Wilderness and Inventoried Roadless Areas

Affected Environment

Wilderness Area

Gates of the Mountain Wilderness

The 28,600 acre Gates Of The Mountains Wilderness was designated by Congress in 1964. The deep plunging canyons, limestone cliffs, peaks, and knife-like ridges have created spectacular scenery over a large part of the area. The elevation rises from a low of 3,700 feet near the Missouri River to a high of 8,000 feet on Moors Mountain. Panoramic views of the Helena Valley, Smith River drainage, and the Big Belt Mountains can be seen from the Wilderness. With the exception of the big game hunting season, recreation activity in the wilderness is limited. There are very few travel violations that occur within the Gates of the Mountains Wilderness.

Inventoried Roadless Areas

Inventoried roadless areas are undeveloped Federal lands containing no improved roads that are maintained for highway use. They generally exclude narrow projecting tentacles or fingers unless they meet the criteria for "roadless islands". Roadless islands are roadless areas that are surrounded by permanent waters or are distinguishable from surrounding lands by topographical or ecological features such as precipices, canyons, thickets, or swamps.

An improved road is a constructed or maintained vehicle route managed for the use of highway-type vehicles having more than two wheels.

The project area includes all or portions of nine RARE II Roadless Areas. These areas from north to south are;

- Holter (A1610),
- Big Log (W1610),
- Ellis Canyon (1619),
- Devils Tower (1611),
- Middleman Mtn.-Hedges Mtn. (1612/X1613),
- Hellgate Gulch (X1614),
- Cayuse Mtn. (X1615),
- Irish Gulch (1621), and
- Camas Creek (1616).

These inventoried roadless areas comprise approximately 50% of the project area. Roadless information identified in the table below is approximate. It was obtained through spatial analysis and does not accurately represent the exact maps of record for those inventoried roadless areas. In addition, several sections of land within the Ellis Canyon Roadless Area have been transferred into private ownership.

Roadless Area Acres

Roadless Areas (RA)	Total Acres	Acres in Project Area (Forest)	Miles of Routes (Motorizes) in RA Within Project Area
Holter	2,400	1,930	1.0 Private Road 3.0 Forest Road
Big Log	8,893	8,893	0.4 Forest Road
Devils Tower	7,332	7,091	1.6 Private Road 9.4 Forest Road
Middleman Mtn./ Hedges Mtn.	33,772	32,286	1.7 Private Road 20.7 Forest Road
Hellgate Gulch	16,938	16,762	32.6 Forest Road
Cayuse Mtn.	20,946	20,109	0.7 Private Road 21.5 Forest Road
Irish Gulch	7,332	7,308	13.2 Forest Road
Ellis Canyon	15,217	(about 3,200)	26.6 Private Road 7.2 Forest Road
Camas Creek	19,738	16,749	16.4 Private Road 20.9 Forest Road

Holter (A1610)

The relatively small and fragmented Holter Roadless Area is located in the northwest corner of the Big Belt Mountains. There are approximately 3 miles of existing motorized routes on federal land in the project area. Those roads provide access to the American Bar residential area and the Gates of the Mountains Wilderness. This roadless area is comprised of 5 separate parcels lying adjacent to or near the west and southwest edge of the Gates Of The Mountains Wilderness. Two of the parcels are located within the Game Preserve on the west side of the Missouri River.

Topography varies from gently rolling hills to steep hillsides. Elevation ranges from 3,600 feet at the Missouri River to 5,100 feet at the upper reaches of the individual tracts. Tree cover is predominately ponderosa pine and mixed Douglas-fir.

Portions of the Holter Roadless Area have been included in past Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Holter Roadless Area contains approximately 1,930 acres of Helena National Forest land and 470 acres of private land- all within the project area. The natural integrity of the area has been somewhat affected by man's management activities. Motorized use on the Missouri River does impact the natural integrity of areas located along the river corridor. In addition, there are several road segments that provide access to the American Bar residential area.

Remoteness/Solitude/Primitive Recreation Opportunity

In a few locations the steep terrain creates isolated canyons that may provide an atmosphere of solitude. However, one of the parcels is adjacent to a major road; another is adjacent to a private subdivision. The two parcels along the Missouri River are affected by the sight and sounds of a variety of motorboats, primarily from May through September.

The Meriwether Picnic Site and Coulter Campground border one of the roadless parcels. Each summer over 30,000 visitors stop at these developed recreation sites. While the Missouri River provides the primary access to those sites, they are also accessible by non-motorized trails. The parcel's small size and man's activities adjacent to them greatly limit the "primitiveness" of any recreation experience in the Holter Roadless Area.

Unique Features

Several of the land parcels are unique due to the presence of the Missouri River and the adjacent steep canyons. A tour boat provides guided tours of the Missouri River through, or past, two of the Roadless units. In addition, two parcels border Mann Gulch, the site of a tragic 1949 wildfire that killed 13 firefighters. Individual monuments have been placed in Mann Gulch and a memorial plaque placed at the Meriwether Picnic Site.

Manageability and Boundaries

Many of the boundaries follow landlines rather than natural features and that could make boundary management complex. Due to the scattered parcels comprising this inventoried roadless area, it would be very difficult to manage as wilderness.

Big Log (W1610)

The Big Log Roadless Area contains three noncontiguous parcels adjacent to the west and south sides of the Gates Of The Mountains Wilderness. Portions of this roadless area also border the Holter Roadless Area described above. There is approximately 0.4 mile of motorized route on federal land within this roadless area, adjacent to the boundary. A portion of the area was burned during the 1984 North Hills wildfire. The resulting lack of vegetation caused severe erosion in several of the steep narrow canyons. New trailheads were constructed adjacent to the proposed boundaries at: Hunters Gulch, Big Log Gulch and

Spring Gulch during the early 1990's. Much of the area lies immediately north and adjacent to the Beaver Creek Road.

The narrow valley bottoms rise sharply to steep limestone ridges. Topography changes from 3,700 feet along the lower stretches of Beaver Creek to 5,400 feet along the upper ridges of Big Log Gulch. Vegetation varies from dry ponderosa pine, Douglas-fir sites with juniper on the south slopes, to dense stands of Douglas-fir with limber pine and alpine fir at the higher and cooler sites.

Most of the area has been included in past Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The impact from human activity in this area has been minor. The Big Log Roadless Area contains approximately 8,893 acres of Helena National Forest land within the project area. Although past logging activity has occurred, the vegetation in most of the old skid roads has regenerated. While past grazing practices have resulted in remaining drift fences, there have been no major incursions or encroachments.

Remoteness/Solitude/Primitive Recreation Opportunity

Adjacent to the main travel routes (Beaver Creek Road and Missouri River), the sights and sounds of boats or passenger vehicles are very evident, sometimes up to 3/4 mile away. While travel on the Missouri River occurs primarily during the summer, the Beaver Creek Road remains popular yearlong.

The Beaver Creek Road provides access to private grazing lands, private residences, and many acres of National Forest. The major recreation activities in the area include: driving for pleasure, big game hunting, hiking, and horseback riding. Numerous steep drainages within the unit often screen people from one another within short distances.

Unique Features

The common limestone outcroppings retain excellent examples of marine life from the Mississippian period. The Missouri River and Beaver Creek Road provide wonderful viewing opportunities of the Big Log Inventoried Roadless Area.

Manageability and Boundaries

If considered independently, the small size of the area would make it difficult to manage as a roadless area or wilderness. However, its inclusion with the neighboring Gates Of The Mountains Wilderness would enhance both the Big Log Roadless Area and the wilderness. Local topography precludes much off-route vehicle traffic but the presence of the Beaver Creek Road does provide opportunities for motorized violations. Because the western boundary is the Missouri River, it could be more easily managed than along the Beaver Creek Road.

Devils Tower (1611)

The Devils Tower Roadless Area is located south of the Gates Of The Mountains Wilderness. This area is bordered on the north by the Beaver Creek Road and on the west by the Missouri River/Hauser Lake. There are approximately 9.4 miles of existing motorized routes on federal land within this roadless area. Most of the existing travel routes are located on the boundary of the roadless area.

The terrain varies from gently rolling hills to steep,rocky hillsides. Topography varies from 3,700 feet at Beaver Creek to 5,030 feet at the top of Devils Tower. Vegetation is dominated by ponderosa pine and juniper on the south aspects and Douglas-fir on the north aspects.

The Devils Tower Roadless Area has not been included in recent Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Devils Tower Roadless Area contains approximately 7,091 acres of Helena National Forest land and 241acres of private land, all within the project area. Within the boundaries of this small area are several homes and a power line along its eastern boundary. Much of the area has been and continues to be popular for off-highway vehicle use and many wheel tracks are evident. The natural integrity of the area has been substantially affected by man's activities, especially around the perimeter. The Beaver Creek Road on the north is heavily used by variety of recreationists. A hydroelectric power plant (Hauser Dam) is located along the western boundary of the area.

Remoteness/Solitude/Primitive Recreation Opportunity

The human activities on the bordering private lands are increasing and will have a greater impact on this area as development continues. Off-highway vehicles and motorboat traffic may decrease the solitude within the roadless area. However, in some interior locations, the topography may offer visitors some degree of remoteness. Although the area receives little use during the winter, it's very popular during the summer and fall with motorized recreationists.

Unique Features

The topography is quite varied and offers most recreation opportunities on the flat and gently rolling hills rather than the interiors steep, rocky hillsides. Over the years the area has become increasingly popular for off-highway vehicle use, both 4x4 trucks and ATV's.

Manageability and Boundaries

Because so much of the area is open with few natural barriers it would be difficult to restrict motorized use, especially during the hunting season. Due to the presence of private land along the southern boundary and the existing motorized use on the east and north sides, it would be very difficult to manage this inventoried roadless area as wilderness.

Middleman Mtn. - Hedges Mtn. (1612/X1613)

During the 1979 RARE II process, the two areas were treated separately, because the Trout Creek Road separated the two roadless areas. In 1981 a flood obliterated part of the road and resulted in combining the two roadless areas into one. Currently, there are approximately 20.7 miles of existing motorized routes on federal land within this project area.

Located along the southwest slopes of the Big Belt mountain range, the Middleman/Hedges Mtn. Roadless Area forms a part of the bowl shaping the Helena Valley. Topography ranges from gentle slopes with rounded ridges in the lower elevation foothills, to steep slopes, sheer cliffs, and knife blade ridges at the higher elevations. Elevations range from 4,200 feet along the southwest edge to 7,813 feet on Hogback Mountain. Private lands, including Soup Creek, are located within the roadless area.

The Middleman Mtn/Hedges Mtn. Roadless Area has not been included in recent Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Middleman Mtn/Hedges Mtn Roadless Area contains approximately 32,286 acres of Helena National Forest and 1,486 acres of private land, all within the project area. The natural integrity of this roadless area has been impacted by human activity. Mining, grazing, and firewood gathering have resulted in roads, trails, prospect holes, fences, spring development, and woodcutting. Private lands in the Soup Creek and Trout Creek drainages have year-round residences, access roads, and fences. An overhead, twin-tower power line crosses the west edge of the area. A buried cable crosses the northwest corner and extends from Cottonwood Gulch to Hogback Mountain. That power line is a popular OHV route during the summer and fall. An electronics site, with buildings and antenna towers, is located on top of Hogback Mountain. In addition, a Forest Service lookout tower, located on Hogback Mountain, is staffed during the summer fire season. The Hogback Mountain Road provides motorized access to those facilities.

The Bull Run Gulch Road is also located with the roadless area. It currently provides recreational access from May 16th to December 1st.

The Never Sweat road and portions of the Never Sweat trail are located within the roadless area. The Never Sweat trail, constructed and maintained for motorized vehicles, is quite popular and provides access to other motorized routes located in the Cave Gulch and Kingsberry Gulch areas.

Remoteness/Solitude/Primitive Recreation Opportunity

Because of the broken, sharp topography there are opportunities for solitude in individual drainages. Opportunities diminish near the roadless boundaries where roads and trails offer greater access. The northwest end of the Big Belts, which includes the roadless area, receives both commercial and military air traffic. Airplane, jet, and helicopter noise sometimes decrease the feeling of solitude.

The area offers a variety of topography to accommodate a spectrum of recreation opportunities. Hunting for big game is one of the most popular activities. Vigilante Campground, managed by the Helena National Forest, provides developed recreation opportunities within a corridor between Roadless Area 1612 and X1613. The lower 1-mile segment of the Trout Creek Canyon Trail was constructed and is managed to provide access for persons with disabilities.

Unique Features

The area offers numerous scenic opportunities on roads along the boundary and also within the roadless area. The Beaver and Trout Creek roads were once segments of the popular Figure 8 Scenic Loop Drive. While the loop opportunity was lost with the 1981 flood, many forest visitors still drive along the perimeter of the roadless area on the Beaver Creek, Trout Creek, and Magpie roads. Both the Beaver Creek and Trout Creek Canyons offer spectacular views of beautiful limestone canyons. The Hogback Mountain Electronic Site provides excellent radio and television signal relay opportunities. The Hanging Valley Trail, with access from both Trout Creek and Magpie Creek, has been designated as a National Recreation Trail. The lower segment of the Trout Creek Canyon Trail is currently the only trail on the Helena Forest designed specifically for persons with disabilities.

Manageability and Boundaries

The Middleman/Hedges Mountain Roadless Area boundaries are defined by roads in some locations, but are not well defined by topographic features elsewhere. Relocating the existing boundary to make it follow locatable topographic features would be difficult due to the lack of well-defined topographic breaks.

Extensive private in-holdings in Soup Creek, to the north of Hogback Mountain, and along the boundary would complicate roadless area management. Re-drawing boundaries to eliminate private land would either fracture the unit into two or more smaller areas, or substantially reduce the overall unit size.

Non-conforming uses include an electronic site, overhead and buried electrical cables, buried pipeline, four-wheel drive roads, fences, trail bike use, mining claims, and oil and gas lease rights. Due to existing roadless boundaries and the large amount of motorized use near and within the area, it would be very difficult to manage this area as wilderness in the future.

Hellgate Gulch (X1614)

The Hellgate Gulch Roadless Area is located on the west edge of the Big Belt Mountains between Magpie Creek and Avalanche Creek. It is about 7 miles long, north and south; and 6 miles wide, east and west. There are approximately 32.6 miles of existing motorized routes on federal land within this roadless area.

Elevation ranges from 6,900 feet at Thompson Creek/Avalanche Creek divide to 4,200 feet at the mouth of Magpie Creek and Hellgate Gulch. The mouths of Little Hellgate Gulch, Hellgate Gulch and Avalanche Creek are guarded by steep limestone canyon walls. The high elevation ridges are mostly gentle and rolling.

Side slopes drop abruptly from these ridges to the main drainages and their tributaries. Grasslands, open ridges, and scattered parks occur throughout the drier south and west facing slopes. Dense stands of Douglas fir and lodgepole pine dominate the north facing slopes.

This roadless area has not been included in any recent Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Hellgate Gulch Roadless Area contains 18,196 acres of Helena National Forest land and 234 acres of private land, all within the project area. The private land in Fisher Gulch has been partially clear-cut.

This roadless area is crisscrossed by motorized travel routes consisting of a four wheel drive road up Hellgate Gulch and motorcycle/ATV trails along Little Hellgate Gulch, Hunters Gulch, Thompson Creek, Fisher Gulch, Gabish Gulch, and Doolittle Gulch. Most of these routes are on the ridge tops and are utilized regularly when weather permits. Fences and old timber harvest units are visible along the southern boundary. These features, along with the motorized activity associated with them, have impacted the natural integrity with the appearance of human activity to some extent.

Remoteness/Solitude/Primitive Recreation Opportunity

The Hellgate Gulch Roadless Area is approximately 15 air miles east of Helena and 23 miles north of Townsend, Montana. There are no motorized vehicle travel restrictions for this roadless area. Most motorized vehicle use consists of ATV's and motorcycles from spring into the fall when weather permits. This use occurs on roads/trails up Little Hellgate Gulch and onto to the ridge northeast on trails 240 and 239, in Thompson Creek and Hellgate Gulch on trail 264. Other motorized travel routes include Hunters Gulch, Fisher Gulch, Gabish Gulch and Doolittle Gulch. The Magpie Creek road #425 and the Avalanche Creek road #359 form the western and eastern boundaries, respectively, providing several access points to the previously identified trails. No snowmobile activity occurs in this area.

Topography, and to a lesser extent vegetation screening, is effective in creating opportunities for solitude in pockets away from motorized travel routes, such as Shannon Gulch, Spilling Gulch, and McGregor Gulch. Opportunities for solitude are greatest during the winter months, as this is the period of least recreation use. During the big game hunting season, it is difficult to avoid contact with others. Other activities in this roadless area include rock climbing on the limestone cliffs in Hellgate Gulch, mineral prospecting, horseback riding, and some hiking.

Unique Features

Tall limestone cliffs form a "gate " at the mouth of Hellgate Gulch and Avalanche Creek when entering the Forest. Indian pictographs are found on some of these cliffs. The second largest pictograph panel discovered in Montana is near the

mouth of Hellgate Gulch. These features attract rock climbers and heritage enthusiasts.

Manageability and Boundaries

The long established motorized vehicle use on the roads and trails in this roadless area is a major distraction from a wilderness environment. Most of the boundary provides a manageable location.

Cayuse Mountain (X1615)

The Cayuse Roadless Area extends from Bilk Gulch north to Moonshine Gulch. It is 12 miles long and varies in width from 2 to 5 miles. There are approximately 21.5 miles of existing motorized routes on National Forest land and 0.7 miles on private land within the roadless area.

Elevation ranges from 4,800 feet at the Forest boundary in Bilk Gulch to 7,000 feet at Avalanche Butte, the most prominent feature in this area. Slopes are generally quite steep dropping into Avalanche Creek, White Gulch, and their tributaries. The tops of the ridges are generally rolling and open. South and west facing slopes are largely dry with numerous rock outcrops. Vegetation is usually open stands of Douglas-fir and fescue grasslands. North and east facing aspects are less rocky with dense stands of Douglas-fir and lodgepole pine timber interspersed with parks.

This roadless area has not been included in any recent Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Cayuse Mountain Roadless Area contains 18,550 acres of federal land and 803 acres of private land, all within the project area. Much of the private land is owned by the Round Grove Ranch Company, Inc. and is managed for livestock grazing. Recently, the landowner harvested approximately two million board feet of timber through selective harvest of 450 acres adjacent and within the northeast portion of the roadless area. Also, approximately 70 acres of federal land was clear-cut harvested about 20-25 years ago east of Nary Time Gulch.

A motorized travel route referred to as trail #234 follows Nary Time Gulch across the roadless area and intersects with the ridge road #4161. Forest Road 4161 runs north and south along the eastern half of the roadless area following the Big Belt Mountain divide from Avalanche Butte down to Cayuse Mountain. This low standard road provides access into the area for off-highway vehicles.

Excluding the travel routes and timber harvest units previously mentioned, the remaining areas have some appearance of being undisturbed by human activities, aside from range allotment fences and an old cabin located in Beaver Creek.

Remoteness/Solitude/Primitive Recreation Opportunity

The Cayuse Mountain Roadless Area is located about 25 miles east of Helena and 25 miles north of Townsend, Montana. The southern portion of the area, from Tucker Gulch south, is located within a yearlong vehicle closure area while the northern portion has no travel restrictions. There are two non-motorized trails, #232 and #235, located in the southern portion of this roadless area. They receive the majority of use during the hunting season. The Nary Time Gulch trail #234 is a popular motorcycle trail, connecting the Thompson Creek trail with the ridge road #4161. Primitive road #4161 extends along the Belt Divide from the northern portion of the Cayuse Roadless Area south to Cayuse Mountain. The road serves as the eastern boundary for the roadless area. These motorized travel routes are part of a popular trail network frequented by motorcycle, ATV, and four-wheel drive enthusiasts, mainly during the summer and fall. Little snowmobile activity occurs in this area.

This area's narrow geographic shape and existing roads limit the opportunity for remoteness and solitude. During the big game hunting season, it is difficult to avoid contact with others. The sights and sounds from adjacent developments are difficult to avoid. Except for hunting, the area does not offer any outstanding opportunities for non-motorized recreation.

Unique Features

Special features include Avalanche Butte at 7,701 feet elevation, and Needham and Cayuse Mountains that are both over 6,800 feet elevation. However, the area does not offer any particularly outstanding opportunities for non-motorized recreation, except for big game hunting.

Manageability and Boundaries

The long established motorized vehicle use of the Nary Time trail #234 and the ridge road #4161 is a major distraction from the wilderness environment in this area. The area closure in the southern half of the roadless area has been effective in eliminating motorized use. Most of the boundary is manageable. Along the eastern side, in the area of Spring Creek, and south to the head of Long Gulch, the boundary is located at mid-slope and not along logical topographic features.

Irish Gulch (1621)

The Irish Gulch Roadless Area is the fourth smallest roadless area within the Helena National Forest. It is six miles long and varies from four and a half miles to less than one mile wide.

The Big Belt Mountain Divide crosses, east/west, through the middle of the roadless area for approximately one mile. It is the most prominent feature. The elevation ranges from 5,220 feet at the Forest Boundary to 6,800 feet along the Big Belt Divide. Much of the area is forested with Douglas-fir. There are several large natural openings of rough fescue and bluebunch-wheatgrass throughout most of the south and west facing slopes.

The Irish Gulch Roadless Area has not been included in any recent Montana Wilderness Legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Irish Gulch Roadless Area is a total of 7,787 acres in size, all within the project area. It contains 457 acres of private land owned by Big Sky Lumber, and Clifton and Helena Coleman. Big Sky Lumber has recently logged their land along Benton Gulch to the south. Coleman's utilize their land as part of a cattle-grazing operation. The private land adjacent to and east of the roadless area boundary has been clear-cut.

There are approximately 13.2 miles of existing motorized routes within the roadless area, all on National Forest Land. Several four-wheel drive roads (not currently maintained) cross the area, where steep slopes and tree cover have not prohibited travel. Low standard roads, approaching from the east, are controlled by private landowners and public access is generally denied. Access from public roads is generally less than two miles from any part of the area. Past logging, the presence of range allotment improvements, mining activity mainly along Thomas Creek, low standard roads, and the area's small, narrow size all contribute to much evidence of human activity within and adjacent to this roadless area.

Remoteness/Solitude/Primitive Recreation Opportunity

The Irish Gulch Roadless Area is located about 30 miles east of Helena and 27 miles north of Townsend, Montana. The northern half of the area is closed to motorized vehicles from October 15 to June 30 while the southern portion has no restrictions. The Kentucky Gulch trail is open to motorized vehicles less than 50 inches wide and is mainly used during the big game hunting season. Roads up Thomas Gulch, along the Belt Divide and the Bridge Gulch area are passable by full-sized vehicles. Very little snowmobile use occurs in this roadless area.

The Irish Gulch Roadless Area has a narrow geographic shape and is quite small, limiting the opportunity for remoteness and solitude. Near its mid point, the area is less than one mile wide. Most motorized use in the northern portion occurs during the summer. In the southern part, most use is during the hunting season. Road noise from Benton Gulch penetrates much of the area. By avoiding the established roads, individuals can enjoy some primitive recreation opportunities, mainly during the winter. The primary recreation activity in this area is hunting.

Unique Features

There are no special features within this roadless area.

Manageability and Boundaries

The north, west, and southern boundaries are adjacent to roads and the eastern boundary follows fenced sections crossing drainages and ridges. They are in manageable locations. Adjustments to follow topographic features or buffer the

area from development would not leave a sizable acreage for wilderness consideration. Incursions on private land have left 7,467 acres unaffected.

Camas Creek (1616)

This roadless area is located along the southern boundary of the analysis area. It is about 7 miles long, north to south, and 9 miles wide, east to west. Elevations range from 5,000 feet at the forest boundary to 8,900 feet at the top of Boulder Baldy. The topography is quite steep to the ridge tops, and then becomes relatively gentle and easy to follow towards the forest boundary. Most of the area is forested with lodgepole pine, Douglas-fir, and to a lesser extent spruce. The dominant under-story vegetation consists of rough fescue and Idaho fescue within park grasslands interspersed on south slopes.

Most of the Camas Creek Roadless Area has been included in recent Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Camas Creek Roadless Area contains approximately 19,738 acres, of which 16,749 acres are located on the National Forest within the analysis area. There are also several parcels of private land within this roadless area. They include land owned by Hidden Hollow Ranch Company, Lester Fields, and Rodger and Rose Rader. The land owned by Hidden Hollow Ranch Company and the Raders is within the project area and several acres have been logged. There are approximately 20.9 miles of motorized routes on Forest lands and 16.4 miles of motorized routes on private land located within the analysis area.

The center of the roadless area appears unchanged from development. Elsewhere there are impacts from human activity. They include the Atlanta Creek/Mule Creek road #575, parts of two roads constructed south of Blacktail Creek, two water diversion lines in Pickfoot and Atlanta Creek, two snow-tel sites (one on Pickfoot and one Camas Ridge), and several fences and spring developments for livestock management. Excluding these areas, the remaining portion has an appearance of being undisturbed by human activity.

Remoteness/Solitude/Primitive Recreation Opportunity

The Camas Creek Roadless Area is approximately 28 air miles from Helena and 15 miles from Townsend, Montana. The core portion of this roadless area is closed yearlong to motorized use and includes the following popular recreation areas: Boulder Lakes, Camas Lakes, and Boulder/Baldy Mountain. The remaining roadless area located within the project boundary is closed to motorized vehicles from October 15th to May 15th. This area closure is effective in controlling motorized vehicle use.

Topography and vegetation screening provide opportunities for solitude throughout most of the roadless area. However, opportunities are greatest in the Boulder/Baldy area and diminish near the periphery of the roadless area. Recreationists can generally avoid contact with others, except during peak use summer months and hunting season. Recreational activities include hiking,

backpacking, fishing, horseback riding, hunting, trapping, backcountry skiing, and snowshoeing.

Unique Features

This roadless area possesses many special features. Its high mountain peaks are located in a heavily-glaciated geologic landform that is fairly unique to the mountain range. The steep granitic rock formations stand out as attractions to many backcountry enthusiasts. Boulder lakes and Camas Lake are popular destination points, located in glacial cirques on Boulder/Baldy and Boulder Mountain. The lakes maintain a cutthroat and brook trout fishery popular with anglers. Sight seeing is also common.

Manageability and Boundaries

The boundaries for this roadless area would be difficult to locate as they do not follow easily defined topographic features in most places.

Ellis Canyon (1619)

Ellis Canyon Roadless Area is located within the Dry Range and is isolated from the main block of National Forest lands. It takes in unconsolidated federal land north of forest road #397 and west of forest road #578. Given the checkered ownership pattern of federal and private lands within the Dry Range and the lack of public access to the Dry Range, efforts have been made to acquire additional land along the Smith river corridor and elsewhere as needed. As a result of past land exchange activities, approximately 8 sections of Helena Forest lands within the Ellis Canyon Roadless Area have been transferred into private ownership. This left approximately 3,200 acres of unconsolidated federal land remaining within this roadless area, which is well below the minimum size for establishing roadless areas. This area no longer fits the roadless area definition and should be dropped from consideration for wilderness. It should be noted an additional three sections of National Forest lands in this area are also being considered for exchanged into private ownership. For these reaons, the effects analysis were not carried further on this area.

The established boundary for the Ellis Canyon Roadless Area is 8 miles wide and 5 long, at its widest points, though it currently contains less than half the originally designated federal lands. It contains about 7.2 miles of low standard roads on the Forest.

Elevation ranges from, 4,200 feet at the confluence of Rock Creek and the Smith River on the north end, to 6,500 feet, along the southern boundary. Ellis Canyon and its tributaries bisect the area and are the most prominent features, though most are on private land. Most of the area is grassland parks intermixed with open, dry Douglas-fir stands.

This roadless area has not been included in any Montana wilderness legislation.

Wilderness Attributes

Natural Integrity and Apparent Naturalness

The Ellis Canyon Roadless Area contains about 3,200 acres of unconsolidated federal land and approximately 12,020 acres of private land, all within the project area. The majority of private land within this area is owned by the Galt Ranches, Doggett Ranches, Mangers Ranch, and the 6666 Ranch. Several hundred acres of these private lands have been logged over the years. Logging has also occurred on some of the National Forest lands.

Remoteness/Solitude/Primitive Recreation Opportunity

The Ellis Canyon Roadless Area is located about 40 miles north of Townsend and 40 miles east of Helena as the crow flies. There are 7.2 miles of low standard roads that access the widely scattered federal lands in this area. Because there is no public access to the Forest, public use of this area is very low. Individuals who obtain landowner permission to enter the area do enjoy a high degree of remoteness, solitude, and primitive recreational opportunity, particularly the further north they go.

Manageability and Boundaries

Because of the highly fractured landownership pattern and limited federal acreage, there is no identifiable boundary for managing this area.

Environmental Consequences

The effects identified below have been evaluated in reference to the following combined wilderness attributes: natural integrity and apparent naturalness; remoteness/solitude/primitive recreation opportunity; unique features; and manageability and boundaries.

Mileage and acreage figures referenced in this section were generated from GIS maps of the roadless areas for each alternative. As a result, some of these figures may be slightly different than the roadless area maps of record. However, this information is reliable for comparison purposes.

Effects Common to All Action Alternatives

All action alternatives would have very little effect on the Ellis Canyon Roadless Area because there is very little difference between the travel management alternatives within the Dry Range. The only difference is found in Alternatives 4 and 5, which would reduce the miles of travel routes available to the public. However, because the roadless area on federal lands is small and scattered, this would have little effect on the wilderness character in regards to visitor use.

Implementation of any Action Alternative would have no direct effect upon the Gates of the Mountains Wilderness. Under every alternative, motorized access to existing trailheads would remain as currently exists. If motorized use in the north Big Belts were to increase, it would be possible that a limited amount of non-motorized use could be displaced to the wilderness.

Alternative 1 - No Action Alternative

All Roadless Areas

Motorized travel on existing routes within the inventoried roadless areas of the north Big Belt Mountains could potentially impact several of the wilderness attributes identified above. Especially noteworthy may be the diminished opportunity for solitude. The sight and sound of motorized vehicles near the boundary of roadless areas and along routes within the roadless areas could impact the quality of the recreation experience for some visitors. However, few of the inventoried roadless areas in the north Big Belts currently possess strong wilderness characteristics. Effects of the No Action Alternative would be similar to the existing situation previously identified.

Alternative 2 - Motorized Recreation Alternative

Holter (A1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes would be the same.

Big Log (w1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes would be the same.

Devils Tower (1611)

Under this alternative the miles of motorized routes within the Devils Tower Roadless Area would decrease from 9.4 miles to 5.9 miles. That represents a reduction of motorized routes in the roadless area of approximately 37%. However, those routes would be classified as dual use roads and that could result in increased motorized use. As true under the other alternatives, roads adjacent to the roadless area could impact the solitude and boundary management characteristics.

Middleman Mtn/Hedges Mtn (1612/x1613)

This alternative would increase motorized travel routes on Helena Forest lands within this roadless area from 20.7 miles to 31.5 miles. This represents an increase of motorized routes in the roadless area of approximately 34%. Motorized travel routes could impact the solitude, remoteness, primitive recreation opportunities and boundary management characteristics of the roadless area. Although the number of system routes would increase, some of those routes already exist and are currently being used by motorized enthusiasts.

The power line route would be open to both licensed and unlicensed vehicles from May 16th to October 14th. It would also be open for retrieval during the

period when otherwise restricted. This restriction would curtail existing use of the power line during the big game hunting season. It would provide expanded motorized opportunities for retrieval when otherwise restricted.

The Bull Run Gulch Road would be open for dual use from May 16th through December 1st and provide access for a variety of recreation opportunities.

The Never Sweat Gulch Road would remain open to motorized use yearlong and provide access for dispersed camping.

The Never Sweat Trail would remain open to motorized use yearlong and provide an important link between two motorized route networks (Cave Gulch and Magpie).

A new trail, open to vehicles up to 50" in width, would be constructed in Sweats Gulch and parallel the power line route. This trail would be open to motorized use from May 16th to December 1st.

A new trail, open to vehicles up to 50" in width, would be constructed between Kelly Gulch and Beartrap Gulch and open to motorized use from May 16th to December 1st. The connecting Beartrap Gulch Trail would be open to motorized vehicles from May 16th to October 14th , but also open for retrieval when otherwise restricted. Both routes would provide additional motorized access into the roadless area.

A new motorized trail would be constructed between Hedges Mountain and upper Magpie Gulch and open yearlong. Due to terrain and weather conditions, it's very probable the trail would not receive much use during the winter or spring.

Hellgate Gulch (X1614)

The amount of motorized travel routes would be the same with this alternative as compared with the existing condition, thus the effect to these wilderness features would be the same.

Cayuse Mountain (X1615)

There would be little change in effects to these features with this alternative as compared with Alternative 1, the existing condition. There would be slightly fewer motorized routes open under this alternative as compared with Alternative 1.

Irish Gulch (1621)

The effect on wilderness features would be very similar to the existing condition, except that full sized vehicles would be restricted in the Thomas Creek, Bridge Gulch and Kentucky Gulch areas.

Camas Creek (1616)

There would be nearly the same amount of roads open to motorized travel in this alternative as compared to Alternative 1, thus resulting in the same impact to the wilderness features as compared with Alternative 1.

Alternative 3

Holter (A1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes would be the same.

Big Log (w1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized travel routes would be the same.

Devils Tower (1611)

There would be no substantial change in wilderness characteristics as compared with the Proposed Action because the number of miles of motorized routes would be the same. However, unlike the Proposed Action, the Favorite Gulch travel routes would be open for retrieval from December 2nd through May 15th.

Middleman Mtn/Hedges Mtn (1612/X1613)

This alternative would increase motorized travel routes on Helena Forest lands within this roadless area from 20.7 miles to 28.9 miles. This represents an increase of designated motorized routes within the roadless area of approximately 28%. Motorized travel routes could impact the solitude, remoteness, primitive recreation opportunities, and boundary management characteristics of the roadless area. Although the number of system routes would increase, some of those routes already exist and are currently being used by motorized enthusiasts.

The power line route would be open to both licensed and unlicensed vehicles from May 16th to December 1st. Unlike Alternative 2, this route would remain open during the big game season. It would also be open for retrieval during the period when otherwise restricted.

The Bull Run Gulch Road would be open for dual use from May 16th through December 1st and provide access for a variety of recreation opportunities. Unlike Alternative 2, this road would be open for retrieval during the period when otherwise restricted.

The Never Sweat Gulch Road would remain open to motorized use yearlong and provide access for dispersed camping.

The Never Sweat Trail would remain open to motorized use yearlong and provide an important link between two motorized route networks (Cave Gulch and Magpie).

A new Sweats Gulch road would be constructed that parallels the existing power line route. The route would be open for dual use from May 16th through December 1st but also open for retrieval when otherwise restricted.

A new trail, open to vehicles up to 50" in width, would be constructed between Kelly Gulch and Beartrap Gulch and open from May 16th to December 1st. The connecting Beartrap Gulch Trail would be open to motorized vehicles from May 16th to October 14th but also open for retrieval when otherwise closed. Both routes would provide additional motorized access into the roadless area.

A new dual use road would be constructed between Hedges Mountain and Magpie Road 425-E2. The route would be open to both licensed and unlicensed vehicles from May 16th to December 1st. It would be very popular during the summer and fall.

Hellgate Gulch (X1614)

Designated motorized routes would be slightly fewer than in Alternatives 1 and 2, resulting in a slightly less impact on the wilderness character in this area. There would be a greater emphasis in providing more 4-wheel driving opportunities over other motorized uses with this alternative. There would be no motorized use proposed in the upper Doolittle drainage as compared with Alternative 2. Also, this alternative would allow for big game retrieval on the Gabish trail and Alternatives 1 and 2 would not.

Cayuse Mountain (X1615)

This alternative would allow for about the same amount of miles for motorized travel in the Cayuse Roadless Area as compared with Alternatives 1 and 2, thus the effects on the wilderness character would be similar.

Irish Gulch (1621)

Slightly more motorized travel routes would be open for use with this alternative as compared with the existing condition and Alternative 2, and some of the routes have a different season of use. However, this would not change the overall effect on these wilderness characteristics. Thus the effect would be very much the same as with the existing condition and Alternative 2.

Camas Creek (1616)

Alternative 1, 2 and 3 would be very similar in effects as they contain about the same number of miles of motorized routes within the Camas Creek Roadless Area.

Alternative 4

Holter (A1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition. However, it should be noted the number of miles of motorized routes would be approximately 1 mile less.

Big Log (W1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes would be the same.

Devils Tower (1611)

Under this alternative, the miles of motorized routes within the Devils Tower Roadless Area would decrease from 9.4 miles to 4.7 miles. That represents a reduction of motorized routes in the roadless area of 50%. The only motorized travel allowed would be on system roads along the roadless area boundaries. This action could only slightly enhance the opportunities for solitude. The presence of roads along the boundary would impact solitude within roadless areas immediately adjacent to those roads.

Middleman Mtn/Hedges Mtn (1612/X1613)

This alternative would decrease motorized travel routes on Helena Forest lands within this roadless area from 20.7 miles to 1.2 miles. This represents a reduction of motorized use in the roadless area of approximately 94%. The only wheeled motorized travel allowed would be on system roads along the roadless area boundaries. The lack of motorized routes in this roadless area would have the potential to enhance opportunities for solitude. There would be a slight reduction in size of the area open to snowmobiles. The effects of limiting snowmobile use would be minimal because there is little non-motorized recreation activity occurring during the winter in this roadless area.

Existing routes within the roadless area currently used by motorized vehicles (power line, Bull Run Gulch Road, Never Sweat Road and Never Sweat Trail) would be closed yearlong.

Hellgate Gulch (X1614)

This alternative would result in no motorized travel within the roadless area yearlong. This would greatly improve the wilderness characteristics in this area as compared with the other alternatives, particularly Alternatives 1, 2 and 3.

Cayuse Mountain (X1615)

This alternative would essentially prohibit motorized travel within this roadless area yearlong, greatly improving the wilderness character of this area relative to these features over the other alternatives, particularly Alternatives 1, 2 and 3.

Irish Gulch (1621)

Approximately 1.3 miles would be open to motorized travel. This would be much less as compared with Alternatives 1, 2 and 3, which are very similar. Since a minimal amount of motorized travel would be allowed, the wilderness experience would improve. However, vehicle use on the Benton Gulch road, adjacent to this roadless area, could be heard from within the area.

Camas Creek (1616)

Same as with Hellgate Gulch, Cayuse Mountain, and Irish Gulch Roadless Areas, there would be very little motorized use allowed within this roadless area, thus providing the best improvement in these wilderness characteristics over the other alternatives, particularly Alternatives 1, 2 and 3.

Alternative 5 - Proposed Action

Holter (A1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes would be very similar.

Big Log (w1610)

There would be no substantial change in wilderness characteristics as compared with the existing condition because the number of miles of motorized routes is the same.

Devils Tower (1611)

Under this alternative the miles of motorized routes within the Devils Tower Roadless Area would decrease from 9.4 miles to 4.7 miles. That represents a reduction of motorized routes in the roadless area of 50%. The only motorized travel allowed would be on system roads along the roadless area boundaries. This action would only slightly enhance the opportunities for solitude. The presence of roads along the boundary would impact solitude within roadless areas immediately adjacent to those roads.

Middleman Mtn/Hedges Mtn (1612/X1613)

This alternative would decrease motorized travel routes on Helena Forest lands within this roadless area from 20.7 miles to 12.8 miles. This represents a reduction of motorized use in the roadless area of approximately 40%. Motorized travel routes could impact the solitude, remoteness, primitive recreation opportunities and boundary management characteristics of the roadless area. With the exception of the power line trail, all motorized routes would be located adjacent to the boundary of the roadless area.

The power line trail would be open to vehicles up to 50" in width from May 16th to October 14th. It would not provide motorized access during the hunting season or any retrieval opportunities when the route is otherwise restricted.

The Bull Run Gulch Road would be open to licensed vehicles from May 16th to December 1st. That route would provide access during the big game season but it would not be open to retrieval when otherwise restricted.

Portions of the Never Sweat Gulch road and trail would also be open yearlong for motorized travel.

Hellgate Gulch (X1614)

This alternative would result in the second lowest number of miles of open motorized travel routes as compared with the other action alternatives. These travel routes would be open to a combination of motorized vehicles during different times of the year. This would include; 2 wheel drives, 4 wheel drives, OHVs, motorcycles, and snowmobiles. This would greatly improve the apparent naturalness, remoteness, solitude, and primitive recreation opportunities as

compared with the existing condition. A larger non-motorized wheeled vehicle block would be created east of Gabish Gulch to Avalanche Creek, extending from the forest boundary to Thompson Creek. However, the north half of this area would be opened to off-route snowmobile use and the south half would be closed to off-route snowmobile use in response to wintering big game needs. This alternative would have the fewest number of miles open for snowmobile travel. This would be the time for the greatest opportunity for remoteness, solitude, and primitive recreation. Even though there would be substantially fewer miles, about half as compared with Alternatives 1, 2 and 3, and acres open to motorized use, there would be no appreciable change in effect to the unique features, as the same travel routes that are open under the existing condition near these features would still be open with this alternative. There would be no change in boundary management.

Cayuse Mountain (X1615)

This alternative would have approximately half the number of miles of roads open to motorized use as compared with Alternatives 1, 2 and 3. Because of wintering wildlife needs, the southern 2/3 of the Cayuse Mountain Roadless Area would not be open to off-route snowmobile use as allowed in Alternatives 1, 2 and 3. This reduction in motorized travel opportunities would provide for an improved remoteness/solitude/primitive recreation experience. The natural integrity and apparent naturalness would be improved over Alternatives 1, 2 and 3 with fewer motorized travel routes maintained within this roadless area. Boundary management would not change with this alternative.

Irish Gulch (1621)

Under this alternative, there would be about 1/5 the amount of motorized travel routes open in this roadless area as compared with Alternatives 1, 2 and 3. Specifically, motorized travel would not be allowed in the Thomas Creek, Bridge Gulch and Kentucky Gulch areas. Also, the northern 2/3 of this area would not open to snowmobile use because of wintering wildlife needs. These changes would greatly improve the natural integrity, apparent naturalness, remoteness and primitive recreation opportunities in this area. Boundary management would not change with this alternative as compared with the existing condition.

Camas Creek (1616)

This alternative would result in approximately 1/2 fewer miles of motorized travel routes opened as compared with Alternatives 1, 2 and 3, particularly in the Mule Creek to Camas Ridge and Blacktail Creek areas. This would improve the opportunity for natural integrity, apparent naturalness, remoteness, solitude, and primitive recreation. There would be no change in the effect to unique features and boundary management as compared with the existing condition.

Appendix C, Draft Guidelines for Access to Private Lands across National Forest

Background

The Elkhorn Mountains consist of National Forest, BLM, and private lands both within and outside of the federal lands. As such, there are issues with access to the federal lands across private lands and visa versa. The number and complexity of the private land requests has increased substantially in the last 5 years. In addition, the management of the federal lands in the Elkhorn Mountains is a cooperative venture among the 3 ranger districts, 2 forests, and 3 agencies (this includes Montana Fish, Wildlife and Parks as well as the federal agencies). As indicated in the official Memorandum of Understanding that the agencies have agreed to, consistent interpretation of the Forest Plans and other management objectives is a primary goal. The agencies also are striving to provide quality public service in responding in a timely manner to private land access requests. All these factors demand a set of guidelines to assist managers in making decisions about private land access requests.

The agencies finalized a comprehensive travel management plan in 1995. This plan governs public use of motorized vehicles on federal lands. Roads open to vehicles are considered “designated routes”. Variances to travel on roads outside of this “designated” network are governed by a flowchart that was developed shortly after the travel plan decision.

Proposal and Purpose

To provide guidelines which would be considered when there is a proposal to allow motorized access to private land requiring access across federal lands, where such access is contrary to the Elkhorn Travel Management Plan (decision in 1995).

The purpose of the guidelines is to 1) Promote consistent interpretation of the Land Management Plans for the Elkhorns which include an emphasis on the protection of wildlife habitat and other natural resources and to provide diverse and balanced recreation opportunities for the general public, 2) Provide a fair and consistent process to private landowners in accordance with provisions of the Alaska National Interest Lands Conservation Act (ANILCA, P.L. 96-487, 12/2/1980) which governs ingress and egress to private lands within the forest boundary, 3) Simplify and improve enforcement of the travel plan.

Objectives governing the guidelines:

- Access to private land does not preclude the public from legitimate use of the public lands.

- To the extent possible, in keeping with existing laws, big game winter ranges will be protected from motorized use during the 12/2 through 5/15 period.

Situations:

- Full time residence within the National Forest requesting access across the NF
- Seasonal cabin or home within the NF requesting access across the NF
- Private land with no improvements within NF requesting access across the NF

Options:

- Access occurs via an open designated route
- Access is permitted under the terms of a special use authorization or road use permit
- Access is permitted under the terms of a travel variance permit (a short-term instrument allowing motorized access contrary to the travel management plan)
- Combinations of 1-3
- Access is denied if available across other ownerships

Full Time Residence

A. Access is not on an open designated route

Are there reasonable alternative routes across other ownerships?

If YES: deny access request

If NO: Consider changing the travel plan to create an open designated route.

- Does this provide legitimate public use of public lands?
- Can all resource impacts be mitigated?
- Is the route safe for public use?

YES: If the answers to these questions indicate that creating an open designated route is acceptable, go through the appropriate NEPA process to propose, analyze, and make a decision to amend the travel management plan.

NO: If the answers to these questions indicate that creating an open designated route is not acceptable then consider access via a special use authorization.

Sideboards: Authorization is for ingress and egress only (no hunting etc.) and the landowner is required to install signing and gates that facilitate non-motorized recreation use by the general public on NF lands impacted by the special use authorization.

B. Access is on an open designated route,

1. Consider if landowner's use constitutes a significant portion of the overall motorized use on the road, and/or if landowner is plowing snow

If YES: Issue a Forest Road special use authorization or road use permit, and assign proportionate road maintenance responsibilities.

If NO: Do not require authorization for road use.

Seasonal Use Cabin and Private Land With No Improvements

A. The requested access is on a road closed during the winter period to protect winter range but otherwise is unrestricted during the non-winter period on an open designated route:

1. Through consultation with the affected biologist(s); the impact is unacceptable to the District Ranger – deny request for motorized use and consider other forms of "reasonable" access.

2. Impact can be mitigated or is minimal – use a travel variance to govern access during the winter months with input from a staff biologist and signed by the District Ranger

B. Access is on a yearlong closed road, which does not impact winter range

1. Use Level is High (more than once a week on average) – Consider same questions as for Full time residence relative to opening the road as a designated route denying request, or granting a special use authorization.

2. Use Level is Low (less than once a week on average) – Consider the possible social and resource impacts and see guidelines under "A" above. Choose an option that will be the least cost to the government over the long-term. If the condition of the road is poor and unsafe requiring improvements, consider a special use authorization for improvements and maintenance. If the road is OK, consider the use of a case-by-case travel variance.

C. Access is on a yearlong closed road within winter range

1. Outside of the winter period:

- Determine the reason the road was closed outside of the winter period. Does motorized use by the private landowner compromise the reason for the closure?
- Does the use by the private landowner preclude the public from legitimate use of public lands?

If YES: deny request for motorized use and consider other forms of "reasonable" access.

If NO: Consider changing the travel plan to create an open designated route.

- Does this provide legitimate public use of public lands?
- Can all resource impacts be mitigated?
- Is the route safe for public use?

If YES: If the answers to these questions indicate that creating an open designated route is acceptable, go through the appropriate NEPA process to propose, analyze, and make a decision to amend the travel management plan.

If NO: If there are unacceptable resource consequences to opening the road to the public, then determine the level of use by the landowner.

- If use is HIGH, negotiate the terms of access with the landowner (either deny motorized use, grant special use authorization, or use a case-by-case travel variance) with input from appropriate resource specialists.
- If use is LOW, use a travel variance on case-by-case basis.

2. Within the winter period:

Through consultation with the affected biologist(s); the impact is unacceptable to the District Ranger – deny request for motorized use and consider other forms of "reasonable" access.

- Impact can be mitigated or is minimal – use a travel variance to govern access during the winter months with input from a staff biologist and signed by the district ranger

Other Considerations

- Exchange of reciprocal accesses will be considered as a part of the case-specific NEPA.
- The applicant/holder for private land access will bear all appropriate costs.
- Where interests in private land are fragmented among several owners, those interests should be required to form a road users' association, and any authorization granted should be issued to the association.

Appendix D, Description of New Route Construction

Road Construction for Licensed Vehicles

The road prism will be an average of 15 feet in width. On flat terrain this 15 feet will be the total width of ground disturbance. On sloping terrain, roads will require cut and fill construction, where the total width of ground disturbance will average 30 feet. In addition to the ground disturbance, there will be 5 feet of overstory vegetation clearing on either side of the road, for a total vegetation clearing width of 25 feet on flat ground and 40 feet on sloping ground. In areas of dense forest, the overstory clearing will increase an additional 5 feet on either side of the road to allow for proper sight distance and safety. Thus, in heavy timber, the total vegetation clearing width will be 35 feet on flat terrain, and 50 feet on sloping terrain.

Dual Use Route Construction for All Vehicles

The route prism will be an average of 10 feet in width. On flat terrain this 10 feet will be the total width of ground disturbance. On sloping terrain, routes will require cut and fill construction, where the total width of ground disturbance will average 20 feet. In addition to the ground disturbance, there will be 5 feet of overstory vegetation clearing on either side of the route, for a total vegetation clearing width of 20 feet on flat ground and 30 feet on sloping ground.

Trail Construction for Motorized Use

The trail prism will be an average of 5 feet (60 inches) in width. On flat terrain this 5 feet will be the total width of ground disturbance. On sloping terrain, trails will require cut and fill construction, where the total width of ground disturbance will average 15 feet. In addition to the ground disturbance, there will be 5 feet of overstory vegetation clearing on either side of the trail, for a total vegetation clearing width of 15 feet on flat ground and 25 feet on sloping ground.

Trail Construction for Non-motorized Use

The trail prism will be an average of 2 feet (24 inches) in width. On flat terrain this 2 feet will be the total width of ground disturbance. On sloping terrain, trails will require cut and fill construction, where the total width of ground disturbance will average 6 feet. In addition to the ground disturbance, there will be 2 to 3 feet of overstory vegetation clearing on either side of the trail, for a total vegetation clearing width of 8 feet on flat ground and 10 feet on sloping ground.

Reclamation for Ground Disturbance on Cut and Fill Slopes

Ground disturbed by construction of cut and fill slopes will be re-vegetated with native seed, and mulch if necessary. In areas where roads for licensed vehicles are constructed in dense timber and on sloping terrain, slash filter windrows will be established at the bottom of fill slopes to help with erosion control.

Appendix E, Montana State Weed List

The following weeds are currently listed by the Montana Department of Agriculture as noxious:

Category 1 noxious weeds are weeds that are currently established and generally widespread in many counties of the state. Management criteria include public awareness and education, containment, suppression of existing infestations, and prevention of new infestations. These weeds are capable of rapid spread and render land unfit or greatly limit beneficial uses.

- Canada Thistle (Cirsium arvense)
- Field Bindweed (Convolvulus arvensis)
- Whitetop or Hoary Cress (Cardaria draba)
- Leafy Spurge (Euphorbia esula)
- Russian Knapweed (Centaurea repens)
- Spotted Knapweed (Centaurea maculosa)
- Houndstongue (Cynoglossum officinale L.)
- Diffuse Knapweed (Centaurea diffusa)
- Dalmatian Toadflax (Linaria dalmatica)
- St. Johnswort (Hypericum perforatum)
- Sulfur (Erect) Cinquefoil (Potentilla recta)
- Common Tansy (Tanacetum vulgare)
- Ox-eye Daisy (Chrysanthemum leucanthemum L.)
- Yellow toadflax (Linaria vulgaris)

Category 2 noxious weeds have recently been introduced into the state or are rapidly spreading from their current infestation sites. These weeds are capable of rapid spread and invasion of land, rendering land unfit for beneficial uses. Management criteria include public awareness and education, monitoring, containment of known infestations, and eradication where possible.

- Dyers Woad (Isatis tinctoria)
- Purple Loosestrife or Lythrum (Lythrum salicaria, L. virgatum, and any hybrid crosses thereof)
- Tansy Ragwort (Senecio jacobea L.)
- Meadow Hawkweed Complex (Hieracium pratense, H. floribundum, H. piloselloides)
- Orange Hawkweed (Hieracium aurantiacum L.)

- Tall Buttercup (Ranunculus acris L.)
- Tamarisk [Saltcedar] (Tamarix spp.)

Category 3 noxious weeds have not been detected in the state or may be found only in small, scattered, localized infestations. Management criteria include public awareness and education, early detection, and immediate action to eradicate infestations. These weeds are known pests in nearby states and are capable of rapid spread and can render land unfit for beneficial uses.

- Yellow Starthistle (Centaurea solstitialis)
- Common Crupina (Crupina vulgaris)
- Rush Skeletonweed (Chondrilla juncea)

Watch List includes scentless chamomile and white bryony. Management criteria include awareness, early detection, monitoring, and containment of existing infestation.

Appendix F, Sensitive Plants

Helena National Forest Sensitive Plant Species List 2003

The following list of plant species are known or suspected to occur within the Helena National Forest. This is a description of sensitive plant species technical name, elevation, bloom dates, substrate/habitat and associated species. A star (*) before a plant name indicates that it is known to occupy habitat within the Helena National Forest, while all others are suspected to occur on the Forest. "2" following the plant name indicates that the species is in rangewide imperilment; "3" following the plant name indicates the species is in regional/state imperilment.

Amerorchis rotundifolia/Orchis rotundifolia (3): 3350-5920' mid-June to mid-July, organic soils/wet mossy coniferous forest edges, near peatlands and streams often on limestone, Spruce forest around seeps or along streams, often in soil derived from limestone. *Picea engelmannii, Habenaria hyperborea, Cypripedium passerinum, Listera borealis, Pyrola uniflora*.

Aquilegia brevistyla (3)*:* 5000-6200'; June through mid July survey time. Open woods and stream banks at mid-elevations in the montane zone.

Astragalus lackschewitzii (2): 7300-8300', late July to August survey time, stabilized calcareous scree/alpine and subalpine, *Astragalus bourgovii, Dryas octopetala, Smelowskia calycina*. (Note: Collect plants in full fruit.)

Botrychium crenulatum (2): 2440-7680' foothills and montane zones, mid July to mid August survey time, Stream bottoms, around seeps, on the edges of marshes, and in wet roadside swales, often on soils influenced by reprecipitated calcium. Vegetation dominated by spruce, alders, and dogwood, with high cover and diversity of forbs and graminoids.

****Botrychium paradoxum (2)***: 3550-8480' foothills and montane zones, mid July to mid August survey time, moist shrubby meadows, often near lakes. Mesic meadows associated with spruce and lodgepole pine forests in the montane and subalpine zones; *Epilobium angustifolium , Fragaria virginiana, Penstemon confertus*.

****Carex livida (3)***: 2910--6030', late June to early August survey time, Wet, organic soils of fens in the foothill and montane zones. [other literature has indicated calcareous parent material] *Habenaria hyperborea, Carex lasiocarpa, Betula glandulosa*.

Carex paupercula (3): 2910 - 6300' montane zone, late June to mid-August survey time, Nutrient-poor bogs and fens, often with SPHAGNUM moss, in the montane zone. E*leocharis pauciflora*, *Carex aquatilis, Drosera rotunidifolia, Alnus incana, Equisetum arvense*.

****Cirsium longistylum (2):*** 4680-8170', late June to August survey time, vernally moist meadows in the montane zone.

Cypripedium parviflorum (3): 3000-6200', late May to early July survey time, fens, organic soils, moist coniferous forests, seepage areas and moist ecotones between peatlands and upland forest, *Picea engelmannii, Betula glandulosa, Salix candida, Cypripedium passerinum*.

Cypripedium passerinum (3): 3100-5700', late June to early July survey time, peaty soils, in ecotone between wet mossy coniferous forests and wetlands or streams, Mossy, moist, or seepy places in coniferous forests, often on calcareous substrates. *C. parviflorum, Picea engelmannii, Equisetum arvense, Habenaria hyperborea*.

Drosera anglica (3): 3100-9000', early July to late July survey time, peatlands, on floating organic mats--undisturbed sphagnum bogs; in wet, organic soils of fens. *D. linearis, Carex livida, Carex interior*.

Drosera linearis (3): 4350-6030', early July to late July survey time, peatlands, on floating organic mats--undisturbed sphagnum bogs; wet, organic soil of nutrient-poor fens in the montane zone. *D. anglica, Carex livida, Carex interior*.

Epipactis gigantea (3): 2900-6200', late June to mid-July survey time, warmsprings and seeps on the edges of peatlands. Stream banks, lake margins, fens with springs and seeps, often near thermal waters. *Habenaria dilatata, Rhamnus alnifolia, Senecio triangularis, Equisetum arvense*. (Note: Any known warmspring area should be checked for this species.)

Grindelia howellii (2): 3320-5960 '; Forest openings, river terraces and native grasslands. Vernally moist, lightly disturbed soil adjacent to ponds and marshes, as well as similar human-created habitats, such as roadsides and grazed pastures. July-August flowering

Goodyera repens (3)*:* 5700-6100, moist limestone slopes of old growth Douglas-fir, montane zone, late July to August survey time, *Pseudotsuga douglassii*.

Juncus hallii (3): 4000-8860', late June through early September survey time, in moist to wet meadows, *Polygonum bistortoides, Festuca idahoensis, Festuca scabrella, Iris missouriensis, Potentilla gracilis*.

Oxytropis podocarpa (3): 7300-8200', early July to mid-August, alpine slopes usually with northern aspects, gravelly ridges and slopes, often on limestone. *O. viscida. Dryas octopetala, Smelowskia calycina*.

Phlox kelseyi var missoulensis (2): 3600-8100', mid May through early July survey time depending on elevation, usually gravelly windswept ridges, although sometimes in forb dominated meadows, Open, exposed, limestone-derived slopes in the foothills and montane zones.

Douglasia montanum, Penstemon eriantherus, Lomatium cous, Geum triflorum, Eriogonum ovaliforium, Erigeron compositus.

Polygonum douglasii ssp. austinae (3): 4320-8520', open gravelly shale-derived soil of eroding slopes/banks or usually moist barren shale slopes, early July to mid-August survey time, *Agropyron spicatum, Potentilla gladulosa*.

Salix wolfii var. wolfii (3): 6540-8400', mid-July through late August survey time, rocky clay-loam soils/montane to subalpine wet meadows most often riparian, Streambanks and wet meadows in the valley, montane and subalpine zones. *Betula glandulos, Geranium richardsonii, Heracleum lanatum*. (Note: Catkins are necessary for positive identification.)

Saxifraga tempestiva (2): 7920-9900', vernally moist open soil in meadows, rock edges, depressions; krummholz and alpine zones, mid-July to mid-August survey time, *Pedicularis pulchella, Poa alpina, Dodecatheon pulchellum.*

Scirpus subterminalis (3): 2890-6000', late June to late August survey time, often submerged in 1-3 feet of water in quiet ponds and sloughs. Open water and boggy margins of ponds, lakes, and sloughs at 0.1-3 m depth in the valley, foothill, and montane zones. *Myriophyllum specatum, Nuphar variegatum, Nymphaea tetragona, Potamogeton gramineus*.

Thalictrum alpinum (3): 4855-8280', late June to late July, hummocks in moist alkaline meadows often beneath low shrubs, late June to late July survey time, *Potentilla fruticosa, Salix brachycarpa, Dodecatheon pulchellum, Juncus balticus*.

Veratrum californicum (3)*:* 6160-7360', wet meadows, along streambanks; montane to subalpine zones, July through August survey time.

Viola renifolia (3)*:* 2400-6520',organic soils, swampy spruce woods, late June to early July survey time, Picea engelmannii, Alnus incana, Pinus contorta, Pyrola asarifolia, Mitella nuda, Senecio pseudaureus

Note: Changes from 1994 list to 1999 list are as follows:

Dropped: Agoseris lackschewitzii
Asplenium trichomanes
Eriophorum viridicarinatum
Sausserea densa

Added: Botrychium crenulatum
Cirsium longistylum
Drosera anglica
Grindelia howellii

Name changes: Amerorchis rotundifolia was Orchis rotundifolia
Astragalus lachschewitzii was Astragalus molybdenus

Cyprepidium parviflorum was Cypredipium calceolus var. parviflorum

General Habitats for the Sensitive Plant Species of the Helena National Forest

PONDS

Scirpus subterminalis

OPEN WET MEADOWS/PEATLANDS/FENS

Botrychium crenulatum

Carex livida (calcareous)

Carex paupercula

Drosera anglica

Drosera linearis

Epipactis gigantea (thermal springs)

Salix wolfii var. wolfii

CONIFEROUS WET MEADOWS/ECOTONES

Aquilegia brevistyla

Botrychium paradoxum

Cypripedium parviflorum (E)

Cypripedium passerinum (E)

Amerorchis rotundifolia (calcareous)

Veratrum californicum

Viola renifolia (organic soils)

MOIST FORB/GRASS MEADOWS

Botrychium crenulatum

Juncus hallii

Thalictrum alpinum (alkaline)

FORBLANDS AND GRASSLANDS

Botrychium paradoxum

Cirsium longistylum

Grindelia howellii

Phlox kelseyi var. missoulensis (forb/grasslands and scree slopes)

MOIST CLIFF CREVICES AND TALUS SLOPES

Astragalus lackschwetzii (S/A) (calcareous)

Polygonum douglasii ssp. austinae (barren shale slopes in the montane zone)

MOIST DOUGLAS FIR FORESTS

Goodyera repens (limestone)

ALPINE

Oxytropis podocarpa (A) (calcareous)

Saxifraga tempestiva (A)

(E) - These species are usually found ecotonally between wet areas of peatlands, and surrounding coniferous forests.

(S/A) - Subalpine and alpine. (A) - Alpine.

Appendix G, Regulatory Framework

This appendix includes the regulatory framework used by each resource. It describes the laws that guide the various resources.

Recreation

Recreation management regulations for the National Forest System are located in the 36 Code of Federal Regulations parts 251 (land uses), 261 (prohibitions), 291 (occupancy and use of developed sites and areas of concentrated use), 295 (use of motor vehicles off designated roads), and 297 (wild and scenic rivers). Management policy direction and guidelines are contained in Forest Service Manuals (FSM) and Handbooks (FSH) including: FSM 2300 (recreation, wilderness, and related resource management); FSH 2309.18 (trails management); and FSM 2700 (special uses management). Management direction specific to the Helena National Forest is also provided in the 1986 Helena Forest Plan.

Forest Service recreation management is guided by the *Recreation Opportunity Spectrum* (ROS), which is the basic framework for inventorying, planning and managing the recreation resource in accordance with the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), as amended by the National Forest Management Act of 1978 (NFMA). ROS is a conceptual scheme that identifies seven ROS categories, which are mixes or combinations of recreational activities, settings, and experience opportunities along a spectrum or continuum from Primitive to Urban.

Meaningful Measures (MM) is the agency's recreation management tool. MM sets standards and guidelines for managing recreation areas, trails and facilities in developed, dispersed (general forest area) and wilderness settings. It identifies program priorities and budget needs. Of importance to this travel planning effort, MM identifies management standards and guidelines for dispersed (undeveloped) recreation settings, especially in "concentrated use areas" such as along forest roads and waterways. Forest recreation facilities and trails are accounted for in the INFRA database, which is the basis for determining deferred maintenance needs across the forest.

Transportation

Transportation management regulations for the National Forest System are located in the 36 Code of Federal Regulations parts 212 (forest transportation system) and 295 (use of motor vehicles off forest roads). Management policy direction and guidelines are contained in Forest Service Manuals (FSM) and Handbooks (FSH), including FSM 7700 (transportation system) and FSH 7709 (transportation). Management direction specific to the Helena National Forest is also provided in the 1986 Helena Forest Plan.

Heritage

The National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations in 36 CFR 800, provide the legal framework for

considering heritage resources in project planning. NHPA requires that federal agencies take into account, in consultation with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officers (THPOs) and the Advisory Council on Historic Preservation (ACHP), the potential effects of agency actions on places and sites of archaeological or historical significance. The act establishes the National Register of Historic Places, a listing of locally, regionally and nationally significant heritage properties. In project planning, agency historic preservation specialists use the National Register eligibility criteria to determine the historical or scientific value of heritage resources affected by projects.

Lands and Special Uses

The basic authority for management of all lands owned by the United States originates with Congress. The U.S. Constitution, article IV, section 3, clause 2, often referred to as the "Property Clause", assigns to Congress the responsibility for disposing of and making all rules and regulations relative to property belonging to the Unites States.

Various acts/laws have been enacted by Congress that authorizes the Secretary of Agriculture to manage National Forest System lands. Those directly pertaining to land adjustments are the Weeks Act of March 1, 1911, the General Exchange Act of March 20, 1922, the Federal Land Policy and Management Act of October 21, 1976, the Federal Land Exchange Facilitation Act of August 20, 1988, and Public Law 97-465, commonly referred to as Small Tracts Act. Those laws pertaining to special use management are found at 36 CFR 251.53 and Forest Service Manual 2710.11a. Authorities related to right-of-way acquisition are the Federal Land Policy and Management Act of October 21, 1976, and the Act of October 13, 1964, commonly known as the National Forest Roads and Trails Act.

Land adjustments and uses are specifically addressed in the Forest Plan, Helena National Forest, April 1986. Reference can be made to pages II-29 through II-30, and Appendix O.

Fire

The Helena National Forest Fire Management Plan (FMP) follows Helena National Forest Land Resource Management Plan (LRMP) resource management goals and fire protection objectives (Appendix R, 2003 Helena NF FMP**)**. The Helena NF LRMP signed in 1986, meets National Environmental Policy Act (NEPA) requirements as well as other State and Federal regulatory requirements. The authorities for implementing this plan can be found in FSM 5101 and 5108.

The Helena NF FMP was developed to meet the requirement that Fire Management Plans be developed for all areas subject to wildland fires, and complies with the following direction:

- 1995 Federal Wildland Fire Management Policy and Program Review
- 2001 Federal Wildland Fire Management Policy

- Wildland and Prescribed Fire Management Policy and Implementation Procedures Reference Guide
- Managing Impacts of Wildfires on Communities and the Environment
- Protecting People and Sustaining Resources in Fire Adapted Ecosystems A Cohesive Strategy (FSM 5101, 5103, and 5108)
- The National Fire Plan

The following Congressional Acts authorize and guide fire management activities for the protection of National Forest System lands and resources:

- Organic Administration Act of June 4, 1897 (16 U.S.C. 551). This act authorizes the Secretary of Agriculture to make provisions for the protection of National Forests against destruction by fire.
- Bankhead - Jones Farm Tenant Act of July 22, 1937 (7 U.S.C. 1010, 101). This act authorized and directs the Secretary of Agriculture to develop a program of land conservation and land utilization to "assist in controlling soil erosion, reforestation, preserving natural resources, protecting fish and wildlife, . . . mitigating floods, . . . protecting the watersheds of navigable streams, and protecting public lands."
- Wilderness Act of September 3, 1964 (16 U.S.C. 1131, 1132). This act authorizes the Secretary of Agriculture to take such measures as may be necessary in the control of fire within designated wilderness.
- National Forest Management Act of October 22, 1976 (16 U. S. C. 1600 st seq.) This act directs the Secretary of Agriculture to specify guidelines for land management plans to ensure protection of forest resources. Implementing regulations at Title 36, Part 219 of the Code of Federal Regulation (36 CFR 219.27) specify that consistent with the relative resource values involved, management prescriptions in forest plans must minimize serious or long-lasting hazards from wildfire.
- Clean Air Act, as amended (42 U. S. C. 7401 et seq.). This act provides for the protection and enhancement of the nation's air resources and applies to the application and management of prescribed fire.

Forested Vegetation

The Helena National Forest timber management regulations for National Forest System lands are located in the Code of Federal Regulations part 221 – Timber Management Planning. Guidelines and direction for management of timber are contained in Forest Service Manuals 2400 – Timber Management and Forest Service Handbooks 2409 – Timber Mangement.

Forest wide management direction provides goals, standards, and objectives within the Forest plan for management of the timber resource on the Helena National Forest. These goals state that the Helena NF will provide a sustained timber yield that is responsive to local industry and national needs, and provide firewood as an energy resource for personal and commercial use. The Helena

Forest Plan also states transportation plans and logging system plans must be designed jointly to provide for long term stand management, with full consideration given to topography, slope, the overall efficiency of roading and yarding costs, and the need of other resources. The plan also states opportunities to collect firewood will continue.

Sensitive Plants

Forest Service Manual 2670 contains direction concerning management associated with sensitive plant populations. The Forest Service will not undertake management actions that cause plants to become listed under the Federal Endangered Species Act.

Watershed

The legal framework for National Forest management authorizes the Forest Service to establish and maintain a network of roads and trails needed for transportation and access relating to various land management uses. This legal framework is articulated in the National Forest Roads and Trails Act of 1964 and the National Forest Management Act of 1976.

National Forest Roads and Trails Act of 1964 (78 Stat. 1089; 16 U.S.C. 532-538)

Section 1 of the National Forest Roads and Trails Act states, “Congress hereby finds and declares that the construction and maintenance of an adequate system of roads and trails within and near the national forests and other lands administered by the Forest Service is essential”. This system of roads is needed “to provide for intensive use, protection, development, and management of these lands under principles of multiple use and sustained yield of products and services”. (16 U.S.C. 532)

Section 2 of this act states, “The Secretary is authorized, under such regulations as he may prescribe, subject to provisions of this Act, to grant permanent or temporary easements for specified periods or otherwise for road rights-of-way (1) over national forest lands administered by the Forest Service”. (16 U.S.C. 533)

Implicit in this legal direction is Forest Service authority to withdraw lands from vegetation production and related soil productivity on National Forest for dedication to road and trail corridors for transportation and access uses.

National Forest Management Act of 1976 (90 Stat. 2949; 16 U.S.C. 1608)

Section 8(b) of the National Forest Management Act states, “any road constructed on land of the National Forest system in connection with a timber contract or other lease shall be designed with the goal of reestablishing vegetation cover on the roadway and areas where vegetation cover has been disturbed by the construction of the road, within ten years after the termination of the contract, permit, or lease”. This section of the Act further states, “Such action shall be taken unless it is determined that the road is needed for use as a part of the National Forest Transportation System”.

This legal direction states that lands no longer needed for, and dedicated to, transportation or access uses should be returned to a vegetated state. Implicit in

this legal direction is Forest Service responsibility to recover soil productivity on these lands, to the extent that vegetation can be re-established. Type and degree of soil recovery necessary for re-establishment of vegetation will depend on site-specific conditions and land management objectives for that area.

Section 8(c) of this act states, “Roads constructed on National Forest System lands shall be designed to standards appropriate for the intended uses, considering safety, cost of transportation, and impacts on land resources”.

Forest Service Region 1 Soil Quality Standards

Region 1 soil quality standards for maintaining soil productivity are to be applied “to lands where vegetation and water resources management are the principal objectives” (USDA Forest Service 1999; FSH 2509.18 page 3). Direction for application of soil quality standards further states, “Permanent roads do affect soil hydrologic function, however, their evaluation is more appropriately done on a watershed basis using models and other watershed analysis techniques”. Consequently, Region 1 soil quality standards are not intended for application to roads and trails, because lands affected by roads and trails are dedicated to transportation and access use as the principal management objective.

Montana Water Quality Standards

Except in the wilderness, the waters within the analysis area are classified by the State as B-1. Waters classified as B-1 are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

For waters classified as B-1 no increases are allowed above naturally occurring concentrations of sediment, settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife. "Naturally occurring" means conditions or material present from runoff or percolation over which man has no control or from developed land where all reasonable land, soil and water conservation practices have been applied. "Reasonable land, soil, and water conservation practices" means methods, measures, or practices that protect present and reasonably anticipated beneficial uses. These practices include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution-producing activities.

Wilderness area waters are classified as A-1. Water classified as A-1 is to be maintained suitable for drinking, culinary, and food processing after conventional treatment for removal of naturally present impurities. Water quality must be maintained suitable for bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply. No increases are allowed above naturally occurring concentrations of sediment or suspended sediment except as permitted in 75-5-318, MCA), settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful,

detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

General prohibitions also state that pollution resulting from storm drainage, storm sewer discharges, and non-point sources, including irrigation practices, road building, construction, logging practices, over-grazing and other practices must be eliminated or minimized as ordered by the department.

Water Quality Limited Segments and TMDLs

The Federal Clean Water Act and the EPA Water Quality Planning Regulations require states to identify watercourses that contain water quality limited segments. A water quality limited segment is defined as a waterbody that is not fully meeting water quality standards or have beneficial uses that are being threatened. The State of Montana Department of Environmental Quality (DEQ) has listed Avalanche Gulch, Benton Gulch, Confederate Gulch, and Hellgate Gulch as water quality limited on the 2002, 303(d) list. In addition to those on the 2002, 303(d) list, the 1996 list includes Magpie Creek, White Gulch, Cave Gulch, Beaver Creek, Trout Creek, Beaver Creek (on the Smith River side), and Elk Creek. The probable causes and sources of impairment are in the project file. None of the streams on the 2002 list have siltation or sediment listed as the probable cause. Cave Gulch, both Beaver Creeks, Confederate Gulch, Trout Creek, Benton Gulch and Elk Creek have siltation listed as one of the probable causes on the 1996 list. Those streams that are on the 1996 list and not on the 2002 list did not pass the State's sufficient and credible data determination and have been placed on a list for further study.

Montana is using a watershed approach to facilitate development of water quality restoration plans. DEQ has divided the state into 91 watershed planning areas and adopted a schedule for completing restoration plans for all areas by May 2007. Those streams in the analysis area that drain into the upper Smith River are scheduled to have TMDLs developed in 2005. The streams draining into the Canyon Ferry planning area are scheduled for 2007. The Helena National Forest will participate fully in the development of these TMDLs.

Pending completion of a TMDL on a water body listed pursuant to 75-5-702: new or expanded nonpoint source activities affecting a listed water body may commence and continue provided those activities are conducted in accordance with reasonable land, soil, and water conservation practices; for existing nonpoint source activities, the department shall continue to use educational nonpoint source control programs and voluntary measures.

Fisheries

National Forest Management Act

Under the National Forest Management Act of 1976 (NFMA), the Forest Service is charged with maintaining the viability of all existing native and desired non-native vertebrate species in a planning area (36 CFR 219.19). A forest plan must identify "management indicator species" (MIS) that serve as proxies for fulfilling this NFMA viability requirement. Westslope cutthroat trout (WCT) is the MIS for fisheries on the Helena National Forest. The regulations impose a

standard by requiring habitat objectives to be established for maintaining viability of MIS throughout a planning area.

Forest Service Manual

The Forest Service Manual (FSM) provides direction in the proper management of aquatic resources. Where other resource activities have potential to impact fish habitat, FSM 2634.02 provides for integrating prescriptions during project planning. Water quality management shall recognize sediment as the major non-point pollutant from FS lands and establish guidelines and procedures for preventing unacceptable resource impacts from introduced sediment (FSM 2542.02). After a half-century of rigorous research, fine sediment originating from a broad array of human activities has been singled out as the principal factor in the degradation of stream fisheries (Waters, 1995).

In addition, FSM 2672.1 imposes a strict standard for treatment of sensitive species. The Forest Service lists WCT as "sensitive" and, therefore, confers special attention in their management to prevent them from declining to the point of warranting listing under the Endangered Species Act.

Federal Clean Water Act

The Clean Water Act of 1972 helps clarify Forest Service responsibilities for managing aquatic resources. U.S. Environmental Protection Agency regulations based on the federal Clean Water Act require states to identify watercourses where beneficial uses, such as fish production, are impaired or threatened by human activity. These waterbodies become known as water quality limited segments (WQLS), which then become scheduled for Total Maximum Daily Load identification and development of water quality restoration plans. More information about this statute can be found under the Hydrologist's report.

Montana Surface Water Quality Standards

In the Administrative Rules of the Montana Water Quality Act (17.30.622(f) – 17.30.624(f)), no increases are allowed above naturally occurring concentrations of sediment or suspended sediment, settable solids, oils or floating solids detrimental or injurious to public health, recreation, safety, welfare, livestock, wildlife, birds and fish. The goal is to protect designated beneficial uses and meet or exceed Montana surface water quality standards.

1999 Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout in Montana

Westslope cutthroat trout are currently managed in Montana under direction and guidance of a 1999 Memorandum of Understanding and Conservation Agreement (MOU/Agreement). As signatories, the FS and BLM agreed to incorporate goals and objectives outlined in the agreement into each agency's planning and budget processes. In cooperation with the Montana Fish, Wildlife and Parks department, agency biologists developed a Land Use Strategy (version 4.7) in 2002 to provide a consistent, effective approach in fulfilling the land management agencies' responsibilities under the MOU/Agreement east of the Continental Divide.

Helena National Forest Plan

Direction for fisheries management under the Helena National Forest Plan emphasizes “maintenance or enhancement” of cold-water habitat and water quality to meet the needs of fisheries (Forest Plan II/1 and II/4). To protect or enhance fisheries resources the Forest Plan requires close coordination of Forest activities to ensure water quality and fish habitat is protected (Forest Plan II/22).

The latest Forest Plan version (1986) did not establish numerical standards or threshold limits for fisheries habitat. Language in the standards leaves room for individual biologists to define what level of change to a habitat variable represents an impact on the resource under analysis. For example, fisheries research and investigations focus on the pervasiveness of *excessive* sediment generated by human activities in mountain watersheds. The major threat to fish is to their reproductive success and loss of rearing habitat. The ultimate objective for fisheries management is to encourage effective management of sediment inputs to streams to preserve biological productivity. The Big Belts Landscape Analyses consequently includes language for “no net increase in sedimentation” to streams. Likewise, any instream work must provide maximum protection of spawning habitat and not impede upstream fish migration.

Wildlife

The National Environmental Policy Act of 1969 requires that all environmental analyses ‘consider a full range of reasonable alternatives to the proposed action that address the significant issues and meet the purpose and need for the proposed action.” All alternatives must also meet the requirements of other applicable laws including the Endangered Species Act of 1973 (and associated recovery plans or conservation agreements), the Migratory Bird Treaty Act of 1918 (and associated Executive Order), Helena Forest Plan direction, and Forest Service manual direction for sensitive faunal species.

Range

Range management direction can be found in:

- Forest Service Manual 2200-2270 – Range Management
- Forest Service Handbook – Grazing Permit Administration Handbook
- 2209.13 Chapter 90
- 2210.4 – Responsibility. Each Regional Forester is responsible for developing through forest and project-level planning the direction necessary for management of rangeland resources in the Region and for ensuring that rangeland resource planning is fully integrated with planning for other forest resources.

Weeds

Activities on the Helena NF are governed by the Helena NF Forest Plan (Forest Plan,USDA 1986). To implement the Forest Plan, the Helena NF must develop a weed management plan that incorporates federal, state, and county direction and

regulations. An aggressive and effective weed control program is dictated by Forest Plan and agency objectives for biodiversity, health and human safety, responsibility to neighboring land, and consistency with federal and state laws. The Forest Service is directed by law, regulation and agency policy to effectively treat noxious weeds. The following laws provide broad authority for control of noxious weeds on National Forest System land within the Helena NF, and several laws and regulations provide for control of such weeds.

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