

## **CHAPTER 2 ALTERNATIVES**

### **Changes from the Draft to the Final EIS**

The following is an overview of the changes that have been made to this Chapter from what was presented in the Draft EIS.

- Alternative 7 of the Draft EIS (DEIS) has been replaced with Alternative 7-Modified (7-M) in this Final EIS (FEIS). The descriptions and comparisons of alternatives discussed in this Chapter have changed accordingly.
- A section was added under the heading of “Scoping and Issue Identification” briefly describing the Draft EIS comment period.
- In the DEIS amendment of the Gallatin National Forest Land and Resource Management Plan (Forest Plan) was proposed to remove existing direction pertaining to the management of travel and incorporate the Travel Management Plan as part of the Forest Plan. The Forest Service no longer proposes to incorporate the route designation decision of the Travel Management Plan as part of the Forest Plan. Instead, the Travel Management Plan would be a stand-alone document. Amendment of the Forest Plan is focused on removing existing direction pertaining to the management of travel. Corresponding discussions in this Chapter have been modified accordingly.
- In the DEIS, “Backcountry Landing Strips” was identified as an issue and a corresponding discussion of effects was included in Chapter 4. Travel Plan Alternatives 3 and now 7-M include a proposed objective that would lead to consideration of potential future proposals for the construction and use of backcountry landing strips. In other words, “backcountry landing strips” is not an issue, but part of the proposal. Therefore, it has been removed as an independent “issue” topic and is now addressed through the effects disclosure for other issues in Chapter 3 of this EIS. It should be noted that the proposed Travel Plan (i.e. Alternative 3 and 7-M) would not make a final agency decision to authorize the construction and/or use of landing strips.
- Based on public comments received on the DEIS, the issue of potential effects of the travel plan alternatives on Research Natural Areas was added and given discussion in this Chapter.
- Based on public comment discussion of six additional travel planning options have been included under the heading of Alternatives Considered but not Given Detailed Study. The first involves restricting snowmobiles to designated routes and areas. The second involves restricting stock to designated routes. The third responds to suggestions that the travel plan analysis should re-evaluate Inventoried Roadless Areas for potential recommendation as wilderness. The fourth responds to suggestions that noise restrictions be imposed on motorized vehicles. The fifth alternative addresses separating motorized and non-motorized use in time. The sixth responds to issues and concerns raised about road and trail condition.
- The comparison of alternatives tables have been updated and revised. In many cases, the values changed for an alternative from what was presented in the DEIS even though there was no corresponding change in the management of travel. Most of these are minor differences and can be explained by subtle changes in modeling and calculations. Other

changes can be explained as the result of correcting mistakes on the map covers. There was also a discrepancy found in the acres of snowmobile area restriction for Alternatives 5 and 6 from what was disclosed in the DEIS. After review of the previous data sets and formulas, it was concluded that the DEIS was incorrect due to human error.

- The DEIS included a section titled “Other Options Under Consideration” which has been removed from this FEIS. It was included in the DEIS to capture additional programmatic direction that was proposed too late to be included in the alternative descriptions. This section was provided to allow for public comment on these proposals. It is no longer needed because all proposals being considered for decision are included in the description of alternatives.
- Lastly, this Chapter has been edited for clarity, spelling, grammar and sentence structure.

## **Introduction**

This chapter is the “heart” of the Environmental Impact Statement (EIS) (40 CFR 1502.14). It describes seven alternatives that were studied in detail during travel planning analysis. In August 2002, the Forest Service began this process with the release of a proposal entitled, “Starting Benchmark.” This proposal served as a beginning point for public comment, initial effects analysis and issue identification (i.e., scoping). Alternatives 1 through 6 were developed based on the input provided during scoping. Alternative 7 was developed as the Forest Service Preferred Alternative in the Draft EIS based on analysis of the other six alternatives and public comments received to that point in time. Alternative 7 has been replaced in this Final EIS with Alternative 7-Modified (7-M). Alternative 7-M was the Forest Service Preferred Alternative as of January 2006. In general it is similar to Alternative 7. Some changes were made based on further analysis, public comment received on the Draft EIS, internal discussions and field visits.

In addition to the description of the seven alternatives, this chapter discusses issues and the scoping process and alternatives considered but not given detailed study. It also provides a comparison of the seven alternatives studied in detail.

## **Scoping and Issue Identification**

### **The Scoping Process**

The first step in preparing an EIS on a proposed action is to determine what issues should be considered. To do this, the National Environmental Policy Act (NEPA) outlines a process termed “scoping” (40 CFR 1501.7). This is an open process designed to determine the potential issues associated with the proposed action. The scoping process involves soliciting comments from other agencies, organizations and individuals, as well as early evaluation of the action by Forest Service specialists.

Public involvement opportunities began with release of the “Starting Benchmark” proposed Travel Management Plan in August 2002. Written and verbal comments were accepted on the Benchmark until November 22, 2002. Public involvement events occurring during this time included open

houses in area communities and meetings with interested groups and individuals. Approximately 1,600 comments were received.

Formal public involvement continued in August 2003 when six draft alternatives were released for review and comment. Written comments were accepted until October 3, 2003. Again, at this stage, open houses were held in area communities to provide opportunities to discuss the alternatives with Forest Service representatives. Approximately 3,200 comments were received.

## **The Draft EIS Comment Period**

The Draft EIS was published in February 2005. Written and electronic comments were accepted until September 2<sup>nd</sup>, 2005 including 2 extensions. Ten open houses were held in area communities and 80 other face-to-face meetings were held with interested groups and individuals. Approximately 2,000 written comments and 8,000 electronic comments were received.

Forest Service responses to comments received are posted on the Gallatin National Forest website at [http://www.fs.fed.us/r1/gallatin/travel\\_planning](http://www.fs.fed.us/r1/gallatin/travel_planning). Copies of meeting notes, written comments received and the content analysis for the comment periods can be found in the project file.

## **Significant Issues**

One purpose of scoping is to determine the significant issues that should be analyzed in depth within an EIS (40 CFR 1501.7). The significant issues become the focus of interdisciplinary interaction and alternative development.

On June 13, 2003 and October 30, 2003 (after public comment was received on the draft alternatives), the interdisciplinary team of Forest Service specialists met to develop a list of issues to consider as being potentially affected by human travel within the Gallatin National Forest. The public comments received on the Benchmark (Proposed Action) and initial evaluations by Forest Service specialists were used to identify these issues. Once the preliminary list of issues were identified, the interdisciplinary team and Forest Supervisor went through a process to determine those to be analyzed in depth within the EIS (i.e. the Significant Issues) versus those which are not significant and therefore only warrant a brief presentation of why they are not considered significant. Non-significant issues are discussed later in this Chapter, and for some, in Chapter 4 of this EIS.

In general, the significant issues identified represent those resources of the Gallatin National Forest that could be adversely or beneficially affected by the types and level of human recreation use and travel provided on the Forest. In other words, they should be analyzed as factors to be considered in making the decision for a Forest travel management plan. Significant issues pertain to resources or other components of the environment that are of public value or interest and that are sensitive to potential changes in travel management.

No additional significant issues were identified during the comment period for the Draft EIS. The Forest Supervisor confirmed the lists of significant and non-significant issues for the Final EIS through a letter to the interdisciplinary team dated October 25, 2005 (Project File, 05.10.25 Heath to

IDT\_Significant Issues). The following is a summary discussion of the significant issues which are also discussed in detail within Chapter 3 of this Final EIS:

1. **Bald Eagle.** Bald eagles may be affected by a variety of human activities that cause disturbance. Responses of eagles may range from abandonment of nest sites to temporary avoidance (temporal and spatial) of human activities. Responses may also vary depending on type, intensity, duration, timing, predictability and location of human activities. Individual pairs may respond differently to human disturbances because some bald eagles are more tolerant than others. Generally, eagles are most sensitive to human activities during the nest building, egg laying, and incubation periods, which are normally from February 1 to May 30. Human travel is capable of causing disturbance to bald eagles under the right circumstances. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on the endangered bald eagle (particularly around Hebgen Lake during the winter months).

2. **Big Game (Ungulates).** Various types of travel may cause disturbance and displacement of some big game species from important summer and winter habitat, resulting in lower big game populations. Management of motorized travel on the Forest could also affect the vulnerability of elk to hunting, leading to low mature bull elk numbers and possibly restricted hunting opportunities. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on big game and big game habitat.

3. **Biological Diversity and Ecological Sustainability.** Implementation of the Travel Management Plan must maintain viable populations of wildlife species on the Gallatin National Forest. The question is, in what ways can travel management influence the viability of wildlife species? The direct effect of roads and trails may isolate populations of some species into metapopulations and affect species viability, however this is much more likely to occur with major highways not under the jurisdiction of the Forest Service. The most likely threat to viability that could be caused by the Forest Service transportation system is damage to wildlife movement corridors in areas not currently covered by recovery plans and other direction for threatened and endangered and other species. In addition, biodiversity could be affected by transportation routes passing through old growth or other rare habitats such as willow, aspen, cottonwood and whitebark pine. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on biological diversity and sustainability.

4. **Cultural Resources.** This issue concerns the potential effects that travel management under the seven alternatives may have on the scientific, traditional, cultural and intrinsic values of archeological, cultural and historical sites on the Gallatin National Forest. More specifically there was concern that off-route motorized use could result in damage of archeological, scientific, historical and other significant sites. The Gallatin National Forest has over 900 recorded historical and archeological sites. Investigations reveal on the average of 30 new sites recorded each year. Site densities can reach as high as 10 or more per 600 acres. Many Forest Service trails follow historic and even prehistoric routes, thus increasing the potential for motorized use to overlap or bisect historic and prehistoric sites. In addition, motorized use in high-elevation areas of the Crazy Mountains (i.e., portions of the Ibex and East Crazies Travel Planning Areas (TPAs) could have an adverse effect to certain areas of traditional importance to the Crow Tribe. New or significant increases in motorized use would affect their ability to conduct traditional practices in these high

elevation zones of the Crazy Mountains. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on cultural resources.

**5. Social and Economic Impacts.** The Greater Yellowstone Area, of which the Gallatin National Forest is a part, is mountainous and offers abundant recreation and tourism opportunities. The summer and winter recreation opportunities such as skiing and fishing help attract business and labor to this area. The three counties most affected by the National Forest are Gallatin, Park and Sweetgrass. The largest and fastest growing sectors of the economies of these counties are the services and retail trade sectors. Construction and manufacturing sectors are also growing. While agriculture has been a historically important sector and still is, its relative size has decreased as other sectors increase. The effect of travel and recreation on the Gallatin Forest is tied indirectly and in various degrees to all these economic sectors. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives to the local economy.

**6. Enforcement.** During scoping for revision of the Gallatin National Forest Travel Plan, numerous comments were received regarding the agency's ability to enforce travel management restrictions. There is wide skepticism among some users about the ability to make travel management restrictions effective, due to the perceived limited ability of the agency to enforce restrictions. The bulk of enforcement-related comments were tied to motorized uses of the Forest. Refer to Chapter 3 for a discussion of this issue.

**7. Fisheries and Aquatic Life.** Travel routes and various modes of travel on roads and trails proposed in the Travel Management Plan may negatively impact aquatic habitat and biota, including sensitive fish and amphibian species. In most cases, the actual use, or mode of travel (e.g., motorized versus non-motorized) is inconsequential. Rather, it is the facility (i.e., road or trail) that has potential to impact aquatic habitat and biota. However, some uses have higher potential to disturb soils and increase erosion potential on roads and trails versus other uses. Refer to Chapter 3 for a discussion of this issue.

**8. Forest Plan Amendments to Remove Existing Standards related to Travel Management.** The Forest Service is proposing to remove current Forest Plan direction in lieu of that proposed in the Travel Plan. The proposal to remove these existing standards would not directly result in ground disturbance or environmental effect. However, because some of these standards limit management activity or require maintenance of specific conditions, there is concern that their removal from the Forest Plan would allow the Forest Service to pursue actions that would result in greater adverse environmental effect. Refer to Chapter 3 for a discussion of this issue.

**9. General Wildlife.** Various types of travel may affect a variety of wildlife species not otherwise specifically addressed in this EIS. Refer to Chapter 3 for a discussion of this issue.

**10. Grizzly Bear.** The issue of travel management is important to the conservation of the grizzly bear, a species currently listed as threatened under the Endangered Species Act. The grizzly bear is known to be sensitive to the effects of access management, especially as related to motorized use. Grizzly bears tend to avoid areas used by motorized vehicles. In addition, the subject of the effect of snowmobiling on denning and emerging grizzly bears was considered. Refer to Chapter 3 for a

discussion of the potential effects of the travel alternatives on the threatened grizzly bear and its habitat.

11. **Transportation System Implementability.** The Gallatin National Forest transportation system consists of over 2,100 miles of road and 2,800 miles of summer and winter trails. The transportation system provides recreation opportunities within the National Forest, provides access for forest management and protection, and provides access to private land inholdings. This issue concerns the potential effects of the Travel Plan decision on the transportation system of roads and trails. It addresses the schedule, costs and physical changes necessary to implement each of the Travel Plan alternatives. Refer to Chapter 3 for a discussion of the estimated differences between alternatives.

12. **Invasive Weeds.** Invasive weeds are plants that are either legally declared “noxious” weeds by the State of Montana, or other non-native plants that are aggressively spreading throughout the ecosystem. Invasive weeds can significantly alter the native plant species composition resulting in a decrease in habitat quality for wildlife and livestock, an increase in sediment levels of streams, and a decrease in aesthetic/recreational quality. Human travel, particularly motorized travel, can transport weed seed and thereby create new areas of infestation. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on the spread of invasive weeds.

13. **Lynx.** The Canada lynx was listed as a threatened species under the Endangered Species Act in March 2000. Lynx have been documented, historically and currently, throughout the Rocky Mountains of Montana. The effects to lynx have been identified as an issue as it relates to the existing transportation plan and proposed Travel Plan alternatives. Research suggests that the presence of roads can negatively affect lynx and lynx habitat, directly and indirectly. In addition, lynx are a prey specialist, largely dependent on snowshoe hares, and usually occur in the habitats where snowshoe hares are most abundant (Claar et al 1999). Lynx are specially adapted to survival in deep soft snow regions, such as the higher elevations in the northern Rocky Mountains. Physical adaptations to deep snow give lynx a competitive advantage over other predators, which includes the coyote, bobcat, and cougar. Outside of deep snow areas, these generalist predators are believed to exclude lynx through effective competition for food resources. There is a concern that compacted snow routes allow these other predators access up into areas that are normally the exclusive winter range of the lynx. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on lynx and lynx habitat.

14. **Migratory Birds.** Many bird species are protected under the Migratory Bird Treaty Act (16 USC 703-711). A January 2001 Executive Order requires agencies to ensure that environmental analyses evaluate the effects of federal actions and agency plans on migratory birds, with emphasis on species of concern. Over 200 species of migratory birds inhabit the Gallatin National Forest at some stage in their life cycle (Cherry 1993). Migratory birds are very diverse and include raptors, waterfowl, shore birds, game birds and songbirds. Human access and travel can affect migratory birds primarily through disturbance. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on migratory birds.

15. **Noise.** Travel management decisions have the potential to change the types of vehicles that use certain areas of the Forest. An issue raised during scoping for the benchmark proposal, and again

during the comment period for the six draft alternatives was the impact that noise from off-highway vehicles (OHVs), snowmobiles and other motorized vehicles have on the quality of people's recreation experience. Noise from motorcycles, ATVs and snowmobiles in particular can detract from the natural setting some users have come to the Forest to enjoy. Refer to Chapter 3 for a discussion of how the travel alternatives differ in terms of the noise that may be generated from motorized travel.

16. **Recreation.** Issues surrounding the way that people recreate on public lands have been growing as populations increase and more people with divergent interests compete for finite recreation resources. During the comment period associated with the release of the Travel Plan Benchmark in 2002, and then during review of the draft alternatives in 2003, several common themes regarding recreation issues surfaced. Motorized recreationists feel that their opportunities to enjoy the Forest have been greatly restricted over the last 35 years. Non-motorized recreationists feel that expanding motorized use on the Forest's trail system is decreasing the quality of their trail and traditional backcountry experiences, noting that the noise and odors associated with motorized equipment are particularly offensive to them. Non-motorized recreationists specifically identified a shortfall in separated non-motorized trail opportunities in the front-country, close to population centers, both in the winter for cross country skiing and in the summer for hiking and biking. Conflicts between recreationists seeking different recreation experiences and types of settings have been increasing. Refer to Chapter 3 for a discussion of the variations in recreation opportunity and quality of experience provided among the Travel Plan alternatives.

17. **Riparian Areas.** Riparian zones are diverse, dynamic and complex habitats. They provide habitat for a variety of species including rare and threatened species, and are sites of biological and physical interaction at the terrestrial/aquatic interface. Riparian cover types make up less than 0.5% of all land area in the Northern Region of the Forest Service yet tends to incur a disproportionate amount of human activity. Roads and trails passing through or parallel to riparian areas can affect many wildlife species both directly and indirectly. Many roads are located along streams, resulting in direct loss of these habitats when built in riparian zones. Riparian areas that have roads or trails directly adjacent to these important areas likely cause some species to be displaced or disturbed due to human use. Streams tend to be desirable places to camp and recreate, which can result in indirect effects of trampling of vegetation, concentration of human activities and subsequent wildlife displacement. Refer to Chapter 3 for a discussion of how the Travel Plan alternatives may affect riparian habitats.

18. **Roadless Areas.** Travel Plan revision proposals would make changes to how recreationists use certain roads and trails. Some facilities would have to be physically changed to accommodate a different use (for example a single-track trail currently being used by motorcycles may be converted to a double-track trail dedicated to ATV and motorcycle use). These changes in use may have an effect on certain characteristics of roadless lands on the Gallatin Forest. There is an identified concern over motorized recreation within roadless lands and the potential that motorized activities like snowmobiling or riding ATVs have to diminish roadless character and/or negatively impact the potential for future designation of some roadless areas as Wilderness. Degradation of roadless land values, regardless of their suitability for future designation as Wilderness, has also been identified as a concern relative to changing recreational uses. Refer to Chapter 3 for a discussion of the

potential effects of the Travel Plan alternatives on roadless areas, including the Hyalite/Porcupine-Buffalo Horn Wilderness Study Area, the Gallatin Petrified Forest and other special areas.

19. **Soils.** Recreational users can affect soil and vegetation productivity, cause soil compaction and soil erosion. Sediment from roads and trails may impact water quality of Forest streams, thus affecting human, fish and wildlife health. In addition, the widening of trails or off-route travel can reduce forest/grassland productivity for wildlife and livestock. Trails with eroding treads also eventually become financial burdens to maintain. Refer to Chapter 3 for a discussion of how the Travel Plan alternatives can affect soils.

20. **Watershed Management (Water Quality).** Roads can increase sediment levels and are the predominant non-natural sediment source in most managed forested watersheds including the Gallatin Forest. Trails generally have reduced sediment impacts since trail prisms are much narrower than roads and cut and fill slopes are smaller. Most streams of the Gallatin Forest are classified by the State of Montana 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. This issue concerns the potential sedimentation effects of road and trail use under the alternatives on streams and water quality. Refer to Chapter 3 for a discussion of how the Travel Plan alternatives and cumulative impacts from timber harvest and fire can affect sediment levels.

21. **Wilderness, Wilderness Study Areas, and recommended Wilderness.** Travel Plan decisions regarding the use of trails and dispersed areas have the potential to affect Wilderness qualities, and characteristics of recommended Wilderness and Wilderness Study Areas (WSAs). There is concern that accreting motorized and mechanized recreation use of trails and areas in recommended Wilderness and WSAs are detrimental to qualities that make them suitable for future Wilderness designation. Three specific concerns were raised:

- 1) The physical impacts that motorized vehicles are having on trails that were originally designed for hiking or stock (single-track trails becoming double track, erosion, spread of weeds, etc.).
- 2) Increasing noise and volume of traffic (affecting opportunities for solitude and a primitive recreation experience).
- 3) The precedent that establishing motorized use in an area has on future potential for designation as Wilderness. Refer to Chapter 3 for a discussion of the potential effects of the travel alternatives on Wilderness, WSAs, and recommended Wilderness.

22. **Wolverine.** The wolverine (*Gulo gulo*) is a mid-sized forest carnivore that persists at low densities across the Gallatin Forest. In this area, wolverines are classified as a Forest Service Sensitive Species, which are those species identified by the Regional Forester for which population viability is a concern. Implementation of travel management decisions would directly influence the spatial and temporal distribution of human activities on national forest lands. Human activities, including motorized and non-motorized access and associated recreation, can directly, indirectly and cumulatively influence wolverine distribution, reproduction and survival, and thus has the potential to affect wolverine populations in the Gallatin Forest. Refer to Chapter 3 for a discussion of the potential effects of the Travel Plan alternatives on wolverine and wolverine habitat.

23. **Wolves.** Wolves were reintroduced to the Greater Yellowstone Area in 1995, and were designated a “non-essential experimental” population under Section 10 of the Endangered Species Act. After reintroduction, gray wolves quickly colonized areas of the Gallatin Forest adjacent to Yellowstone National Park (YNP). Whether various modes of travel could affect the wolf or wolf habitat is of interest in travel planning. Refer to Chapter 3 for a discussion of the potential effects of this issue.

## **Other Issues**

NEPA provides for the identification and elimination from detailed study those issues which are not significant or which have been covered by prior environmental review, thus narrowing the discussion of those issues to a brief statement as to why they will not have a significant effect on the human environment or by providing reference to their coverage elsewhere (40 CFR 1501.7(3)). The following issues were evaluated but found not to be significant to decisions regarding human travel on the Gallatin Forest.

24. **Air Quality.** Concern was raised over the potential effects of travel under the alternatives (particularly motorized uses) on air quality. This issue has been determined to be non-significant to the decision between Travel Plan alternatives. The issue was raised in public comments as an undesirable effect of encountering motorized use emissions on Forest roads and trails. The Forest Service acknowledges that odor generated by emissions from combustion engines, particularly two-cycle engines, can diminish a non-motorized user’s experience of Forest trails. However, this is a recreation (user satisfaction) issue rather than a general air quality issue. Air quality is not significantly affected by potential motorized use of Forest roads and trails under any of the seven alternatives. Refer to Chapter 4 for a brief discussion of this issue.

25. **Research Natural Areas.** Research Natural Areas (RNAs) are a part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands (FSM 4063). RNAs are managed such that natural physical or biological processes are allowed to prevail without human intervention. According to FSM 4063.3, standards for protection and management of an RNA must support and promote the basic objectives and purposes of establishing the area. No logging or firewood gathering is permitted; grazing is only permitted under specific management prescriptions. Also prohibited is any form of recreation use that may threaten or interfere with the objectives for which the RNA was established. Roads, trails, fences, signs, or buildings are not permitted. Gallatin Forest Plan management direction is found in Management Area 21.

Seven RNAs were established on the Gallatin Forest through an Environmental Assessment and Decision Notice in 1997. These include Sliding Mountain, East Fork Mill Creek, Passage Creek, Palace Butte, Wheeler Ridge, Black Butte, and Obsidian Sands. Each RNA contains representative or unique natural features in a relatively undisturbed condition. The designation of these areas provides long-term protection and recognition of their natural values for research and baseline ecological study, observation, and conservation of biological diversity. The following table lists the established RNAs, acreage of each, and general location.

**Table 2. 1 Research Natural Areas on the Gallatin Forest.**

<b>RNA</b>	<b>Acres</b>	<b>District</b>	<b>General Location</b>
Sliding Mountain	1,459	Livingston	Absaroka-Beartooth Wilderness; head of Big Pine Creek and Sixmile drainage
East Fork Mill Creek	882	Livingston	Absaroka-Beartooth Wilderness; lower end of East Fork Mill Creek
Passage Creek	1,112	Livingston	Approximately one-half Absaroka-Beartooth Wilderness; west of Passage Falls
Palace Butte	1,280	Bozeman	Tributary to Hyalite Creek; area surrounding Palace and Arden Lakes in subalpine basin
Wheeler Ridge	640	Bozeman	South of Wheeler Mountain; head of Bear and Jim Creeks
Black Butte	510	Hebgen Lake	Lee Metcalf Wilderness; southeast end of Monument Unit
Obsidian Sands	390	Hebgen Lake	Obsidian Flats near West Yellowstone; south of the Madison Arm

Most of the RNAs are within wilderness area boundaries and would continue to be managed in accordance with wilderness goals. For those RNAs outside of designated wilderness, there are no system roads or trails within the established boundaries. No snowmobile use is occurring in the RNAs due to heavy forest and it is not considered rideable terrain. There are no proposals to construct any new routes or introduce new recreational uses in the RNAs through the travel management planning process and the issue has been eliminated from detailed study. This issue is not discussed further in this EIS.

**26. Energy Consumption.** Managing for motorized uses on the Gallatin Forest and just promoting recreation use in general under the alternatives will result in the consumption of energy. However, regardless of the alternative selected, people will continue to use the Forest for recreation and continue to consume energy for that purpose. All alternatives provide for a variety of recreation opportunities, both motorized and non-motorized. While Alternatives 5 and 6 provide less miles of opportunity for motorcycle and ATV use than the others, it cannot necessarily be said that they would result in significantly less energy consumption. Motorized trail use in these alternatives could simply become more concentrated or the restrictions could attract more visitors for non-motorized activities. The gasoline used by motorcycles, ATVs and snowmobiles is insignificant when compared to that consumed to access trailheads and other destinations by car or truck, or from a broader perspective, the gasoline consumed for people to travel to the Yellowstone area from other parts of the country. There is no aspect of the proposed Travel Plan that could be modified to notably reduce overall energy consumption from a regional perspective. Even closing the Forest to human use would simply result in people traveling elsewhere to recreate. Refer to Chapter 4 for a brief discussion of this issue.

**27. Extractive Uses.** During scoping, concern was raised over the potential effects that the Travel Plan alternatives may have on extractive uses of the Gallatin National Forest. Primarily, how any road restrictions or decommissioning may affect timber harvest/wood fiber production, livestock grazing and mineral extraction. The proposed Alternatives (2 through 7-M) deliberately defer decisions regarding potential road use, construction or reconstruction for access to timber stands to the analysis that would be completed for those specific actions. In other words, the proposed Travel Plan does not authorize nor preclude road access to serve project activity and therefore this part of the issue was determined not to be significant.

Another facet of this issue is the potential for the management of trails within active grazing allotments to result in some users redistributing livestock or leaving gates open. Reports from Gallatin Forest range conservationists provide no evidence that this behavior is associated with any particular user group. Since none of the alternatives propose to restrict humans from allotment areas, it can be concluded that no Travel Plan alternative is any better or worse than another in terms of potential recreation/livestock use conflicts. Refer to Chapter 4 for a brief discussion of this issue.

**28. Fire.** This issue concerns the potential for various forms of travel allowed under the alternatives to increase the risk of unplanned fire ignitions. Several comments were received expressing concerns that illegally or improperly operated vehicles can often create a fire hazard on public or private lands and that the Forest Service should restrict travel in the entire Forest when the fire danger is high and before “extreme” dryness occurs.

According to the Forest’s fire occurrence records, there have only been four fires caused by vehicles since 1980. Operating motorized vehicles off designated trails and road systems has been prohibited on public lands administered by the Gallatin Forest since 2001 (Forest Order 01-11-00-01, 2001). In addition, motorized vehicle use is typically restricted during times of high fire danger through the implementation of the Forest’s fire restrictions and Forest closure process. Unwanted fire starts from the improper use of motorized off-road vehicles off designated trails and roads are

rare, and therefore this is not considered a significant issue for travel management planning. This issue is not discussed further in this EIS.

**29. Fire/Fuels Management.** This issue concerns the potential effects of travel management under the alternatives on the Gallatin Forest's fire prevention/fuels reduction program and the ability to suppress wildfire. Roads and motorized trails provide access for fire suppression and fuel management activities and ground-based fire suppression equipment; access to and from water sources, lookouts and helicopter staging areas; fire breaks for fire suppression and fuels management activities for low severity fires; and from a safety standpoint, anchor points for pre-positioning firefighting resources and fire line construction. Roaded access can also have a negative effect by providing an increased opportunity for unwanted human-caused fires.

In planning suppression strategies for fire events lasting several days or weeks, roads and motorized trails provide alternative transportation options. These options play an important role in developing a wider range of strategies, commensurate with management area objectives that address cost-effectiveness and public and firefighter safety.

Road and motorized trail access is an important factor in effectively managing fuels and providing protection to wildland-urban interface areas. In a wildfire situation, response time for suppression actions can become a critical factor, especially when human lives are at stake. Roaded access allows pre-positioning of firefighting resources in the immediate area. All alternatives maintain the existing roaded access around wildland-urban interface areas.

In terms of cost-effectiveness, road and motorized trail access are important considerations for fire suppression and fuels management activities on the Gallatin Forest. They provide a wider array of treatment and suppression tactic options. Under all alternatives, road and motorized trail access for Forest administrative uses would be allowed on roads and trails closed to public motorized uses, except in designated Wilderness areas. Proposed Alternatives 2 through 7-M would adopt programmatic direction that would allow road and motorized trail access for fire emergencies and fuel management projects on National Forest lands. Therefore, the access concern is not considered a significant issue and as such, is eliminated from detailed study. This issue is not discussed further in this EIS.

**30. Fragmentation.** The Forest Service considered whether there could be the potential for travel uses on the road and trail system under the alternatives to fragment habitat for wildlife, but concluded this was not of issue. Fragmentation is a concern related to vegetative manipulation or construction activities and these are not proposed in the Travel Plan alternatives. Fragmentation in relation to wildlife corridors is addressed in the Biodiversity issue. Therefore, this issue is not addressed as a separate topic in this EIS. See the other wildlife topics addressed in this EIS for a discussion of potential effects to wildlife habitat.

**31. Private Land Values.** There are two facets to this issue. The first is, what potential effect would the proposed goal, objectives, and guidelines to acquire access rights across private lands to National Forest System lands (Goal B, Obj. B-1 through B-3, and Guidelines B-4 through B-9) have on private land values? The second is, what potential effect would traffic on Forest roads and trails have on adjacent or intermingled private land values?

The first facet of this issue was not considered significant to the decision among alternatives because the access goal and objectives exist with the Forest Service regardless of whether they are stated as part of the Travel Management Plan. For the most part they are common to all alternatives, except that under Alternative 1, the existing Forest Plan direction for access would remain in effect. In addition, proposed Objective B-3 only serves as disclosure of the general locations where the agency believes there is a need for improved access should the opportunity arise. The appropriate decision point in which to analyze and consider the effects to private land values is when a specific proposal has been identified (e.g., during a negotiated land exchange or when a private landowner approaches the Forest Service for access).

The second facet of the issue was also not considered significant for two reasons:

- 1) There is no information indicating that varying the types and mix of uses on Forest roads and trails adjacent to or through private land would affect private land values.
- 2) It cannot be concluded that more or less traffic on Forest roads or trails adjacent to or through private lands has either a positive or negative effect on private land values.

Refer to Chapter 4 for a brief discussion of this issue.

**32. Public Safety.** In managing travel on the Gallatin Forest, consideration must always be given to public safety. Concerns include hazards of two-way travel on trails open to motorized use, mechanized travel encounters with horse and pack stock, snowmobile encounters with skiers and snowshoers and mountain bike encounters with foot and horse travel. This issue was determined not to be significant to the Travel Plan decision because providing for public safety would be of equal importance among all alternatives. In other words, providing for public safety is more a function of information, education, and facility design to implement the Travel Plan rather than a function of the types of uses allowed on specific routes and areas. This issue is discussed further in Chapter 4 of this EIS.

**33. Rare Plants.** The Gallatin National Forest currently has 21 plant species listed as “sensitive” by the Forest Service. Most are found in bogs, wet meadows and along streambanks. For a list of these species and their habitats, refer to the Rare Plant Effects Report in the project file (Cherry 2004). There are no plants on the Gallatin National Forest currently listed as threatened or endangered.

This issue has been determined to be non-significant to the decision between Travel Plan alternatives and therefore was not given detailed study. The proposed Travel Management Plan does not include the project-specific actions to construct or reconstruct new roads or trails. The proposal would also restrict summer motorized use to designated routes (i.e., existing routes where the surface is already devoid of vegetative cover). Therefore, no new impacts to rare plant habitat would be predicted. For more information, refer to Cherry (2004) in the project file.

**34. Sensitive Wildlife.** All Forest Service planned, funded, executed or permitted programs and activities are to be reviewed for possible effects on sensitive species (FSM 2672.4). The following terrestrial species are listed as sensitive on the Regional Forester’s Sensitive Species list and are

either known or suspected to occur on the Gallatin National Forest: northern goshawk, peregrine falcon, black-backed woodpecker, flammulated owl, Townsend's big-eared bat, harlequin duck, trumpeter swan and wolverine. An identified management consideration for most of the sensitive species includes restricting human activities during critical times such as breeding seasons. Potential effects are evaluated through a qualitative discussion of indirect and direct effects of travel planning on species and their habitat. However, special closure orders are a tool that can be used on an as needed basis to site-specifically manage transportation routes for specific periods of use based on a particular species' annual activity. Use of this tool can serve to effectively mitigate yet not unnecessarily restrict public use or access to a particular area. Refer to Chapter 4 for further discussion of this issue.

**35. Snags/Down Woody Debris.** This issue concerns potential loss of snag habitat. Snags serve as a growth substrate for microorganisms and invertebrates and provide nesting and foraging habitat for a variety of wildlife species. Directly, building roads or trails through forested habitats can reduce snag and down log density. Indirectly, roads facilitate public access for hazard tree removal and firewood retrieval, which leads to a reduction of snags. This issue was determined not to be significant because the proposed Travel Management Plan (all alternatives) addresses appropriate uses of the transportation system and would not result in final agency decisions to build new roads or trails. So there would be no additional direct effects on snags and down logs. Additional NEPA analysis would have to be completed for any proposed route construction and this issue would be more appropriately addressed at that time. In addition, if it were to be determined that public firewood gathering was resulting in an unacceptable loss of snag habitat, then the more appropriate solution would be to restrict firewood gathering in those areas rather than prohibit use of Forest roads through the Travel Management Plan. For further discussion of this issue refer to Chapter 4.

**36. Subnivian Small Mammals.** This issue concerns animals dwelling and/or foraging under snow cover. It was mentioned in several comments received. Subnivian habitat areas occur seasonally throughout the higher elevation areas of the Gallatin Forest. Typically, area of persistent deep snow cover occurs above 6,000 feet in elevation on the Forest, but may vary widely because of localized events and topographical features. Many trail systems are present within this zone and provide recreational opportunities for snowmobiles, cross-country skiing, snowshoeing and other winter recreation. The effects of this recreational use to subnivian mammals can be described in general terms of thermal regulation concerns and direct loss of subnivian habitats. This was not considered a significant issue because analyses revealed that the extent of potential winter recreation impacts to subnivian species was very limited both temporally and spatially regardless of the alternative. Refer to Chapter 4 for a brief discussion of this issue.

**37. Tourism.** A total of 3.8 million non-resident travel groups, generally couples or families, visited Montana in 1998. Eighty-four percent of these visited during the summer, spring and fall, while 16% visited during the winter, according to the Institute for Tourism and Recreation Research (McMahon 1998). By 2005 this number had risen to 4.3 million groups according to the Institute (Nickerson 2005). The top five recreation activities of visitors are viewing wildlife, hiking/walking, viewing natural features, relaxing and driving for pleasure. Except for hiking and walking, these are all passive activities. This issue was determined not to be significant to the Travel Plan decision for these reasons:

- 1) Most non-resident visitors come because of the attraction of Yellowstone Park and surrounding tourist communities.
- 2) The top five recreation activities identified above are accommodated in each of the seven alternatives.

For more information on area tourism, refer to Chapter 4 and also the discussion of the Social and Economic issue in Chapter 3.

**38. Water (Snow) Chemistry.** Water chemistry poses only limited and slight differences in effects between alternatives. The EPA (1995) indicates that roads, highways, and bridges can be a significant source of pollutants to surface water in areas of heavy vehicle traffic such as urban areas and major highway corridors. Run-off pollution from rainwater or melting snow over roads, highways, and bridges can flush dirt and dust, rubber and metal deposits from tire wear, antifreeze and engine oil, and trash into surface water. Vehicle use on the Gallatin Forest is far less than that in the more urbanized areas used in the EPA (1995) evaluation.

Ingersoll (2002) reported on a snowpack chemistry monitoring network at 52 sites along the Rocky Mountains from New Mexico to Montana including local monitoring of snowpack chemistry in concentrated snowmobile use areas in Yellowstone National Park (West Entrance and Old Faithful). There was a measurable increase in ammonium and sulfate detected in snowpack samples taken directly in the roadway. However, in samples taken 50 meters from roads or parking lots, the snowpack chemistry samples did not detect elevated levels of contaminants. Ingersoll (2002) concluded that the contribution of snowmobile emissions in the Rocky Mountain region to regional atmospheric deposition is likely to be minimal. Ingersoll (1998) also concluded that elevated snowmobile emission levels in snow along highway corridors are dispersed into surrounding watersheds at concentrations below levels likely to threaten human ecosystem health. Since snowmobile use on the Forest is far more dispersed than those concentrated areas evaluated by Ingersoll, streamflow chemistry effects from snowmobile emissions in each alternative is expected to be very low and not of ecosystem or water quality significance. This issue is not discussed further in this EIS.

## **The Alternative Development Process**

Development of a Travel Management Plan is a large and complex undertaking. The Gallatin National Forest is approximately 1.8 million acres in size, with over 1,000 miles of road and over 2,000 miles of trail. Combine this with nine primary modes of travel to be managed for, possible seasonal restrictions on use and other components of a Travel Management Plan and the result is an infinite number of permutations and combinations that could be developed as alternatives. Therefore, the Forest Service developed a strategy to limit the number of alternatives to study in detail while obtaining a range to sharply define the issues and provide a clear basis of choice among options. The following outlines the principles used in identifying the seven alternatives discussed in this document and the separate “Detailed Description of the Alternatives.”

**The alternatives should strive to achieve the stated purpose for a Travel Management Plan.**

Chapter 1 describes six objectives to be achieved through the development of a Travel Management Plan. In summary, each alternative should provide for public recreation travel on the Forest while correcting or preventing unacceptable impacts to other resources.

**An initial proposal was needed to facilitate public comment and identify the issues.**

The travel planning process began when the Forest Service determined that there was a need to change how public travel was being managed on the Gallatin National Forest (see Chapter 1). As an initial step, Recreation Opportunity Spectrum (ROS) was used as a planning tool to develop the mid-scale objectives for each Travel Planning Area. Forest and ranger district staff then met to discuss the changes they believed should be made based on available information on the potential effects of travel, higher level direction, public reports of problems and knowledge of the Forest road and trail system. This led to the development of a proposed action alternative, which the Forest Service referred to as the “Starting Benchmark.” It was called this because it represented one possible option for a Travel Plan and it was developed without the benefit of extensive environmental analysis or public involvement. The Benchmark was designed to facilitate meaningful public comment and serve as a basis for early analysis.

**The alternative of “no action” must be identified to meet NEPA requirements and serve as a basis of comparison for the alternatives.**

NEPA requires that an EIS include a discussion of the “no action” alternative [40 CFR 1502.14(d)]. Typically the alternative of “no action” means either that the proposed action does not occur, or that there would be no change in current management [FSH 1909.15(14.1)]. Since human use and travel has been occurring on the Gallatin Forest (including motorized use), the “no action” alternative in travel planning would mean “no change.” However, to NOT adopt a comprehensive management plan for travel does not mean that the status quo is maintained into the future. The types of use and volume of use will change and the Forest Service will continue to respond to problems through site-specific actions. Management changes will also occur through actions taken outside of the control of local managers (e.g., changes in law, regulation, policy, etc.). This makes identifying a true “no action” alternative for travel management speculative. The situation is further compounded by differences in what could be legal to do on the Forest and what the land is physically capable of accommodating. For example, a trail may be legally open to ATV use but not physically capable of accommodating the types of vehicles available today. Lastly, the Regional Forester’s Montana-Dakota OHV decision (January 2001) changed the most recent Gallatin National Forest travel management plan (1999 Gallatin National Forest Recreation Visitor Map) to prohibit summer motorized use off of existing routes and it directed the Forests to designate those routes and areas that are appropriate for such uses. While this direction seems clear, it allows ATV and motorcycle travel on uninventoried, non-system trails (i.e. user-built routes) and provides the Forests with the flexibility to re-open areas for off-route travel. It also leaves open the definition of what an “existing route” is. For example would a set of wheel tracks across a grassy meadow be considered an existing route and therefore be legally open to motorized travel?

These factors led the Forest Service to develop two alternatives to closely represent possible “no action” scenarios. Alternative 1 is based on the direction contained on the most current (1999) Gallatin National Forest Recreation Visitor Map. It reflects the type of uses that would be legal across the Forest at that time and projects potential impacts as if that management were to continue

into the future. Off-route summer motorized travel would be permitted as it was then and the assumption was made that ATV and motorcycle riders would be capable of using routes that were legally open to that use. Under this alternative, the proposed Forest-wide and Travel Planning Area direction would not be adopted and existing Forest Plan direction (September 1987) would not be amended. Alternative 2 was developed to closely reflect the current situation and what would likely occur through site-specific management decisions. The types of uses allowed on routes were based not only on what is currently legally open, but also on an estimate of which routes are currently capable of accommodating those uses. It follows the Regional Forester's Montana-Dakota OHV decision in precluding off-route summer motorized travel and designates those routes where such use would be allowed. One of the principles used in developing this alternative was to attempt to mitigate for potential resource problems while retaining the uses currently being provided. For example, seasonal restrictions may be adopted that are not currently in place. This concept is based, in part, on the fact that "no action" does not necessarily mean "no future changes" in management. It is only reasonable to assume that the Forest Service would make changes in travel management to correct identified resource problems on a case-by-case basis. This alternative would adopt proposed Forest-wide and Travel Planning Area direction and amend the Gallatin Forest Plan to remove identified existing direction.

In general, for the purpose of comparing the predicted environmental consequences of various alternatives to "current conditions", Alternative 2 best serves as that baseline. For the purpose of predicting what may occur under "no action", both Alternatives 1 and 2 serve to frame the potential effects that could occur over the next 15 years or so should no decision be made for a travel plan.

The effects disclosed for Alternative 1 represents the possibility of accreting use on non-system routes (user-built routes) with a lower level of active management by the Forest Service. A decision to select Alternative 1 would allow off-route motor vehicle travel as it was prior to 2001, whereas under a "no action" scenario the Montana-Dakota OHV decision would prohibit such off-route travel. However, the Montana-Dakota OHV decision does not preclude motorized use of existing un-inventoried routes (e.g. user-built routes, game trails, etc.) and therefore allowing off-route travel in Alternative 1 allows the analysis to account for such use. Also, failure to designate those routes where motorized use is allowed through a travel plan could diminish the effectiveness of the Montana-Dakota OHV decision over time. Alternative 1 accounts for the potential that there could be growing use or establishment of non-system user-built routes.

The effects disclosed for Alternative 2 represents the possibility that use will generally continue on the roads and trails being used today due to more active Forest Service management on a site-specific basis and effective enforcement of the Montana-Dakota OHV decision.

**The set of alternatives studied in detail should provide a reasonable range of options that sharply define the issues.**

Under NEPA, a reasonable alternative is one that fulfills the purpose and need for action and responds to one or more significant issues (resolves an undesirable effect) [FSH 1909.15 (14.2)]. Analysis of the Benchmark and the current situation relative to the significant issues showed, in general, that impacts vary with the level of human use, particularly motorized use. A criterion for the alternatives was to provide a range that would also vary in terms of amount of motorized opportunities to be provided. The alternatives should also be responsive to public comments

received on the Benchmark. The majority of comments ranged from allowing motorized use (summer and winter) as it was in 1999 to restricting summer motorized use to routes on the existing road system and further restricting snowmobile use out of specific areas of the Forest containing quality wildlife habitat and other resource values. Alternative 1 and Alternative 6 represent these two ends of the spectrum. Alternatives 2, 3, 4 and 5 fall within this range and are incrementally more restrictive on motorized uses. Alternative 4 closely represents the Benchmark.

**The range of alternatives studied in detail must be bound.**

Travel planning is designed to assess human access and travel within the Gallatin Forest. Given this, the possible options would range from unregulated/unmanaged use across the Forest to prohibiting all human use and travel. Although there were a few comments advocating such management, neither of these extremes were considered reasonable. They clearly do not meet the purpose and need for a Travel Plan.

Alternative 1, which represents the management of travel as it was in 1999, and allows for off-route summer motorized travel, was determined to be sufficient in representing the most motorized-use end of the range of alternatives. The Forest Service identified no reason to consider alternatives that would further relax control of motorized use in general. While certain users may favor these alternatives, they would be in violation of legal requirements and higher-level direction imposed since 1999 and they do not respond to much of the purpose and need identified for a Travel Management Plan. It should be noted that limiting the more motorized end of the range of alternatives to Alternative 1 did not mean that new motorized routes could not be considered within the range. Alternatives 3 and 4, in particular, include some motorized routes that are not available today.

Alternatives 2 through 6, in general, get progressively more restrictive on motorized use in exchange for putting more management emphasis on other resource values and increasing the amount of hiking, horseback riding, biking and skiing opportunities provided in non-motorized settings. Based on individual values a case can be made for alternatives that would get more and more restrictive on human use (including non-motorized uses). For example, environmental analysis could demonstrate that there would be other resource benefits if all Forest roads were closed and reclaimed; if motorized, mountain bike and stock use were prohibited; and if trails were not cleared to make hiking more difficult. Most would consider these options, as well as the option of prohibiting all human use, to be unreasonable. They would also not meet the purpose and need described in Chapter 1 of this EIS. The question was how far to go in developing alternatives with increasing restrictions on human use to reach the point of having a reasonable range. The Forest Service determined this end of the spectrum to be represented by Alternative 6. It was a judgment call based on the following factors:

- 1) Alternatives 2 through 6 move the management of travel over the existing situation toward providing wildlife habitat and correcting other resource problems. There was no critical issue that would necessitate consideration of even more restrictions.
- 2) Alternative 6 was developed from comments received by a coalition of environmental groups and most non-motorized use advocates. There were few comments advocating an outright ban on motorized or other uses, nor were there many comments advocating that primary access roads into the Forest be closed.

**The alternatives should allow for a comparison of issues associated with specific routes and areas.**

The proposed Travel Management Plan would provide direction for management of specific routes and sub-areas of the Gallatin Forest. There are issues associated with many of these routes and areas that are not necessarily addressed by an overall Forest-wide management philosophy. The alternatives had to be defined such that different approaches to resolving these issues could be considered and the trade-offs understood. In this analysis, the Forest Service included the more restrictive options in Alternatives 5 and 6 and the more permissive options in Alternatives 2 and 3.

**The alternatives should not be unnecessarily biased.**

While developing the alternatives with variations in the management of specific routes and areas, care had to be taken to not include management options that had no real merit and thus could bias the comparison of alternatives. The goal was to make each alternative (2-6) the best it could be within the scope of the guiding theme for that alternative. Therefore, it was appropriate to have little variation among alternatives in the management of specific areas and routes where there was no identified need for change, or where a proposed change was clearly necessary and/or non-controversial.

**The decision would not be limited to a choice between one of the alternatives studied in detail.**

Alternatives 1-6 were developed with the understanding that the preferred alternative, and ultimately the final decision, would be made based on a comparison of the merits of each option on a Forest-wide, Travel Planning Area, and route-by-route scale. In other words, the preferred alternative and then the decision would likely be some combination of the other alternatives. This alleviated concern that an otherwise desirable alternative could not be chosen because there was some component of it that was unacceptable. Alternative 7 of the Draft EIS and Alternative 7-M of this FEIS were identified based on a comparison of the benefits and consequences of the other six alternatives.

## **Summary of Alternatives Studied in Detail**

The descriptions of the seven alternatives studied in detail within this EIS are long and complex, and therefore they are described in their entirety within a separate document entitled, "Detailed Description of the Alternatives." This section summarizes these alternatives by discussing the components and guiding themes used to develop them and by providing forest-wide comparisons of the opportunities that would be provided under each.

### **Components of the Alternatives**

Each alternative, except Alternative 1, proposes adoption of a management plan for public access and travel that contains the following components:

#### **Establishment of Forest-wide goals, objectives, standards and guidelines.**

"Goals" are statements describing desired results and/or conditions in general terms. No time period for achievement is specified. For example, Forest-wide goals related to travel, access and public use would identify the overall types of recreation opportunities and other public uses to

accommodate on the Gallatin Forest road and trail system. Goals are also listed for other Forest resources to identify the overriding purpose of more specific objectives, standards and guidelines designed to maintain or improve environmental conditions as they are affected by road and trail management. Upon the decision for a Travel Management Plan, the Gallatin National Forest transportation system would be designed and managed in pursuit of the selected Forest-wide goals.

“Objectives” are statements identifying a measurable target for the planning period (approximately 15 years) designed to move toward achieving goals when current conditions are less than desired conditions. For travel planning, Forest-wide objectives would identify desired measurable targets for recreation opportunity, or resource conditions. Where objectives are considered needed, they are tied to an overriding goal.

“Standards” are binding limitations placed on management activities, not already covered by law or regulation, which are designed to maintain a specified minimum level of resource protection. For example, a standard may be established that prevents any roads from being constructed within a certain distance of historical sites. For travel planning, a standard may establish sideboards within which future road and trail use, construction, reconstruction, maintenance or decommissioning must take place. These potential management actions cannot depart from meeting a standard unless the Travel Plan is changed in accordance with NEPA. Forest-wide standards (as opposed to area specific standards) are those that would apply universally over most, if not all of the Forest. Forest-wide standards are tied to the relevant goal.

“Guidelines” are preferable or advisable limits placed on management activities. Guidelines are similar to standards except they are non-binding. Future road and trail uses, construction, reconstruction, maintenance or decommissioning activities can deviate from a guideline without changing the Travel Plan. A guideline is used to direct management activities when there could be variability in specific situations such that a specific threshold cannot be identified.

A description of the Forest-wide direction that is proposed for Alternatives 2 through 7-Modified is found in the “Detailed Description of the Alternatives” document. Alternative 1 would not adopt proposed Forest-wide goals, objectives, standards and guidelines. Travel management would be guided by laws, regulations, policy and existing Forest Plan direction (USDA 1987).

### **Establishment of area-specific goals, objectives, standards and guidelines.**

To facilitate the organization of travel planning direction, the Forest has been divided into 39 Travel Planning Areas (TPAs). The creation of Travel Planning Areas allows for the development of goals and objectives that take into consideration the unique and varied attributes of specific parts of the Forest. The goals and objectives for TPAs have been developed using the same principles as are goals and objectives for the Forest, only they are tailored to apply to specific locations. Terrain, location, the road and trail network, attractions, desired recreation setting and other resource concerns are all factors to be considered in establishing TPA direction.

Similarly, standards and guidelines established for TPAs are developed using the same principles as described for Forest-wide standards and guidelines. They are used if needed to set sideboards on future projects and activities in order to ensure protection of resources. In the alternatives, they most often apply to future proposals for road or trail construction, reconstruction or maintenance.

A description of the direction that is proposed for Alternatives 2 through 7-M is found in Chapter II of the “Detailed Description of the Alternatives.” Alternative 1 would not adopt proposed area-specific goals, objectives, standards and guidelines. Travel management would be guided by laws, regulations, policy and existing Forest Plan direction (USDA 1987).

### **Establishment of route-by-route management direction and area restrictions for snowmobiling.**

Alternatives 2 through 7-M designate the types of uses that would be allowed and prohibited for each identified road and trail on the Gallatin National Forest. In general, alternatives vary in the amount of road and trail that would be designated for summer motorized use and in the amount of area which would be restricted to snowmobiles. Each of these alternatives would restrict summer motorized use to designated routes. Seasonal restrictions are also proposed under the alternatives to provide for facility and other resource protection.

A description of route-by-route management that is proposed for the alternatives can be found under the discussion for each TPA in the document titled, “Detailed Description of the Alternatives”. Alternative 1 would not change the Travel Management Plan outlined on the 1999 Gallatin National Forest Recreation Visitor Map. It would not restrict summer motorized use to designated routes unless it showed as restricted on that map. Existing snowmobile and seasonal restrictions would remain unchanged.

Alternatives 3 through 7-M also identify certain Forest Service roads proposed for nomination into the Public Forest Service Road (PFSR) program. The PFSR program is a Congressionally-driven program to fund the backbone road system on Forests with Highway Trust funds (federal gas tax receipts) as opposed to appropriated funds. In the late 1990s all Forests, including the Gallatin, nominated candidate roads for Congress to consider as potential PFSRs, however this process did not include public involvement. Therefore, as part of the proposed travel management plan, the Forest Service is identifying potential PFSRs for public comment. The result will be a pool of PFSR candidates that this Forest may continue to nominate to the national program for funding. Initial funding would be used to reconstruct the roads following satisfactory completion of NEPA procedures. Once reconstructed and approved, the roads become full-fledged PFSRs receiving federal funding for ongoing maintenance. Jurisdiction over a PFSR may change from the Forest Service to a willing local county government.

### **Amendment of the Gallatin National Forest Land and Resource Management Plan (Forest Plan) to remove existing Forest Plan direction pertaining to travel management.**

Each alternative (2 through 7-M) would amend the Gallatin Forest Plan to remove outdated, conflicting and/or overly broad management direction related to access and travel. A description of the current Forest Plan direction that is proposed for removal is found in Appendix A. Alternative 1 would not amend the Gallatin Forest Plan.

## **Guiding Themes**

Based on the resource evaluation of the proposed action (Benchmark) and the public comments provided, the following themes emerged for developing the alternatives. For the most part, the

issues and concerns over effects focused on motorized uses. Therefore, to respond to the significant issues, the range of alternatives vary mostly on the amount of motorized use opportunity provided. Alternative 1 is the least restrictive and Alternative 6 is the most restrictive. Note that these were not used as rigid parameters for specific variations among the alternatives.

### **Alternative 1 – no action**

This alternative is required under NEPA, plus it reflects a large share of the comments received. There were many who stated that they like the Travel Plan the way it was before the January 2001 Montana/Dakota OHV decision and that the Benchmark proposal was overly restrictive, particularly on motorized uses. This alternative reflects the consequences of no change to the Travel Management Plan outlined on the 1999 Gallatin National Forest Recreation Visitor Map. It would not further restrict summer motorized use to designated routes. Existing snowmobile and seasonal restrictions would remain unchanged. Current Gallatin National Forest Plan direction would not be amended.

Alternative 1 has been identified as the alternative that best satisfies the NEPA requirement to study the alternative of “no action” [40 CFR 1508.14(d)]. It reflects the types of uses displayed as legal on the 1999 Gallatin National Forest Recreation Visitor map. It does not however closely depict what is currently occurring, or what would necessarily occur should the Forest Service fail to reach a decision. Differences include:

- 1) Alternative 1 would allow off-route OHV travel that is currently prohibited via the January 2001 Montana/Dakota OHV decision. Please also see the discussion about the development of the alternatives as it relates to the alternative of no action earlier in this Chapter.
- 2) Many trails displayed on the Visitor Map as legally open to ATVs, and included in Alternative 1, are not available to ATV riders due to tread width, slope, terrain, and/or trail grade and configuration. These trails are also not currently legally open because of the Regional Forester’s Montana/Dakota OHV Decision. If Alternative 1 were to be the selected alternative, the Travel Management Plan would include objectives to reconstruct these trails to accommodate ATVs in the future. Failure to reach a decision would not establish such objectives.
- 3) Failure to reach a decision on a proposed Forest Travel Management Plan would not preclude establishing specific area and route restrictions nor restrict possible future proposals for road and trail construction, reconstruction, maintenance and decommissioning.

### **Alternative 2**

This alternative generally takes the current Travel Management Plan (i.e., the 1999 Gallatin National Forest Recreation Visitor Map as modified by the 2001 Montana-Dakota OHV decision) and focuses on incorporating mitigation to respond to issues rather than opting for some uses over others on specific routes. Visitor information, education, law enforcement and monitoring are key components to this alternative. Reconstruction of routes to accommodate a new use would be kept to a minimum but would be adopted as needed for routes currently receiving that type of use. It would adopt the policy of closed unless designated open for motorized uses of roads and trails. In addition, changes have been made that are in response to higher authorities such as law, regulation or national policy. Some new seasonal restrictions would also be adopted. For the most part, Alternative 2 includes the Forest-wide and area-specific goals, objectives, standards and guidelines

prescribed for the other alternatives and would amend the Forest Plan to remove current direction relative to travel management.

The purpose and need for a proposed travel management plan includes an objective to provide opportunities for public recreation use and travel and an objective to manage use to correct unacceptable resource effects and damage. Alternative 2 is designed to correct the resource problems to the extent possible while retaining as much of the existing opportunities as possible.

### **Alternative 3**

This alternative was developed in response to many of the comments received from motorized users on the Benchmark proposal. It would reinstate many of the popular motorcycle trails and, to a lesser extent, ATV trails that were restricted under the Benchmark. Alternative 3 identifies new trail routes that would be opened to motorized use, primarily to create loop opportunities and prevent the temptation to proceed beyond trail ends. Some of these routes were user-created routes that public comment indicated as desirable to add to the trail system. The area legally available for snowmobile use would be approximately 80% of what is currently legally available. Additional marked and groomed snowmobile and ski routes are also proposed under this alternative. The number of existing open roads would not increase but objectives would be adopted to upgrade some backcountry (4x4 only) roads such that they could accommodate passenger car travel. Horse and mountain bike opportunities are not prohibited but these uses would be emphasized on some routes while simply allowed on others. Seasonal restrictions would also be adopted. Alternative 3 includes the Forest-wide and area-specific goals, objectives, standards and guidelines prescribed for the other alternatives and would amend the Forest Plan to remove current direction relative to travel management.

### **Alternative 4**

This alternative is similar to the Benchmark proposal developed for scoping in August 2002. In general, this alternative was designed to establish a management plan for OHV use. It restricts motorized use to designated routes, which reduces some of the opportunity ATV and motorcycle users have today to ride on non-system trails. However, this alternative would add 215 miles of designated ATV routes over the current situation on Forest roads and trails. Objectives would be adopted to bring this trail up to ATV standard. New trail connectors would also be proposed, similar to Alternative 3, to create loop opportunities. Alternative 4 would provide about 90% of the OHV trail opportunity provided under Alternative 2 but the amount of trail that allows motorcycles without ATVs would decline over 50%. The area legally available for snowmobile use would be approximately 80% of what is currently legally available. Additional marked and groomed snowmobile and ski routes are also proposed under this Alternative. The number of existing open roads would not increase but objectives would be adopted to upgrade some backcountry (4x4 only) road such that it could accommodate passenger car travel. Horse and mountain bike opportunities generally would not be limited but these uses would be emphasized on some routes while simply allowed on others. This alternative, however, would preclude mountain bike use on the Hyalite and East Fork of Hyalite Trails. Seasonal restrictions would also be adopted on routes throughout the Forest. Alternative 4 includes the Forest-wide and area-specific goals, objectives, standards and guidelines prescribed for the other alternatives and would amend the Forest Plan to remove current direction relative to travel management.

## **Alternative 5**

This alternative is more restrictive than Alternative 4 for both summer and winter motorized uses, particularly in areas providing rich wildlife habitat, areas with other resource concerns, and travel management areas that are very popular for non-motorized recreation. Alternative 5 would provide about 70% of the OHV trail opportunity provided under Alternative 2. The area legally available for snowmobile use would be approximately 65% of what is currently legally available. The amount of marked or groomed snowmobile or ski trails would remain close to what it is today. Overall, the amount of open road, particularly high clearance vehicle roads would decline somewhat. The shift to non-motorized use is focused on trails. Mountain biking would be restricted more-so than in Alternative 4 in some areas including the Hyalite/Porcupine-Buffalo Horn WSA. Horse use is generally managed as in Alternatives 2 through 4, but there would be additional seasonal restrictions for many Forest trails. Alternative 5 includes the Forest-wide and area-specific goals, objectives, standards and guidelines prescribed for the other alternatives and would amend the Forest Plan to remove current direction relative to travel management.

## **Alternative 6**

Alternative 6 responds to a significant number of comments received and reflects a position that heavy restrictions on motorized use are needed to protect wildlife habitat, retain the primitive character of unroaded lands and maintain other resource values. Under this alternative, motorized use would be precluded in the Hyalite/Porcupine-Buffalo Horn WSA, the Lionhead recommended wilderness and in other inventoried roadless areas. In roaded areas there is a goal to reduce the amount of road open to passenger cars and 4x4s. ATV and motorcycle use is largely removed from the trail system. There would be more area closures on snowmobile use than in the other alternatives. More restrictions are placed on mountain bikes in certain areas including the WSA. Horse use would be managed similar to the other alternatives but there would be some additional seasonal restrictions imposed as a potential solution to correct resource damage and reduce maintenance costs. Alternative 6 includes the Forest-wide and area-specific goals, objectives, standards and guidelines prescribed for the other alternatives and would amend the Forest Plan to remove current direction relative to travel management.

## **Alternative 7-Modified**

Alternative 7-Modified (7-M) was the Forest Service “preferred alternative” as of January 2006. It was modified from Alternative 7 through consideration of the analysis disclosed in the Draft EIS, the recommendations of district rangers and Forest Service specialists, and the comments received on the Draft EIS. The following is a comparison of Alternative 7-M to current travel management.

The total amount of public open system road would remain generally unchanged (approx. 740 miles), however there would be a shift of about 10% of this system from road currently only suitable for high clearance vehicles to road that would accommodate passenger cars. Currently about 325 miles of road are considered suitable for passenger cars, and under Alternative 7-M it would increase to 400 miles. This alternative also includes objectives to close and restore non-system and user-built roads.

ATV opportunities provided on trails would be reduced from 281 miles to 145 miles (about 50%) and motorcycle opportunities on trails would be reduced from 457 miles to 279 miles (about 40%). In general, the reduction in trail opportunity would be shifted to and managed for on administrative

and backcountry roads. Currently, many trails (outside of Wilderness) are shared between motorized and non-motorized users.

The amount of area open to snowmobile use (outside of Wilderness) would decrease from about 84% of the Forest to about 56%. In contrast, the miles of marked and groomed trail would rise about 20% from the current situation.

Stock use would generally be allowed on and off-trail across the Forest although some seasonal and yearlong restrictions would be applied to about a dozen specific trails. Alternative 7-M would not include the blanket spring restrictions proposed in Alternative 7 of the DEIS.

There would be some restrictions on mountain bikes on trails outside of Wilderness, primarily in the Hyalite/Porcupine-Buffalo Horn WSA and on short routes leading into Wilderness. The trails in Hyalite Creek and the East Fork of Hyalite Creek would remain open to bicycles. Hiking and cross-country skiing would not be restricted.

Alternative 7-M includes Forest-wide and area-specific goals, objectives, standards and guidelines (programmatic direction) and would amend the Forest Plan to replace current direction relative to travel management. In addition to the proposed programmatic direction, travel management under Alternative 7-M would follow current direction applicable to the management of grizzly bear and lynx. At the time of this EIS publication, the applicable direction is based on Memorandums of Understanding (MOU's) and Conservation Agreements with the United States Fish and Wildlife Service (USFWS). See MOU, Conservation Strategy (ICST 2003:12-13), the USFWS Biological Opinion on Access (1995), and Canada Lynx Conservation Agreement (2005).

Appendix C of this Final EIS provides a general comparison of how Alternative 7-M of this FEIS differs from Alternative 7 of the Draft EIS.

## **Alternatives Considered but not Given Detailed Study**

There were several alternatives considered that for one reason or another did not warrant detailed study in this analysis. These alternatives are described below.

### **Eliminate motorized use on the Forest.**

This alternative was not given detailed study because:

- 1) No issues were identified that would warrant closure of the entire road and trail system to motorized use.
- 2) Most public comments from non-motorized interests advocated a management scenario that parallels Alternative 6 above.
- 3) Closing the entire Forest to motorized use would preclude passenger vehicle access to many trailheads, thus reducing opportunities for shorter day hikes and horseback rides.

## **Increase motorized recreation opportunities beyond that provided in Alternative 1.**

This alternative was not given detailed study because Alternative 1, which represents the management of travel as it was in 1999 and allows for off-route summer motorized travel, was determined to be sufficient in representing the more motorized end of the range of alternatives. The Forest Service identified no reason to consider alternatives that would further relax control of motorized use in general. While these alternatives may be favored by certain users, they would be in violation of legal requirements and higher level direction imposed since 1999 (e.g., the Endangered Species Act for grizzly bear and lynx, the Montana Wilderness Study Act for parts of the Gallatin Range) and would not be responsive to much of the purpose and need identified for a Travel Management Plan.

## **Managing helicopter landings on the National Forest.**

Comments received on the Benchmark expressed concern over helicopter landings on the National Forest, primarily for backcountry downhill skiing. Federal Aviation Regulations at 7-4-6a prohibits the landing of aircraft on lands or waters administered by the National Park Service, US Fish and Wildlife Service or the US Forest Service without authorization from the respective agency. Part 6b further requires pilots to maintain a minimum altitude of 2,000 feet above the surface in Wilderness and Primitive areas. The Forest Service does not intend to authorize helicopter landings for recreational purposes and therefore it is not addressed in this EIS (see proposed forest-wide standard A-7 under Alternative 7-M). Note that helicopter landings at approved backcountry airstrips could be permitted under Alternatives 3 and 7-Modified.

## **Close and obliterate primary access roads into the Gallatin National Forest.**

Environmental analysis of the impacts of Forest travel to riparian areas discloses that historical roaded development into the Forest has significantly impacted riparian habitat. This raised the question on whether a Travel Plan alternative should be studied that would close and restore major access roads that are located within or near riparian zones (e.g., the Hyalite Road, Swan Creek Road and others within Forest Service jurisdiction). It was concluded that such an alternative would be clearly unreasonable at this time and it also would not meet the purpose and need as discussed in Chapter 1. Society in general accepts the consequences associated with most types of human use and development in exchange for opportunities and better quality of life. This includes the acceptance of major highways and other developments within valley bottoms and river corridors where the riparian habitat value exceeds what occurs on the Gallatin National Forest. While many advocated further restrictions on motorized use and an overall reduction in open road density, they did not desire a loss of passenger car access to campgrounds, trailheads and other destinations within the Forest. In addition, Alternatives 2 through 7-M all would result in improved riparian conditions and there is no proposal to construct new roads. For these reasons, this alternative was not given detailed study in this EIS.

## **Restrict mountain bikes to designated routes.**

Consideration was given to whether mountain bikes should be restricted to designated routes, as is proposed for motorized uses. Some parts of the country are incurring problems with off-route bike travel but that is currently not the case on the Gallatin Forest. Growth of mountain biking over time, and resulting resource or social effects, may cause the Forest to have to consider additional mountain bike restrictions in the future. There are no known areas of the Forest where off-route mountain bike impacts would compel the Forest Service to manage biking on designated routes only at this time, therefore this alternative was dismissed as not ripe for decision.

## **Restrict stock to designated routes.**

There were some comments that suggested if off highway vehicles (OHVs) were to be restricted to designated routes then so should pack and saddle stock. Restricting OHV use to designated routes is proposed in part, in response to the Montana/Dakota OHV decision (Off-Highway Vehicle Record of Decision and Plan Amendment for Montana, North Dakota, and portions of South Dakota, January 2001) and to the National OHV decision 11/2005. This decision amended the nine forest plans (including the Gallatin Forest Plan) and established a standard that restricted wheeled motorized cross-country travel yearlong. The decision also directed forests to conduct site-specific planning that would result in the designation of roads and trails for their appropriate uses (id., page 4). The goal of managing OHV use is to provide a range of safe motorized recreation opportunities, recognizing their legitimate use while minimizing the current or anticipated effects on wildlife and their habitat, soil, native vegetation, water, fish and other users (EIS for the Montana/Dakota OHV decision, page i). According to the OHV EIS (id., page i), between 1990 and 1998 the number of registered ATV's and motorcycles increased 92% in the three-state area . The increased use has resulted in environmental effects on public resources in numerous areas, including roads and trails that have developed as the result of repeated use.

Similar widespread concerns have not been identified over off-route stock use nor is there higher level Forest Service direction to restrict such use to designated routes. There are identified effects from stock in specific areas of the Gallatin Forest but the Forest Service believes that these can be adequately addressed through other means such as trail reconstruction, potential seasonal restrictions, administration of outfitter permits and public information and education. Therefore this alternative was not given detailed study.

## **Restrict snowmobiles to designated routes.**

There were a number of commenters that suggested snowmobiles be restricted to designated routes and areas, similar to how summer motorized use is proposed to be managed. This option was considered but then eliminated from detailed study due to the following:

- 1) There were no significant adverse effects identified at a forest-wide scale that would indicate such blanket restrictions were necessary. Over-snow travel does not have the potential to cause soil and vegetation damage like off-route summer motorized travel can. In specific areas where snowmobile impacts can be of concern (e.g. windswept ridges, big game winter

range, and other areas of low snowpack) the Forest Service included area and seasonal restrictions within the range of alternatives studied in detail within this EIS.

- 2) Snowmobile trails typically do not have a defined tread like summer routes do which makes defining an exact designated route on the ground more difficult. Again, using area and seasonal restrictions, along identifiable boundaries to the extent possible, was considered a better approach to addressing resource concerns.
- 3) In response to comments that snowmobiling should be restricted to designated play areas, the alternatives studied in detail accomplish the converse of that. In other words they would identify areas, otherwise suitable and attractive to snowmobilers, where that use is not allowed due to a resource protection need or desire to provide non-motorized winter recreation opportunities. It should be noted that snowmobiling opportunities are also limited by topography, brush and tree cover, and low to no snow.

### **Evaluate Roadless Areas for potential recommendation as wilderness.**

There were comments that the Forest Service should not make decisions regarding mechanized travel in Inventoried Roadless Areas without first re-evaluating these areas for potential recommendation as wilderness. The Forest Service chose not to do this through the travel planning process because:

- 1) Inventoried Roadless Areas were evaluated in the analysis for the existing Gallatin National Forest Land and Resource Management Plan (Forest Plan, Sept. 1987). The Forest Plan recommended two areas for wilderness designation at that time; Lionhead and Republic Mountain. The remaining roadless lands, outside of the Hyalite/Porcupine-Buffalo Horn Wilderness Study Area, were allocated for management of a variety of uses. Travel Plan decision-making regarding mechanized travel in Inventoried Roadless Areas is consistent with the Forest Plan.
- 2) Motorized travel is currently an allowed and established use within Inventoried Roadless Areas. The proposal to manage motorized use within these areas would not be a new and irreversible decision that would preclude their future designation as Wilderness.
- 3) Designation of public lands as Wilderness is a decision reserved for the United States Congress. It is also highly contentious, particularly in the western states. New Wilderness proposals would generate intense public debate without providing any better information on how to manage travel within roadless areas. Basing decisions to restrict or allow motorized and mountain bike travel solely on new Forest Service recommendations for wilderness could be interpreted as pre-decisional until Congress acts on those recommendations.

It is important to understand that the choice not to re-evaluate Inventoried Roadless Areas for potential recommendation as wilderness does not mean that the Forest Service considers concerns over the effects of the proposed Travel Plan on wilderness character or designatability to be irrelevant. Chapter 3 of this EIS includes a discussion of this issue and the alternatives studied in detail vary considerably in the amount of motorized use that would be allowed within roadless lands.

## **Establish Noise Restrictions on Motorized Vehicles.**

There were comments recommending that the Forest Service establish noise restrictions on motorized vehicles. The Forest Service did not study this alternative in detail because noise is regulated in Montana on public lands by Montana State Code 61-9-418. This law states that all motorcycles or quadricycles operated on streets and highways in the state shall be equipped with noise suppression devices at all times. Forest roads and trails are considered public ways under this law, and are covered by this requirement. For any cycles manufactured after 1987, the decibel limit is 70 dbA, measured at 50 feet. For snowmobiles, the same requirement applies (Montana Code 23-2-634) with a decibel limitation on machines that were built after 1975 of 78 dbA, measured at 50 feet. State game wardens have the authority to enforce noise infractions, but have not been successful in doing so, due to difficult testing requirements. Accurate field-testing of noise from OHVs has been problematic for many enforcement entities. While field-testing equipment is available, ambient noise can create erroneous readings, as can other environmental factors. Field tests have been successfully challenged in court, limiting the effectiveness of this enforcement tool (R. Paige, Montana Department of Fish, Wildlife and Parks, personal communication).

The Forest Service also has the authority to enforce noise standards set by other federal (typically EPA or OSHA) agencies and by the state under 36 CFR 261.13. The agency also has the authority to set specific limitations through special order 36 CFR 261.55 (j). The standard fine for noise violations is \$50. Several years ago, an attempt was made to establish such a noise regulation for snowmobiles in the West Yellowstone vicinity on National Forest land. Officers investigating this enforcement option came to the conclusion that the field-testing equipment and test rigor available at that time would not hold up in court, and dropped the proposal (J. Walker, USFS, personal communication). In order to accomplish a test that would hold up in court, the vehicle would have to be tested in a controlled environment where ambient noise and other factors would not bias the test.

## **Separate Motorized and Non-Motorized Uses in Time (e.g. Alternating Days).**

A number of public comments were received suggesting that the Forest Service consider the concept of alternating use periods to address social problems (i.e. “user conflict) between motorized and non-motorized users on popular trails rather than prohibiting motorized use altogether. For example, a trail could be managed as open to motorcycles on alternating days, alternating weeks, or even by the time of day. This concept has merit and is being considered for some trails, particularly around the Bozeman area. The Forest Service can consider these options as appropriate even after the Travel Management Plan decision is made if new or unforeseen problems emerge. However, for the purpose of the analysis disclosed in this EIS (i.e. to assess potential environmental consequences) routes are identified as either open or closed to specific uses. For example, if a trail is identified as a good candidate to consider allowing motorcycle use on alternating days, it would be identified in an alternative or alternatives as managed for motorcycles.

## **Consider Actions to Construct, Reconstruct and Conduct Maintenance on Roads and Trails.**

A number of public comments were received that raised issues and concerns relevant to conditions on specific roads and trails (i.e. facility issues). For example a concern about erosion and sedimentation of streams is primarily a facility issue, not a “use” issue. The Forest Service intends to address these through future site-specific analysis, consistent with applicable NEPA procedures, once a decision is made through this travel plan on the types of uses that are to be managed for on each specific route. A travel plan decision is needed first so that the agency knows the use or uses to be designed for in future proposals for road and trail construction, reconstruction, or maintenance. For example, roads that are to accommodate passenger cars must be designed to a different standard than roads that are targeted for 4 X 4 travel. Trails that are to accommodate ATV’s must be designed to a different standard than trails targeted for motorcycle, foot or horse use. In addition, attempting to make these type of decisions through this proposed travel plan would be complex and impractical. For these reasons the scope of this analysis was limited to those actions described in Chapter 1 (e.g. “appropriate uses”).

## **Mitigation**

For the proposed Gallatin National Forest Travel Management Plan, mitigation being considered to resolve resource issues are presented in this EIS as: (1) Proposed standards and guidelines at the forest-wide and travel planning area scales. (2) Seasonal use restrictions. These can be found in the document “Detailed Description of the Alternatives” which is incorporated by reference into this EIS.

## **Comparison of Opportunities by Alternative**

The following tables provide a general comparison of the opportunities to be provided under the seven alternatives studied in detail. While Forest-wide summary tables are useful, they often do not accurately reflect true differences among alternatives. It is important to understand that the following tables are designed to portray the opportunity for a recreational experience. The “miles of opportunity” displayed are not the same as miles of route where use is allowed. It should also be understood that roads and trails are not allocated to a single use, so the values in the columns cannot be added or proportioned to the total miles of route available on the Forest. The potential effects of the Travel Plan alternatives on recreation opportunities are best portrayed by the Recreation issue of Chapter 3 of this EIS and by reviewing the proposed route-by-route management direction disclosed for each Travel Planning Area in the “Detailed Description of the Alternatives.”

**Table 2. 2 Summary of summer opportunities by miles (approximate).**

<b>Recreation Opportunity</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
<b>Pleasure Driving</b>							
Miles of Road	309	314	421	415	397	401	400
Emphasized for passenger car use. Other uses allowed include any licensed vehicle, motorcycle or ATV plus mountain biking. Hiking and stock use are not prohibited, but they are not encouraged.							
<b>Backcountry Roads (4x4)</b>							
Miles of Road	417	411	354	360	326	289	347
Emphasized for 4X4 driving. Other uses allowed include any licensed vehicle, motorcycle, or ATV. Some roads may be dual designated for unlicensed ATV and motorcycle use. Hiking and stock use are allowed.							
<b>ATV and Motorcycle</b>							
Miles on Road	77	73	372	342	308	285	389
Miles on Trail	680	281	225	234	130	51	145
Total Miles	757	354	597	576	438	336	534
ATV and motorcycle use is emphasized on these roads and trails. Mountain biking is also emphasized on many of these routes while all other uses are allowed but not encouraged.							
<b>Motorcycle</b>							
Miles on Road	3	8	14	7	9	0	17
Miles on Trail	71	458	393	194	149	0	279
Total Miles	74	466	407	201	158	0	296
Motorcycles are emphasized on these roads and trails while ATVs are prohibited. These are in addition to the miles of road and trail listed above under ATV and motorcycle. Mountain bikes are also emphasized on some of these routes and other non-motorized uses are allowed.							
<b>Mountain Bike (Use Emphasized)</b>							
Miles on Road	1,071	1,071	509	496	488	488	545
Miles on Trail	1,315	1,269	787	743	609	599	769
Total Miles	2,386	2,340	1,296	1,239	1,097	1,087	1,314
These roads and trails are emphasized for mountain bikes and in some cases, there is a dual emphasis with motorized road or trail use. All these trails allow foot and horse use but horse use may not be encouraged.							
<b>Mountain Bike (Use Allowed)</b>							
Miles on Road	880	880	1,453	1,467	1,475	1,474	1,371
Miles on Trail	18	17	447	473	353	341	400
Total Miles	898	897	1,900	1,940	1,828	1,815	1,771
These roads and trails are emphasized for other uses such as hiking, stock use, or motorized use, but mountain biking is also allowed. Many of these roads are revegetated.							
<b>Pack and Saddle Stock (Use Emphasized)</b>							
Miles on Trail	2,115	2,034	1,766	1,750	2,018	2,034	1,767
These trails are emphasized for horse use and generally have a dual emphasis with hiking. These are both inside and outside Wilderness. Other uses are also allowed and in some cases these trails are shared with motorcycle use.							
<b>Pack and Saddle Stock (Use Allowed)</b>							
Miles on Trail	1	81	342	354	99	109	331
These are managed for other emphasis such as motorcycle, ATV, or mountain biking, but horses are allowed.							
<b>Hiking (Use Emphasized)</b>							
Miles on Trail	2,109	2,000	2,046	2,036	2,054	2,114	2,008
<b>Hiking (Use Allowed)</b>							
Miles on Trail	1	115	137	147	126	63	149

**Table 2. 3 Summary of winter opportunities in miles (approximate).**

<b>Recreation Opportunity</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
<b>Pleasure Driving (Plowed Road)</b>							
Miles of Plowed Road	160	168	174	166	171	169	168
<b>Snowmobiling</b>							
Miles of Groomed Trail	320	333	374	347	336	327	346
Miles of Marked Trail	80	80	146	136	85	87	134
Total Miles	400	413	520	483	421	414	480
<b>Cross-country Skiing</b>							
Miles of Groomed Trail	48	50	71	79	52	54	52
Miles of Marked Trail	166	160	180	179	152	181	174
Total Miles	214	210	251	258	204	235	226

**Table 2. 4 Summary of snowmobile area restrictions by acre (approximate).**

<b>Recreation Opportunity</b>	<b>Alt. 1 Acres</b>	<b>Alt. 2 Acres</b>	<b>Alt. 3 Acres</b>	<b>Alt. 4 Acres</b>	<b>Alt. 5 Acres</b>	<b>Alt. 6 Acres</b>	<b>Alt. 7-M Acres</b>
<b>Yearlong Closure</b>							
Wilderness	717,540	717,540	717,540	717,540	717,540	717,540	717,540
Non-Wilderness	179,267	184,838	376,241	430,900	541,800	583,409	498,857
<b>Seasonal Closure *</b>							
Wilderness	0	0	0	0	0	0	0
Non-Wilderness	91,767	109,437	93,720	76,677	142,043	36,907	77,908
<b>No Restrictions</b>							
Wilderness	0	0	0	0	0	0	0
Non-Wilderness	953,969	948,398	756,995	702,336	591,436	549,827	634,379

\* Seasonal restrictions are displayed under the route-by-route management section.

**Table 2. 5 Forest-wide summary of facilities by miles (approximate).**

Alt. 1 Miles	Alt. 2 Miles	Alt. 3 Miles	Alt. 4 Miles	Alt. 5 Miles	Alt. 6 Miles	Alt. 7-M Miles
<b>MILES OF ROAD</b>						
<b>Passenger Car Roads (Non-PFSR)<sup>1</sup></b>						
309	314	196	193	175	179	192
<b>Passenger Car (PFSR)<sup>1</sup></b>						
0	0	225	222	222	222	208
<b>Backcountry Roads<sup>1</sup></b>						
417	411	354	360	326	289	347
<b>Project Roads – open to all trail uses including motorized uses</b>						
36	36	103	94	84	66	106
<b>Project Roads – motorized uses prohibited; all other uses not prohibited</b>						
805	805	732	741	775	798	704
<b>Administrative Use Roads – open to all trail uses including motorized uses</b>						
30	30	98	77	90	97	89
<b>Administrative Use Roads – motorized uses prohibited; all other uses not prohibited</b>						
354	354	255	276	289	312	270
<b>User-Built Roads<sup>2</sup></b>						
160	160	100	100	100	100	100
<b>New Roads to be Constructed</b>						
0	0	0	0	0	0	0
<b>TOTAL ROAD MILES</b>						
2,111	2,111	2,062	2,063	2,063	2,062	2,076
<b>MILES OF TRAIL - SUMMER</b>						
<b>Existing Trails – Open to most uses including motorized</b>						
750	738	563	382	248	39	386
<b>New Trails to be Constructed – Open to most uses including motorized</b>						
1	1	54	46	31	13	39
<b>Existing Trails – Open to most uses excluding motorized</b>						
1,358	1,370	1,545	1,726	1,860	2,070	1,722
<b>New Trails to be Constructed – Open to most uses excluding motorized</b>						
0	0	59	57	48	48	0
<b>TOTAL TRAIL MILES</b>						
2,109	2,109	2,222	2,211	2,187	2,169	2,147
<b>MILES OF TRAIL - WINTER<sup>3</sup></b>						
<b>Existing Trails – Open to most uses including motorized (snowmobile trails)</b>						
399	413	520	482	421	415	480
<b>New Trails to be Constructed – Open to most uses including motorized (snowmobile trails)</b>						
0	13	120	83	22	15	80
<b>Existing Trails – Open to most uses excluding motorized (cross country ski trails)</b>						
246	241	288	297	234	270	260
<b>New Trails to be Constructed – Open to most uses excluding motorized (cross country ski trails)</b>						
0	0	43	51	0	24	14
<sup>1</sup> PFSR = Public Forest Service Roads. Road miles include dual designated ATV and motorcycle routes. <sup>2</sup> User-built roads in Alternatives 3 through 7-M include short spur roads next to main roads that access dispersed areas. <sup>3</sup> Most winter trails including new trails are located on existing summer roads and trails.						

## Comparison of Alternatives Studied in Detail by Significant Issue

Table 2. 6 is a general comparison of the seven Travel Plan alternatives studied in detail as they relate to the significant issues identified earlier in this chapter. Because the proposed Travel Management Plan is large and complex, this section is not a substitute for the detailed disclosure of environmental consequences contained in Chapter 3. This section is intended to provide a Forest-wide overview and may not be indicative of the potential effects that may occur in specific Travel Planning Areas.

**Table 2. 6 Summary comparison of alternatives Forest-wide, by significant issue.**

<b>ISSUE 1: BALD EAGLE</b>							
The potential effect to bald eagles is an issue focused around Hebgen Lake. The greatest concern would be disturbance within nest management zones, particularly in the winter. Therefore, the more area restrictions on snowmobiles within 400 m and 800 m of 12 bald eagle nest sites the better. There is little difference in the predicted effects of summer travel on bald eagle territories among alternatives.							
<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Area closed to snowmobile use <400 m of bald eagle nests.	12%	12%	12%	12%	55%	55%	13%
Area closed to snowmobile use <800 m of bald eagle nests.	5%	5%	5%	5%	49%	49%	8%
Miles of summer travel route <400 m of bald eagle nests.	1.6	1.6	1.6	1.6	1.6	1.6	1.1
Miles of summer travel route <800 m of bald eagle nests.	7.6	7.6	7.6	7.6	7.5	7.5	5.7

<b>ISSUE 2: BIG GAME</b>							
Maintenance of big game habitat is an issue across the Gallatin National Forest. In terms of the impacts of the Travel Plan alternatives, the lower the travel route density and the greater the area restrictions on snowmobile use within winter range the higher the big game habitat value.							
<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Open motorized route density (mi/sq mi).	0.73	0.73	0.79	0.73	0.68	0.61	0.70
Amount of secure elk habitat.	55%	60%	62%	62%	63%	64%	62%
Winter travel route density in elk winter range.	0.2	0.2	0.3	0.3	0.2	0.2	0.3
Winter travel route density in moose winter range.	0.4	0.4	0.5	0.4	0.4	0.4	0.4
Amount of bighorn sheep winter range closed to snowmobile use.	48%	48%	67%	78%	78%	78%	78%
Amount of mountain goat winter range closed to snowmobile use.	68%	68%	85%	85%	94%	86%	88%

### ISSUE 3: BIODIVERSITY

The issue of maintaining biodiversity in relation to the potential effects of Forest travel focuses on barriers that may impede wildlife migration between mountain ranges and beyond Forest boundaries (corridors). Three key areas where wildlife movement is of concern include the North Bridgers, Bear Canyon and Lionhead areas. Highways, Interstate 90, railroads, etc. create the greatest barriers to wildlife movement but motorized route density can be an indicator of how Travel Plan alternatives provide for biodiversity. In general, the lower the motorized route density the better, however total densities of 1.25 mi/sq mi are considered adequate and seasonal restrictions in some alternatives, particularly in the fall, can also help provide for wildlife movement.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Bear Canyon (Motorized trails mi/sq mi)	0.43	0.46	0.46	0.46	0.06	0.06	0.40
Bear Canyon (Total of all motorized routes including non-FS routes, mi/sq mi)	1.22	1.24	1.24	1.24	0.84	0.84	1.18
North Bridgers (Open motorized routes mi/sq mi)	1.4	0.85	0.85	0.85	0.85	0.85	0.85
Lionhead (All open motorized routes including non-FS, mi/sq mi)	0.84	0.54	0.54	0.54	0.47	0.49	0.46
Lionhead (All motorized trails mi/sq mi)	0.37	0.34	0.32	0.28	0.12	0.02	0.14
Lionhead (All motorized routes, total mi/sq mi)	1.2	0.9	0.8	0.8	0.6	0.5	0.6

### ISSUE 4: CULTURAL RESOURCES

There are three facets of the issue regarding potential impacts to cultural resources: 1) ATV use on trails not built to ATV standards in areas of high cultural site density, 2) Motorized use in certain areas of the Crazies that have traditional importance to the Crow Tribe, 3) New access into areas with cultural resources increases impacts.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Summer Motorized: Forest-wide ATV use on trails through areas of high site density – increases potential for impacts in some study areas.	Yes	No	No	No	No	No	No
Summer Motorized: Areas in Crazies important to traditional practices of the Crow – increases potential for impacts in some study areas.	Yes	No	No	No	No	No	No
Winter Motorized: Areas in the Crazies important to traditional practices of the Crow – increases potential for impacts in some study areas.	Yes	Yes	No	No	No	No	No
Summer Motorized: New access development into areas with intact cultural resources – increases potential for impacts in some study areas.	Yes	Yes	Yes	Yes	No	No	No

**ISSUE 5: SOCIAL AND ECONOMIC IMPACTS**

The largest and fastest growing sectors of the economy in the Gallatin Forest vicinity are the services and retail trade sectors. Construction and manufacturing sectors are also growing. While agriculture has been a historically important sector and still is, its relative size has decreased as other sectors increase. The effect of travel and recreation on the Gallatin Forest is tied indirectly and in various degrees to all these economic sectors, but the Travel Plan alternatives do not vary to a degree that there would be measurable differences.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Economic sector growth continues?	Yes						

**ISSUE 6: ENFORCEMENT**

Enforcement of proposed travel management decisions is a concern to many individuals. Several factors influence how difficult a given alternative would be to enforce: topography, final configuration of road and trail opportunities, remoteness, clarity of new regulations, availability of information to the public about closures, mix of recreation opportunities provided, etc. A ranking system was developed to score each alternative relative to its “enforce-ability.” Alternatives with a low score would have more enforcement problems than an alternative with a higher score.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
“Enforce-ability” score – the higher the score, the more enforceable the alternative.	85	110	128	140	141	135	144
Acres of non-Wilderness terrain most vulnerable to OHV trespass.	255,478	225,915	2256,595	243,716	234,975	195,141	241,602
Acres of desirable snowmobile terrain proposed to be closed to snowmobiles. Includes desirable terrain in wilderness.	367,186	370,128	424,144	436,664	470,206	488,247	448,297

**ISSUE 7: FISHERIES**

Use of roads or trails (modes of travel) are generally inconsequential to fisheries. Rather, the facility (i.e., road or trail) has the potential to impact aquatic habitat and biota. The management direction proposed in Alternatives 2 through 7-M relating to water quality and fisheries provide guidance for future actions that should maintain and/or improve fisheries habitat.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Alternative includes proposed goals, objectives, standards and guidelines to maintain/improve fisheries habitat, effectively reducing existing direct, indirect, and cumulative effects representing an improvement from current conditions.	No	Yes	Yes	Yes	Yes	Yes	Yes
Results in sediment delivery reductions in all TPAs.	No	Yes	Yes	Yes	Yes	Yes	Yes

**ISSUE 8: FOREST PLAN AMENDMENTS**

The proposal to amend the Forest Plan to replace certain Forest Plan standards with the proposed Travel Plan would not directly result in ground disturbance or environmental effect. The majority of standards being replaced do not provide binding limitations on management activity. There is some public concern over removing the Forest Plan standards for “elk effective cover” (HEI) and Recreation Opportunity Spectrum (ROS).

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Number of standards removed.	0	119	119	119	119	119	119
Removes the HEI standard (USDA 1987: II-18; 6.a.4).	No	Yes	Yes	Yes	Yes	Yes	Yes
Removes Management Area standards specifying ROS.	No	Yes	Yes	Yes	Yes	Yes	Yes

**ISSUE 9: GENERAL WILDLIFE**

Several species of wildlife are addressed as separate issues within this FEIS. However, many other species can also be affected by human travel. In general, wildlife prefers habitat where human activity and disturbance is minimized. One measurement indicator that can be used to compare alternatives is the percent of core area that would remain, or in other words, the habitat not affected by motorized and motorized/non-motorized routes combined.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Forest-wide percent of core area not affected by motorized routes.	58	65	66	70	73	79	70
Forest-wide percent of core area not affected by motorized/non-motorized routes combined.	32	34	34	34	34	35	36

**ISSUE 10: GRIZZLY BEAR**

In general, motorized use is an issue because motorized access routes have been shown to displace grizzly bears from habitat and make less area available to bears. Summer motorized use was analyzed primarily by calculating the percent secure habitat (non-motorized) by alternative for each subunit. The Gallatin National Forest has three Grizzly Bear Subunits “in need of improvement”: Gallatin #3, Madison #2 and Henry’s Lake #2. Snowmobiling is also an issue in relation to denning grizzly bears and those that emerge from denning while snowmobiling is ongoing in the spring.

**Percent Secure Habitat by Grizzly Bear Subunit or Other Area Outside of the Recovery Zone**

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Boulder/Slough #1	96.3	96.3	96.4	96.4	96.7	96.9	96.6
Boulder/Slough #2	100	100	100	99.8	100	100	100
Crandall/Sunlight #1	96.0	96.3	96.1	96.1	96.7	96.7	96.3
Crandall/Sunlight #2	99.7	99.7	99.7	99.7	99.7	99.7	99.7
Lamar #1	93.9	94.5	94.4	94.4	95.2	95.1	94.5
Hellroaring/Bear #1	75.1	79.5	81.3	81.3	81.3	81.3	80.4

Percent Secure Habitat by Grizzly Bear Subunit or Other Area Outside of the Recovery Zone							
Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Hellroaring/Bear #2	98.1	98.5	98.5	99.0	99.0	99.0	99.7
Gallatin #3	54.4	59.4	60.1	62.2	71.8	81.0	70.2
Hilgard #1	75.0	78.6	78.6	81.1	81.7	89.2	81.1
Hilgard #2	78.7	81.8	81.8	81.3	82.9	90.2	83.1
Madison #1	75.4	79.1	82.2	83.2	83.4	89.6	83.7
Madison #2	66.7	71.7	71.7	71.7	71.7	71.7	71.8
Plateau #1	92.1	93.8	93.8	93.8	93.8	93.8	93.8
Henry's Lake #2	52.7	57.7	57.7	58.8	64.5	67.5	62.5
Mile and Sheep Creeks (outside PCA)	74.6	77.3	77.3	77.7	87.6	87.6	87.7
Absaroka-Beartooth (north of PCA)	73.8	75.8	75.8	80.6	83.5	83.6	78.9
Gallatin/Madison (north of PCA)	49.1	52.6	52.6	57.2	59.1	60.2	57.0
Percent Seasonal or Yearlong Snowmobile Closure by Grizzly Bear Subunit or Other Area Outside of the Recovery Zone							
Winter Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Percent of Absaroka-Beartooth Mountain Range closed to snowmobiles.	74	74	75	75	77	75	75
Percent of Gallatin Mountain Range closed to snowmobiles.	27	27	49	61	70	72	72
Percent of Henrys Mountain Range closed to snowmobiles.	24	24	29	31	36	43	21
Percent of Madison Mountain Range closed to snowmobiles.	5	50	59	60	6	92	69
Additional percent of the Absaroka-Beartooth Mountain Range closed seasonally to snowmobiles.	0	0	0	0	0	0	0
Additional percent of the Gallatin Mountain Range closed seasonally to snowmobiles.	5	5	5	0	0	0	0
Additional percent of the Henrys Mountain Range closed seasonally to snowmobiles.	0	0	0	0	2	0	0
Additional percent of the Madison Mountain Range closed seasonally to snowmobiles.	17	23	18	18	35	4	13

**ISSUE 11: IMPLEMENTABILITY**

This issue is focused on the schedule, costs and physical changes necessary to implement the Travel Plan. For the purposes of this comparison the measurement indicator below focuses on the implementation costs to open and post Gallatin National Forest roads and trails. For the winter, the primary costs are associated with plowing roads and parking areas. \*Dollar costs are in thousands. \*\*Almost half of the estimated cost of plowing in Alternatives 2 through 7-M relate to the proposed plowing of the Hyalite Road.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Estimated costs* – summer non-motorized trails.	\$341	\$330	\$634	\$618	\$658	\$704	\$704
Estimated costs* – summer motorized trails .	\$3,233	\$1,222	\$1,235	\$1,216	\$706	\$308	\$818
Estimated costs* – summer motorized roads.	\$147	\$147	\$155	\$155	\$145	\$138	\$150
Estimated costs of plowing roads and parking areas. **	\$23	\$85	\$119	\$102	\$64	\$85	\$85

**ISSUE 12: INVASIVE WEEDS**

Invasive weeds can significantly alter the native plant species composition of an area resulting in decreased habitat quality for wildlife and livestock, an increase in sediment levels of streams, and reduced aesthetic quality. Weeds can spread when vehicles, stock animals, people, and/or pets pass through infested sites and travel on to other areas. The majority of mapped weeds on the Gallatin Forest are adjacent to motorized travel routes. The measurement indicators below provide a relative comparison of the alternatives in terms of the risk of invasive weed spread Forest-wide.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Total acres of motorized route corridors (100 feet on both sides of route).	70,738	70,840	75,442	69,905	66,361	59,802	57,914
Total acres of snowmobile access.	959,349	953,730	761,872	707,213	585,625	551,780	639,758
Acres of existing weeds within 100 feet of motorized routes.	2,400	2,398	2,352	2,337	2,327	2,310	2,338
Acres at High Risk to leafy spurge and intersected with Forest Service motorized routes.	20,111	20,160	21,667	19,899	18,865	16,703	16,157

### ISSUE 13: LYNX

Lynx were listed as a “threatened” species under the Endangered Species Act in March 2000. Direction for evaluating federal actions relative to lynx habitat is provided in the Canada Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et al. 2000). The following indicators allow for a comparison of how well each Travel Plan alternative meets this strategy.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Number of Lynx Analysis Units that would have a summer open motorized route density of >2.0 miles/sq.mi.	0	0	0	0	0	0	0
Number of Lynx Analysis Units with an increase in groomed or marked over-the-snow routes.	Baseline (0)	2	12	10	6	8	12
Number of LAUs that are NOT in compliance with the LCAS.	Baseline (0)	2	9	6	0	1	0
Alternative meets the LCAS (Y or N).	Y	N	N	N	Y	N	Y
Number of Lynx Analysis Units that do NOT meet LCAS direction for habitat connectivity.	N/A	0	0	0	0	0	0

### ISSUE 14: MIGRATORY BIRDS

Migratory birds were considered a significant issue for travel management planning due to the level of public interest, the legal mandates to consider effects of federal actions on migratory bird species, the number of migratory bird species inhabiting the Gallatin Forest and the wide variety of habitats occupied by birds. Most habitat alterations associated with Forest travel facilities have already occurred. The Travel Plan Alternatives 2 through 7-M do not propose construction, relocation or major reconstruction of travel facilities, therefore there is little difference in effects among them. The alternatives would appreciably curtail the potential for adverse impacts to migratory birds and their habitat by restricting summer motorized use to designated routes and eliminating numerous user-built routes and project-associated roads. In addition, Alternatives 2 through 7-M would incorporate Forest-wide goals, objectives, standards and guidelines that would facilitate conservation of migratory bird habitat.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Alternative restricts motorized uses to designated routes and discourages new user-built routes.	No	Yes	Yes	Yes	Yes	Yes	Yes
Alternative adopts goals, objectives, standards and guidelines that would facilitate conservation of migratory bird habitat by affording additional protection for important nesting areas and key habitat types.	No	Yes	Yes	Yes	Yes	Yes	Yes

**ISSUE 15: NOISE**

Noise associated with motorized vehicles using Forest roads and trails is a concern for some recreationists. The following shows the total number of acres of ROS classes (see Chapter 3, Issue 16: Recreation) that are potentially affected by noise from motorized vehicles in summer or winter (Rural, Roaded Natural, Semi-primitive Motorized), and those acres of ROS classes where summer or winter motorized vehicle use would be prohibited (Semi-primitive Non Motorized, and Primitive). This is a gross estimation of the potential area where noise may be an issue. Many other factors like terrain, vegetative and snow cover, atmospheric conditions, etc. affect how far noise travels. In reality, the number of acres where noise from motorized vehicles would be audible is less than the total number of acres shown under motorized ROS classes.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Land area (acres) that would be potentially affected by noise from summer motorized vehicles (open to motorized).	796,691	799,956	739,843	692,345	641,924	556,512	678,914
Land area (acres) that would be closed to summer motorized vehicles.	1,052,536	1,049,271	1,109,433	1,115,937	1,207,312	1,282,768	1,170,313
Land area (acres) that would be potentially affected by noise from winter motorized vehicles.	935,299	933,002	813,528	757,683	656,101	633,535	714,574
Land area (acres) that would be closed to winter motorized vehicles.	914,725	916,999	1,036,518	1,092,359	1,193,973	1,216,508	1,134,788

### ISSUE 16: RECREATION

Recreation use projections indicate that the largest future demand for recreation opportunities would be for activities that typically occur in non-motorized settings. Off-road driving as a recreation activity is also projected to grow. The amount of area or length of road/trail necessary to provide a quality half-day to day-long motorized recreation opportunity is much larger than required by most quiet trails activities. Projections for winter recreation are similar with the demand for cross-country skiing growing faster than the demand for snowmobiling, however more land is required to supply snowmobiling opportunities. This disparity leads to a difficult equation in balancing the much faster growing demand for quiet trails activities, with the more land-hungry demand for off-road driving opportunities. Local demographic trends indicate that population growth anticipated proximate to the Gallatin Forest will continue to place competing pressures on limited supplies of recreation opportunities associated with roads, trails and the backcountry. The “Recreation Opportunity Spectrum” (ROS) can be an indicator of the change to recreation settings for each alternative. The most pronounced difference in ROS inventory between alternatives both in summer and in winter is in the Semi-Primitive Non-Motorized (SPNM) and Semi-Primitive Motorized (SPM) classes. Alternatives 1 and 2 would provide the most SPM opportunities (the least area restricted to snowmobiles and OHVs) and Alternative 6 would provide the most SPNM opportunities, in both summer and winter.

<b>Summer ROS Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Rural acres.	68,384	68,384	68,384	68,382	68,408	68,263	68,409
Roaded Natural acres.	341,381	341,380	345,285	345,040	345,085	345,085	345,354
Semi-Primitive Motorized acres.	386,926	390,192	326,174	278,922	228,431	153,164	265,151
Semi-Primitive Non-Motorized acres.	327,476	324,239	387,141	429,080	478,327	521,029	444,133
Primitive acres.	725,060	725,032	722,292	727,857	728,985	761,739	726,184
<b>Winter ROS Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Rural acres.	68,208	68,208	68,256	68,255	68,206	68,206	68,256
Roaded Natural acres.	104,459	109,341	113,383	107,356	109,148	105,831	107,676
Semi-Primitive Motorized acres.	762,632	755,453	631,889	582,072	478,747	459,498	538,641
Semi-Primitive Non-Motorized acres.	202,530	204,804	319,140	374,981	476,571	499,127	417,390
Primitive acres.	712,195	712,195	717,378	717,378	717,402	717,381	717,378

**ISSUE 17: RIPARIAN**

In summary, the impacts to riparian areas created by roads and trails have already occurred. The Travel Plan alternatives do not propose new construction, however Alternatives 3 and 4 propose new parallel routes in the Fairy Lake and Hyalite TPAs. Due to the lack of restrictions that would restrict motorized use to designated routes, Alternative 1 has the highest potential to result in increased impacts to riparian areas.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Number of TPAs where over 30% of effective riparian habitat has been lost to roads and trails.	10	10	10	10	10	10	10
Alternative includes new parallel routes along riparian areas opposite existing routes (i.e., routes parallel to Fairy Lake Road and Hyalite Road).	No	No	Yes	Yes	No	No	No
Potential for alternative to result in increased impacts to riparian areas.	High	Moderate	Low	Low	Low	Low	Low

**ISSUE 18: ROADLESS AREAS**

Direct effects to inventoried roadless character from travel management decisions are largely confined to decisions that would physically change trails within roadless. There are no proposals in any alternative to construct new roads in roadless areas. The primary direct effect to roadless character would be a result of changing existing single-track trails to double-track width trails through implementation of an alternative to accommodate ATVs.

\*Alternative 1 (no action) would allow ATVs on approximately 420 miles of trail within roadless areas. This represents the miles of trail on the 1999 Travel Map that were not restricted to motorized vehicles. Only about 158 miles of those trails are currently useable by ATVs (as represented by Alternative 2). Most of these trails would need some heavy maintenance or reconstruction to meet minimum engineering standards for ATV routes. Unless that work is done, ATVs would likely only use a small fraction of the total trail miles available.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Miles of single-track trail converted to double-track within roadless areas.	*	*	6	17	0	0	0
Total miles of ATV trail within roadless areas.	420	158	87	101	37	0	46

### ISSUE 19: SOILS

With respect to soils and vegetation, alternatives that do the most to control off-trail use will have the smallest effects. These are measured by miles of existing motorized trails on sensitive soils, miles of proposed new motorized trails, and acres of sensitive soils or high alpine vegetation accessible to off-trail use on existing trails, and acres of sensitive soils in horse-use areas. Together, they indicate the effects of travel planning alternatives (summer use only).

Alternative 1 has the most probable off-trail use, since no restrictions are planned, and off-trail use is still allowed' thereby having the greatest effect on soils and vegetation. Other alternatives prohibit off-trail use. Alternative 6 has the least effects, having the greatest restrictions on all sensitive soils. The remainder (Alternative 2, 3, 4, 5, and 7-M) are similar in terms of soil and vegetation impacts. Among these, Alternative 2 has somewhat greater effects because no restrictions are placed on horse use.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Total Miles of Existing Motorized Trail on Sensitive Soil.	79.94	69.05	62.25	52.71	41.89	2.54	42.89
Acres accessible for motorized off-road and trail use.	256,041.79	221,044.89	218,816.97	206,350.02	199,425.94	157,047.46	191,676.00
Acres Accessible for Motorized Off-road and Trail Use on Sensitive Soil.	53,717.73	47,571.01	45,865.03	42,949.55	42,184.57	27,533.22	40,128.90
Acres Accessible for Motorized Off-road and Trail Use on High Alpine Vegetation.	46,018.30	41,640.77	43,911.56	39,574.58	37,693.64	11,918.35	36,527.50
Acres Sensitive Vegetation Closed to Horses.	0.0	0.0	17,856.12	17,501.84	19,208.19	19,208.19	18,943.28

### ISSUE 20: WATERSHED MANAGEMENT (WATER QUALITY)

Forest-wide sediment levels among alternatives is not projected to vary greatly since most of the existing sediment level is from natural sources. The largest change due to travel management is in non-motorized trail sediment, which increases from an estimated 59 tons/year in Alternative 1 to 73 tons/year in Alternative 7-M and to 92 tons/year in Alternative 6. Motorized trail sediment decreases from Alternative 1 at 182 tons/year to 8 tons/year in Alternative 6. The shift from motorized trail sediment to non-motorized trail sediment is due the reduction in motorized trail miles from Alternative 1 to Alternative 6.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7-M
Non-motorized trail sediment tons/year.	59	59	65	74	82	92	73
Motor trail sediment ton/year.	182	146	123	88	55	8	92
Road sediment tons/year.	1,777	1,757	1,762	1,762	1,762	1,762	1,740
Total sediment ton/year.	41,547	41,490	41,447	41,451	40,428	40,390	41,432

**ISSUE 21: WILDERNESS, WILDERNESS STUDY AREA, RECOMMENDED WILDERNESS**

The Gallatin National Forest includes two designated Wilderness Areas: the Lee Metcalf Wilderness and the Absaroka-Beartooth Wilderness. Concerns regarding resource impacts from the use of recreational livestock on trails, and cross-country are the key travel management issues in Wilderness. All motorized/mechanized uses are prohibited by law. The Gallatin National Forest also includes the Hyalite/Porcupine-Buffalo Horn (HPBH) Wilderness Study Area (WSA). The Montana Wilderness Study Act of 1977 directs the agency to maintain existing Wilderness characteristics of study areas until Congress either designates the areas as Wilderness or removes them from the study category. Lastly, the 1987 Forest Plan recommended two additional areas be designated as Wilderness: Lionhead and Republic Mountain. Portions of both areas are currently open to a variety of motorized uses, including snowmobiling, and motorcycle travel. In summary, issues over management of travel in the WSA and in recommended Wilderness focus on mechanized uses.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
HPBH WSA - Will the alternative maintain Wilderness characteristics relative to travel management, circa 1977?	No	No	No	No	Yes	Yes	Yes
Recommended Wilderness – Does the alternative allow motorized uses?	Yes	Yes	Yes	Yes	No	No	No
Recommended Wilderness – How well would the alternative preserve Wilderness characteristics for future designation?	Poor	Poor	Poor	Better	Best	Best	Best
Designated Wilderness – How well would the alternative preserve Wilderness character by addressing impacts from stock?	Poor	Poor	Better	Better	Best	Better	Better

**ISSUE 22: WOLVERINE**

Roads and trails provide human access into wolverine habitat. Therefore, access route densities were assumed to reflect potential for human impacts to wolverines and their habitat. Non-motorized use can affect wolverines, but since such use is not restricted to designated routes under any alternative, it is difficult to quantify. It was determined that motorized access route density is the best available representation of summertime human disturbance factors. Winter access was considered to have the greatest potential for adverse impacts on wolverines, since environmental conditions are more extreme, food sources can be limited, and energy demands are highest during this time. Trapping season for wolverines occurs during winter, so winter access has the most potential to contribute to direct mortalities of wolverines. Winter is also the reproductive season for wolverines so travel management during this time has significant implications for maintaining adequate secure reproductive habitat and facilitating recruitment to sustainable wolverine populations.

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Percent acres of low (<= 0.7 mi/sq mi.) summer motorized route density.	36%	39%	46%	54%	63%	67%	58%
Percent acres of moderate (0.8 – 2.7 mi/sq mi) summer motorized route density.	59%	56%	49%	43%	35%	31%	40%
Percent acres of high (> 2.7 mi/sq mi) summer motorized route density.	5%	5%	5%	3%	2%	2%	2%
Percent female denning habitat open to dispersed snowmobile use.	42%	42%	32%	28%	21%	20%	25%
Percent general winter habitat open to dispersed snowmobile use.	52%	51%	41%	38%	32%	30%	34%

**ISSUE 23: WOLF**

Wolves were reintroduced to the Greater Yellowstone Area in 1995, and were designated a “non-essential experimental” population under Section 10 of the Endangered Species Act. After reintroduction, gray wolves quickly colonized areas of the Gallatin Forest adjacent to Yellowstone National Park. Effects to wolf habitat would vary across the Forest, but on a Forest-wide scale, summer open motorized route density can be a general indicator of the potential effects of travel management (the lower the route density the better).

<b>Measurement Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	<b>Alt. 5</b>	<b>Alt. 6</b>	<b>Alt. 7-M</b>
Open motorized route density (miles/sq. mile).	0.73	0.73	0.79	0.73	0.68	0.61	0.70

## **IMPLEMENTATION**

The proposed Travel Plan involves changes in culture from historic access and freedoms on the Forest that some users enjoyed. A comprehensive plan for institutionalizing these changes is an important component for successful implementation of the new direction. The following is an outline of the educational and enforcement components of the plan, and the key steps, messages and actions needed to successfully ensure compliance and an understanding of a new travel management system. A comprehensive implementation strategy and action plan for education and enforcement will elaborate these topics at a future date.

### **Information and Education**

During the first several years of new travel management direction and regulations on the Forest, an aggressive information and education program will be paramount to the successful implementation of travel management changes. Key components of the information and education program include:

- 1) Provide “user guides” for all recreation activities through a wide variety of means, such as working directly with clubs, businesses, organizations and individuals to share information about new travel management decisions.
- 2) Provide comprehensive information on permissible uses and restrictions on trails and roads via the Internet.
- 3) Provide formal educational presentations and programs targeting specific user groups (e.g., Leave No Trace practices for stock to local saddle clubs).
- 4) Emphasize the “share the trail” message through bulletin boards at trailheads, signing, and user guides where mixed uses will occur on the same route;
- 5) Saturate businesses, visitor centers, fairs and sporting goods shows with pamphlets and user guides on travel management changes.
- 6) Provide professional visitor contacts with Forest Service employees in the field.

### **Enforcement and Monitoring**

Field monitoring for compliance with new regulations and educating recreationists about changes will be an important component of implementation. Each Ranger District on the Forest currently provides field monitoring and compliance through their backcountry ranger, wilderness ranger, snow ranger and OHV ranger programs. Additionally, Forest law enforcement officers assist with monitoring and compliance. The effectiveness and consistency of this program has been hampered in the past by limited funding. Future programs may need to rely more heavily on creative funds sources like grants and partnerships than solely on appropriated funds. The State of Montana has a viable grant program that can help fund information and education efforts for various trails programs, as do various other non-government organizations.

A Travel Plan implementation law enforcement strategy would be developed and tiered to the Gallatin Forest Law Enforcement Plan, which is updated annually. The strategy would identify specific program area emphasis, personnel needs, program costs and possible fund sources. This is a 365-day a year program on the Forest, with enforcement issues associated with all recreation activities from mountain biking to snowmobiling.