United States
Department of
Agriculture

**Forest Service**

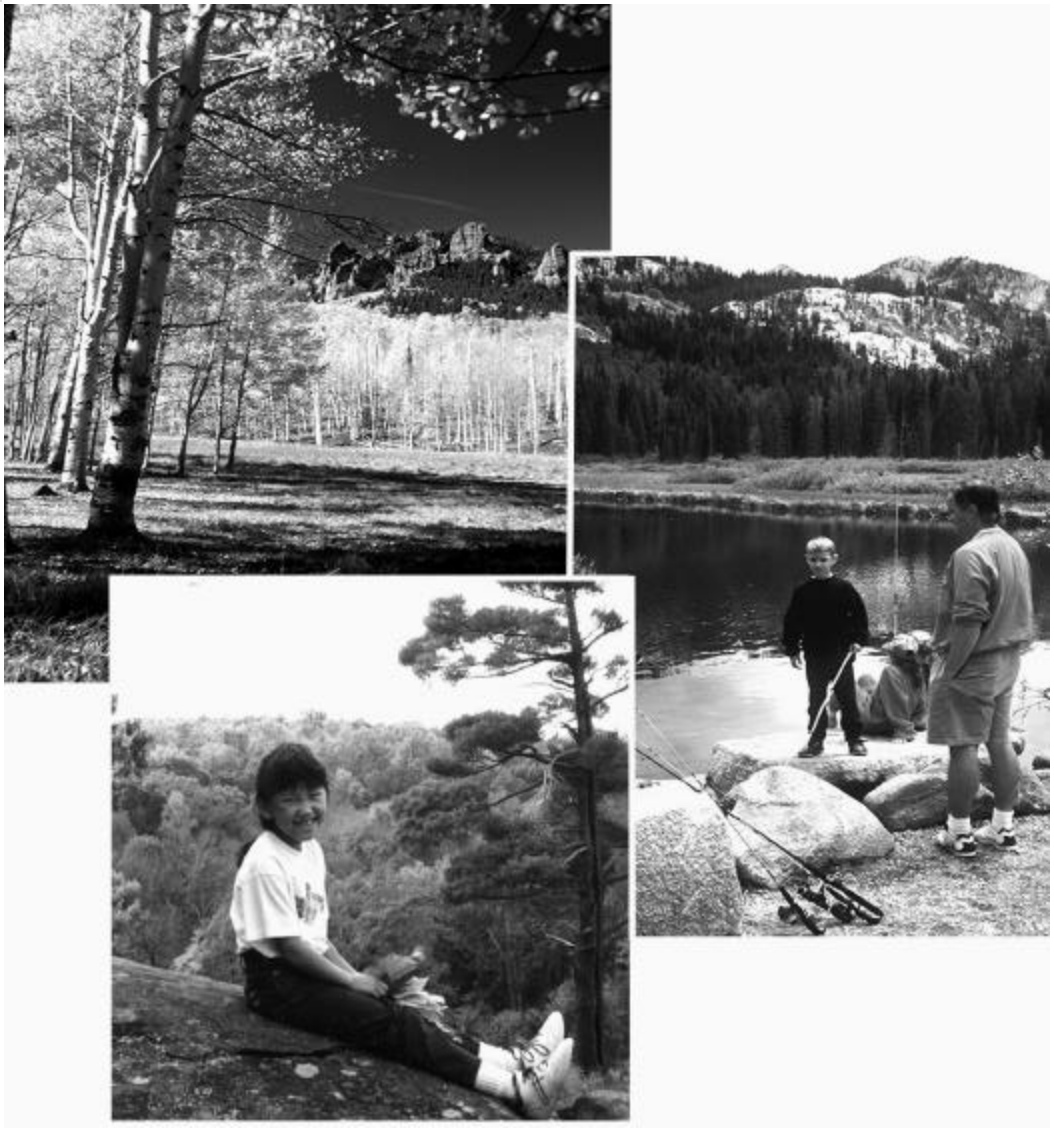
Washington
Office

November 2000

# Forest Service
# Roadless Area Conservation

## Final Environmental Impact Statement

### National Forest System Roads Specialist Report



# NATIONAL FOREST SYSTEM ROADS SPECIALIST REPORT

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**November 2000**

# Abstract:

This report describes the road component of the National Forest Transportation System, and how it relates to the physical, biological, social, and economic factors present on NFS lands. The road system serving National Forest System lands is described and it's condition, operation and management is characterized using historic data and data collected for this analysis. The effects of a prohibition on road construction and reconstruction on the management and operation of the system are discussed. Reasonable projections are made that display the long-term effects of the proposed alternatives and the combined effects of this action along with other national policy initiatives and regional planning efforts.

Implementing a prohibition on road construction and reconstruction in inventoried roadless areas will not affect existing access. Although between 160 and 173 miles of roads that other wise would have been built or reconstructed, will be prohibited. This will not have a measurable impact on access to NFS lands or on rural highway access when considered on a national scale.

# Changes between Draft and Final EIS:

- A discussion of road maintenance activities allowed under each prohibition alternative, as opposed to prohibited reconstruction activities, has been added.
- Application of the proposed rule to State Highways has been clarified, and included as an exception requiring approval by the Secretary of Agriculture.
- Data related to miles of road construction and reconstruction have been updated, and estimates of roads closed after use have been revised.
- A discussion regarding temporary roads has been added to this specialist report and discussions of temporary road effects has been expanded in other resource sections as well.
- Sections describing the cumulative effects of the alternatives have been expanded for all resources.
- The section on RS2477 roads has been expanded and clarified. This was added to the real estate management section.
- The discussion of the need for and impacts of temporary roads in mineral exploration has been expanded in the minerals section.
- A new section dealing with public access to NFS lands from a social perspective has been added and is included in the social and economic factors specialist report.
- Definitions have been revised for clarity and consistency, and new definitions have been added. First use of a term in each chapter has been highlighted in bold typeface.
- Some references have been revised, and many references have been added.

# Affected Environment:

The Forest Service maintains and administers approximately 386,000 miles of roads on NFS lands. In the Eastern United States, the Weeks Act of 1911 (Public Law 61-435) allowed the Forest Service to purchase lands to protect the headwaters of navigable streams, and the Clark-McNary Act of 1924 permitted the Agency to purchase all types of forestlands. Many

roads already existed on the lands purchased by the Forest Service in the East. Roads also existed on lands reserved as national forests in the 19th and early 20th Century in the West.

Before World War II, roads were constructed on NFS lands primarily for fire and conservation activities. From 1944 until the mid to late 1980s, the majority of the roads on NFS lands were constructed to support timber harvest activities. Figure 1 shows that in 1944, the Forest Service estimated there were 100,000 miles of roads under its jurisdiction and that there has been a steady increase in road miles since that time. Through the 1990s, the net increase in road miles is largely due to inventorying and classifying existing NFS roads.

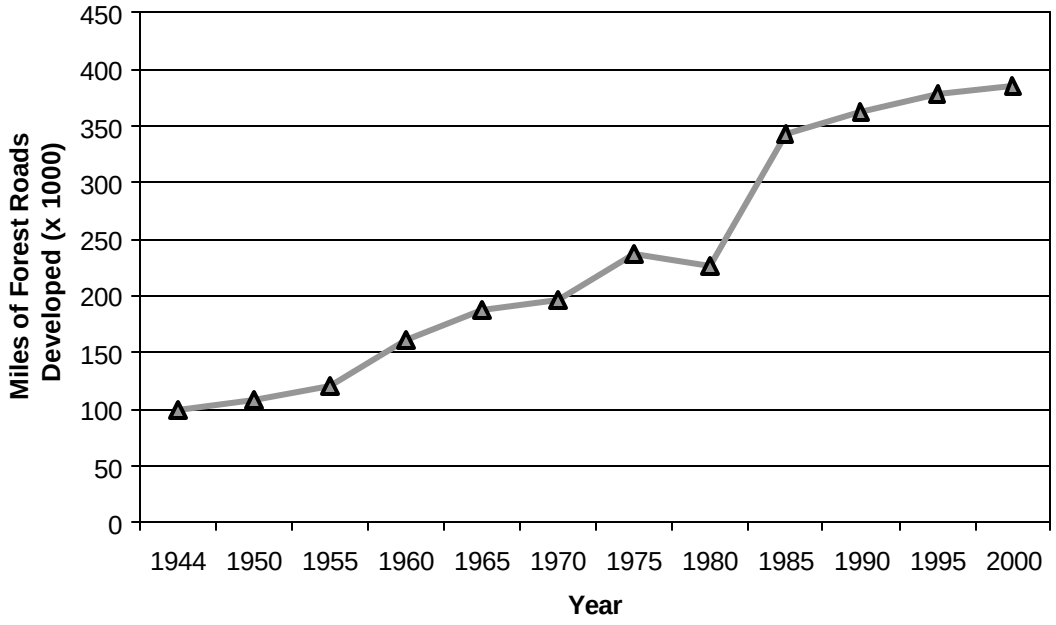



**Figure 1. Miles of forest roads constructed from 1944 to the late 1990s.**

Today, NFS roads serve a wide variety of forest users and join with County, State, and national highways to connect rural communities and urban centers with NFS lands. Recreation is the single largest use or activity supported by the NFS roads, accounting for approximately 90% of the daily traffic. Administrative use (9%) and commercial use (1%) make up the balance. Eighty percent of recreation use occurs on 20% of NFS roads, primarily those roads maintained for passenger cars (Coghlan and Sowa 1998).

*Road Maintenance* – NFS roads are maintained to accommodate low-clearance passenger cars and high-clearance vehicles such as sport-utility vehicles, pickups, and jeeps (Figure 2). About 76,000 miles, or 20%, of NFS roads are maintained for low-clearance passenger cars. Another 223,000 miles, or 57%, of NFS roads are designed and maintained for high-clearance vehicles. The remaining 87,000 miles, or 23%, are single-use roads (for example, fire access) that are generally closed after their initial use and kept closed between uses (USDA Forest Service 1999h).

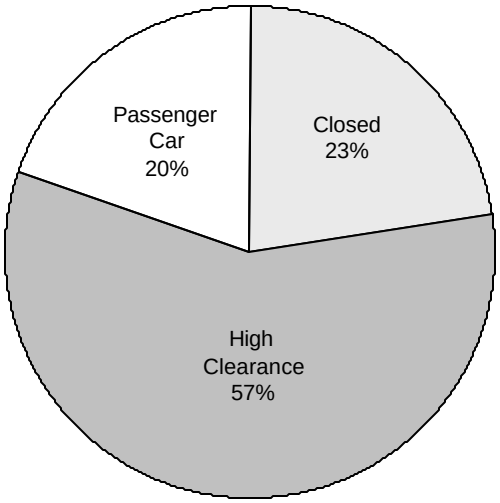
The construction or reconstruction of NFS roads is typically paid for by the use that most benefits from the initial access. Examples include timber harvest by timber purchasers,

mining operations by mining claimants, and special use permit access by permittees. However, some roads are built using congressionally appropriated dollars such as roads for recreation, administrative access, and ecosystem restoration. The Forest Service is responsible for planning, design, and construction oversight and often retains long-term jurisdiction, including maintenance and operational responsibilities, for roads constructed on NFS lands. Typically roads constructed under permit (mining, special use) are operated and maintained by the permittee and are decommissioned under terms of the permit once the access need has terminated, however when the road is needed to meet other access objectives the Forest Service may accept long-term responsibility. Roads constructed to access private lands within or adjacent to NFS lands, are typically the property and responsibility of the land owner, however when it is in the interest of the Forest Service, the agency may accept or share responsibility for operation and maintenance. Each new mile of NFS road competes for limited road maintenance funding. Annual maintenance on new roads costs, on average, approximately $1,500 per mile. In fiscal year 2000, the Forest Service received less than 20% of the estimated funding needed to maintain its existing road infrastructure (USDA Forest Service1999h).

Sixty-nine percent of the Agency's road maintenance activities are focused on resource protection and public health and safety considerations. Mission related activities account for the other 31% and include general and administrative access, non-safety maintenance for user comfort, and ease of travel (Figure 3). A 1998 survey of road maintenance and capital improvement needs within the Forest Service showed an annual maintenance budget requirement of $568 million and a combined capital improvement and deferred maintenance backlog of $8.4 billion. The deferred maintenance backlog alone was $5.5 billion or 66% of the total backlog. Figure 3 illustrates that 48% of the annual road maintenance costs, $272 million per year, is associated with resource protection activities. The total fiscal year 2000 road maintenance budget of $111 million, (an $11 million increase over fiscal year1999) will meet less than 20% of the Agency's annual needs and less that 50% of identified critical needs. Each year's unmet maintenance increases the backlog as roads deteriorate and the cost of repairs continues to rise.

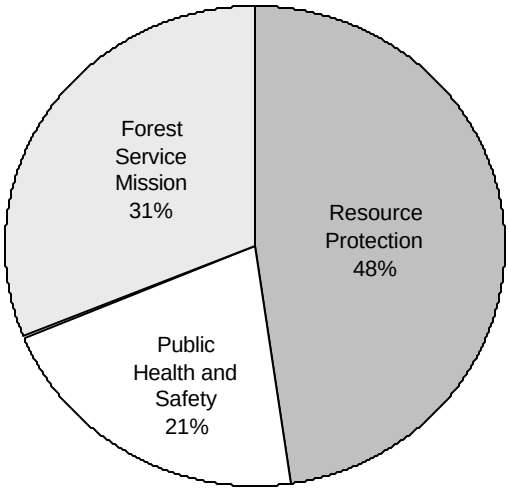
Following a period of sustained decline, NFS road-maintenance budgets have increased approximately 5% to 10% per year for the past four fiscal years (beginning in fiscal year 1998). Although this trend is expected to continue, the budget still falls short of identified annual needs.

Annual maintenance needs along with capital improvement and deferred maintenance figures for roads come from the Agency's March 1999 report to Congress, titled "Supporting Documentation on Maintenance and Improvement Needs." As stated in the report, estimates of needs were based on a "random field sampling of at least 2% of each national forest's and grassland's roads." In fiscal year 1999, the Forest Service began a 5-year initiative to inventory and conduct condition surveys on its 386,000 miles of roads. Results from the first year of the initiative indicate that the annual maintenance and deferred maintenance estimates from the March 1999 report are low and will increase as better data is collected and validated. The Forest Service also receives benefits from commercial use of its roads. A provision of the 1964 Roads and Trails Act, allows road use agreements, timber sale contracts, special use permits, mineral leases, and other cooperative agreements to accomplish road reconstruction and maintenance, or funds may be collected for maintenance.




| Maintenance Level | Miles |
|---|---|
| Passenger Cars (Maintenance Level 3,4,5) | 76,000 |
| High Clearance (Maintenance Level 2) | 223,000 |
| Closed (Maintenance Level 1) | 87,000 |
| **Total** | **386,000** |

**Figure 2. Types of vehicle use on National Forest System roads.**
*(USDA Forest Service 1999h)*




| Annual Maintenance Requirements | Millions of Dollars |
|---|---|
| Resource Protection | $272 |
| Public Health and Safety | $119 |
| Forest Service Mission | $177 |
| **Total** | **$568** |

**Figure 3. Annual road maintenance costs.**
*(USDA 1999h)*

Although the amount of reconstruction and maintenance is commensurate with the commercial use, other users may benefit. For example, in 1991, timber purchasers reconstructed 2,736 miles of roads with a value of 34 million dollars, and an estimated 20 million dollars worth of road maintenance was accomplished using collections from commercial users, or was accomplished by the users themselves. This total contribution by commercial users of 54 million dollars compares to an appropriated road budget in 1991 of 264 million dollars, which is a benefit equivalent to 20.4% of the appropriated road budget. In 1998, commercial users contributed approximately $41 million to an appropriated road budget of $200 million, a benefit equal to 20.5% (USDA Forest Service 1999o).

Figure 4 compares the historical trend in funding for NFS roads and use (vechiles per day). Funding peaked between 1965 and 1985 when the Forest Service timber program contribution to road construction, reconstruction and maintenance was high. Timber funding combined with an appropriated road budget of three times today's funding levels enabled the Forest Service to maintain NFS roads to the safety and environmental standards that were acceptable at that time. During these years the NFS road system grew from approximately 200,000 miles to approximately 350,000 miles, a 75% increase. When taken together increased use and reduced funding, over the past 15 years, have resulted in NFS roads deteriorating and maintenance backlogs increasing to the 1998 estimated 8.4 billion dollars.

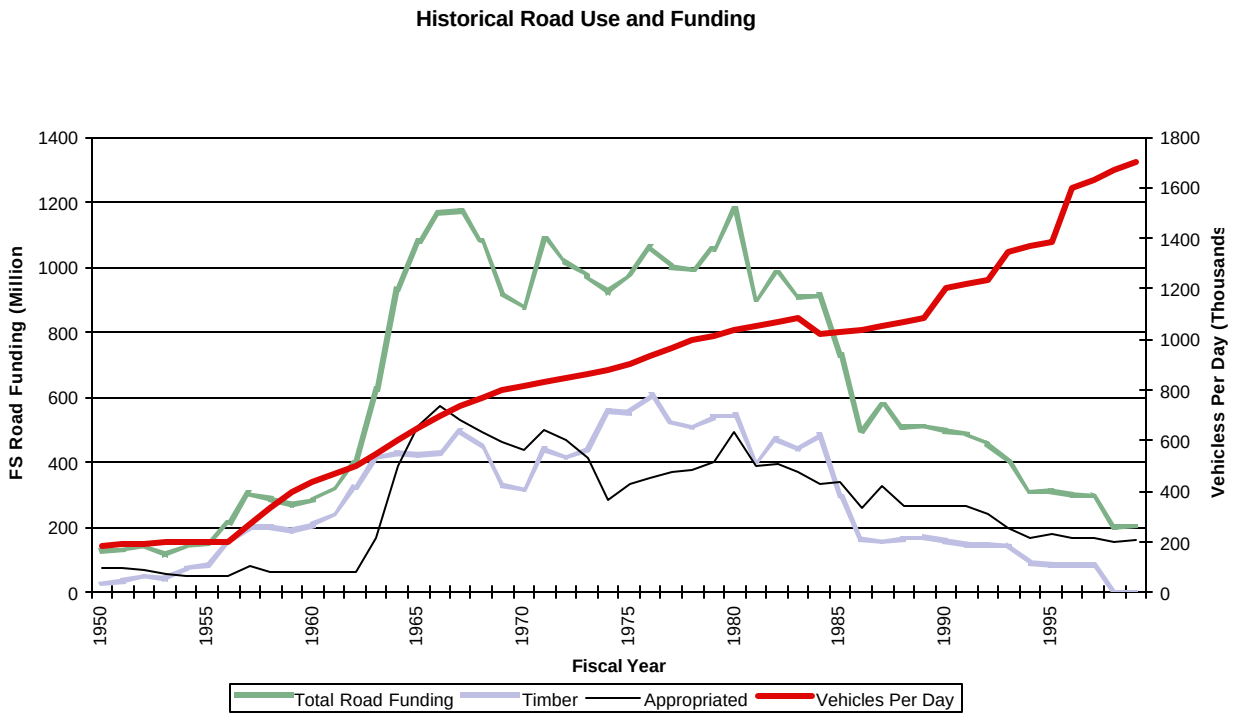



**Figure 4. Historic road funding compared to use.**

Definitions and their use was a common topic in the public comment on the DEIS. The FEIS uses the following definitions.

Road – A motor vehicle travelway more than 50 inches wide, unless designated and managed as a trail. A road might be classified, unclassified, or temporary.

> Classified roads – Roads wholly or partly within or adjacent to National Forest System lands that are determined to be needed for motor vehicle access, such as State roads, County roads, privately owned roads, National Forest System, and roads authorized by the Forest Service that are intended for long-term use.

Unclassified roads – Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abondoned travelways, and off-road vehicle tracks, which have not been designated and managed as a trail, and are not under permit or other authorization.

Temporary roads – Roads authorized by contract, permit, lease, other written authorization or emergency operation, not intended to be a part of the forest transportation system and not necessary for long-term resource management.

Table 1 shows that there are approximately 77,073 miles of roads on NFS lands that are not under Forest Service jurisdiction. These roads are under the jurisdiction of public road agencies (State, Counties), or private parties (adjacent private landowners, mining claimants). The Forest Service also estimates that there are 60,445 miles of unclassified roads on NFS lands.

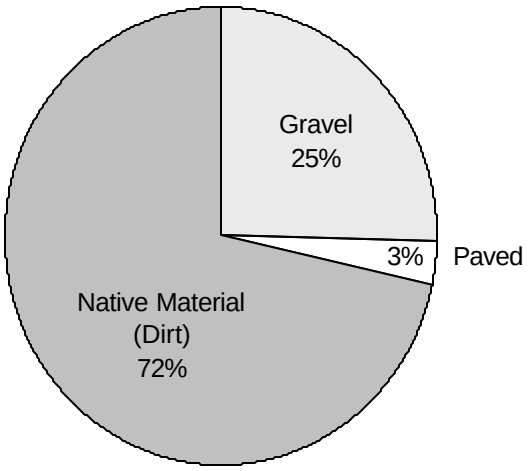
**Table 1. Miles of existing National Forest System roads by Forest Service region (R).**

| Existing classified roads | Total | R1 | R2 | R3 | R4 | R5 | R6 | R8 | R9 | R10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Public roads on NFS lands | **54,659** | 6,750 | 8,050 | 1,540 | 4,350 | 2,790 | 5,720 | 8,690 | 16,500 | 269 |
| Private roads on NFS lands | **22,414** | 5,280 | 5,410 | 210 | 1,670 | 1,650 | 2,470 | 369 | 5,270 | 85 |
| National Forest System roads | **385,572** | 53,170 | 31,134 | 54,279 | 37,863 | 44,529 | 93,235 | 36,849 | 30,894 | 3,619 |
| Total existing classified roads | **462,645** | 65,200 | 44,594 | 56,029 | 43,883 | 48,969 | 101,425 | 45,908 | 52,664 | 3,973 |
| Total estimated unclassified roads | **60,445** | 2,160 | 14,400 | 3,990 | 11,700 | 7,560 | 4,450 | 25 | 15,000 | 1,160 |

While the Forest Service manages approximately 9,400 miles of paved roads, the majority of NFS roads maintained for passenger cars have gravel surfaces. Of the roads maintained for high-clearance vehicles, about 190,000 miles are surfaced with native, on-site materials. Figure 5 displays the percentages of these road surfaces relative to the NFS roads that are open for public use. Many national forest visitors travel single lane, gravel-surfaced roads that are maintained for low-clearance passenger vehicles. Figure 6 shows a typical passenger car road on NFS land.

The Forest Service uses five categories to identify road maintenance guidelines based on road management objectives. These categories are called “maintenance levels”, with “maintenance level 1” receiving the least maintenance and “maintenance level 5” having the highest maintenance standards. With each maintenance level guidelines are established for

the amount and type of maintenance based on parameters such as service life, traffic type, traffic volume, travel speed, traffic management strategy, user comfort, user safety and local conditions. Forest Service policy direction for maintenance levels 1 through 5 can be found in FSH 7709.58.




| Road Surface Type | Miles |
|---|---|
| Paved | 9,400 |
| Gravel | 70,000 |
| Native Material (Dirt) | 219,600 |
| **Total** [a] | **299,000** |

[a] Does not include roads closed to public use.

**Figure 5. Types of road surfaces on roads that are open to public use on National Forest System lands.**
*(USDA Forest Service 1999h)*

**Figure 6. Typical National Forest System gravel road.**
*(Forest Service Engineering Files 1999)*

*Road Construction and Decommissioning* – Over the past decade, NFS road construction has declined by 85%, from a high of 1,315 miles in 1991 to a low of 192 miles in 1999. The majority of these roads were built to support timber harvest. During the same period, about 2,660 miles of road were decommissioned each year (USDA Forest Service 1999o).

Roads are added to NFS lands when the Forest Service: 1) constructs new roads; 2) acquires new lands through purchase or land exchanges, which often contain roads; 3) identifies unclassified roads that are permanently needed and classifies them. For example, in 1999, the Forest Service constructed 192 miles of roads, decommissioned 1,842 miles, and classified 3,738 miles of previously unclassified roads. This resulted in a net increase of 2,088 miles of NFS roads (USDA Forest Service 1999v).

Beginning in the early 1990s, many planning decisions, such as those associated with the Northwest Forest Plan, identified the need to enhance watershed health. Because of planning efforts and national regulatory and policy changes such as the Clean Water Action Plan, the Forest Service increased efforts to decommission roads when they were no longer needed and as funding allowed. In fiscal year 2001, the Forest Service has a goal of decommissioning 3,000 miles of NFS roads.

Road decommissioning involves using various levels of treatments to restore unneeded roads to a more natural state, to mitigate environmental damage and restore hydrologic function. Treatment options might include blocking the entrance, water barring, removing culverts, reestablishing drainage ways, removing unstable fills, pulling back road shoulders, restoring natural contours and slopes, or other methods designed to meet specific conditions and objectives associated with the unneeded road. It includes conversion of a road to a designated trail. The cost of decommissioning varies with the treatment and local conditions, from a few hundred dollars per mile up to $50,000 or more per mile. The average range is typically $5,000 to $10,000 per mile.

Based on the historical data in Figure 7, it is reasonable to expect NFS classified road construction would average 200 miles per year on all NFS lands over the next few years. The rate of NFS road construction will likely have a continued downward trend of about 5% to 10% per year in the coming decade. The no action alternative shows an annual program of approximately 70 miles of NFS classified road construction in inventoried roadless areas. This suggests that approximately 35% of the NFS classified road construction planned over the years 2000 to 2004 will occur in inventoried roadless areas. In order to estimate the miles of NFS classified roads that will be constructed it is assumed that only those roads that are constructed to support timber harvest will remain under Forest Service jurisdiction. Roads constructed for other purposes (minerals, privet access, other public roads) generally remain under other private or public jurisdiction (i.e. they are classified roads but not NFS classified roads, see Table 3-5). Nationwide, road decommissioning will probably increase as funding allows (USDA Forest Service 1999o). The combined cumulative effects section later in this report addresses future trends in more detail. Figure 7 shows the trends for NFS road construction, reconstruction, and decommissioning over the last decade.

The Forest Service constructs, reconstructs, and maintains roads on NFS lands to provide needed access for implementing land management plan goals and objectives. As these objectives and goals change, road management objectives also change. It is through road management objectives (FSM 7712.31) that design standards, maintenance levels, and traffic management requirements, such as seasonal closures are established. As land management goals and objectives change, so do the need for new access and the objectives for managing existing access. The Forest Service manual direction is as follows:

> *7712.31 - Road Management Objectives*
>
> *Establish the specific intended purpose (FSM 7701, para. 7), based on management direction, of the new project or projects. Document this purpose by developing a road management objective that contains design criteria (FSM 7720) and operation and maintenance criteria (FSM 7730.3). The document shall be signed by a line officer when approved, and retained as a permanent record. Document arterial and collector roads individually; however, similar local roads may be grouped on one document. Before the year 1990 establish and document the road management objective for existing roads in the system showing operation and maintenance criteria.*

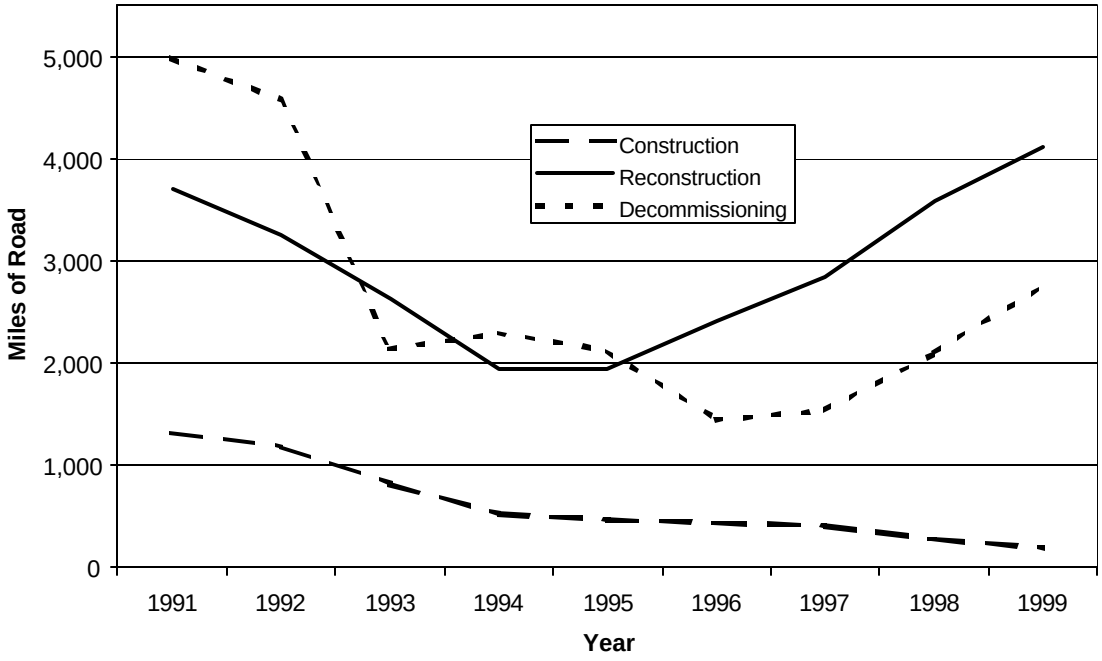



**Figure 7. Trends in road construction, reconstruction, and decommissioning for National Forest System roads.**

*(USDA Forest Service 1999h)*

On January 28, 1998, in an Advance Notice of Proposed Rulemaking (ANPR) (63 FR 4350), the Forest Service announced its intent to revise regulations concerning management of NFS roads. Simultaneously, the Forest Service published an Interim Roads Rule (36 CFR Part 212) to temporarily suspend permanent and temporary road construction and reconstruction in certain unroaded areas of NFS lands. The purpose of the Interim Roads Rule was to take a

"time out" for 18 months while the Forest Service developed a new long-term road management policy and new analytical tools to provide a more ecological approach to analyzing existing and future road needs. In August 1999, the "Roads Analysis: Informing Decisions about Managing the National Forest Transportation System" was made available to Forest Service managers to use when making road management decisions.

The proposed Roads Policy requires that the findings and recommendations of a science-based roads analysis be considered when doing land management and project planning. Road management objectives are developed during land management and project level planning and these decision-making processes can be informed by a science-based roads analysis.

Management of existing NFS roads will be governed by the Roads Policy, when adopted as final (36 CFR 212 and FSM 7700) and within the framework established in the Planning Regulations at 36CFR219 and FSM 1920. A discussion of the combined cumulative effects of these and other Forest Service planning and policy initiatives is contained later in this report. The combined effects of the alternatives along with other Forest Service policy initiatives was often mentioned as an issue in the public comment on the DEIS.

Classified roads in general are those NFS roads that are needed to meet the goals and objectives established in land management plans that require permanent, long-term access. Classified roads also include those public roads that provide primary access into and through NFS lands and those privately owned roads that access private lands within and adjacent to NFS lands. Classified roads, with the exception of private roads, are those roads to which State traffic regulations generally apply and are designed and maintained for "highway legal" motor vehicles though use by other classes of recreational vehicles might be allowed. Not all classified roads may currently be inventoried and mapped by the Forest Service, and they might not be maintained at the level specified by road management objectives. The proposed Roads Policy requires inventorying and mapping of all roads on NFS lands.

Temporary roads are authorized under contracts and permits, such as timber sale contracts, special use permits, oil and gas exploration permits, facility construction contracts, or they may be constructed by the Forest Service for administrative access. These roads are needed for a short time to meet a one-time access need, usually for 1 and not more than 10 years. The Forest and Rangeland Renewable Resources Planning Act of 1974 (as amended) generally requires temporary roads be closed and revegetated within 10 years. In general, the Forest Service decommissions temporary roads within one year after the need for access has terminated.

Unclassified roads are those roads that exist on NFS lands without the Agency's authorization. They include remnants of historic uses, such as old logging and mining roads, user-created roads due to repeated travel by recreational vehicles off designated roads and trails, and old temporary roads that were not decommissioned. The Roads Policy proposes a review of unclassified roads to determine if they are needed as a road, a trail or need to be decommissioned. It is likely that some unclassified roads will continue to be created in the future though less frequently than in the past due to the Roads Policy and other policy changes.

The proposed Roads Policy would also establish definitions for road construction, road reconstruction, road decommissioning, and road maintenance. These definitions can be found in the FEIS glossary. Road decommissioning is discussed above and the definitions for construction, reconstruction, and maintenance are discussed in the alternative effects sections below.

Roads can have both beneficial and negative effects. On the benefit side, roads provide access for multiple uses such as timber harvest, grazing, mining, fire suppression, forest management, ecosystem restoration, research, monitoring, recreation, subsistence uses, emergency rescue, and to meet other access needs. Roads provide access to private lands within and adjacent to NFS lands, and roads can have historic and cultural value. Non-access related benefits include providing edge habitat and firebreaks. Properly constructed or reconstructed roads can mitigate negative effects of past roading on water quality and riparian habitats.

Roads may have undesired and negative effects on hydrology, geomorphic features such as debris slides, sedimentation, a source of human-caused fired, habitat fragmentation, predation, road kill, invasion by exotic species, dispersal of pathogens, some recreational experiences, water quality and chemical contamination, soil productivity and biodiversity (USDA Forest Service 2000h).

All management activities associated with NFS roads are required to comply with relevant State and Federal statutes such as the Clean Water Act, NEPA, and Endangered Species Act (ESA). In addition, it is the Agency's policy to use the best available scientific information and best management practices[1] (BMPs) for planning, designing, constructing, and maintaining roads regardless of where the road is located. Implementation of these policies can minimize, but not eliminate, some of these adverse environmental effects. Within the context of the alternatives, specific effects of road construction and reconstruction on individual resources are discussed later in this chapter. A key underlying assumption to all effect analyses are that road impacts are proportional to the miles of construction and reconstruction. Therefore, it is important that differences in road construction and reconstruction between alternatives are discussed. See the specialist report for physical resources for a detailed discussion on BMPs.

The criteria used during RARE I and II allowed the presence of some roads in areas that were inventoried for Wilderness consideration (USDA Forest Service 1992). Subsequent roadless area inventories used the same criteria. Today, approximately 9,660 miles of roads currently exist on 5% of the land area in inventoried roadless areas. Some of these roads pre-date the inventories, while others have been constructed where land management plans have allowed development in inventoried roadless areas.

[1]Compliance rates for implementing best management practices are between 85% and 98%, with rates increasing over time as awareness and training programs take effect (Stuart 1996, State of Oregon 1999, State of Montana 1998). Results vary between States and ownerships, with Federal lands and large forest industries showing the highest compliance, while small non-industrial landowners with little access to professional forestry assistance fall behind. A recent report from Oregon found overall compliance rates of 98% to 99% across all ownership classes (State of Oregon 1999), while a study in Maine reported only 34% of best management practices with compliance rates grater than 80% (University of Maine 1996).

# Assumptions:

It is reasonable to expect that the historic trends for developing inventoried roadless areas established over the past 20 years will continue in this century. Currently, it is estimated that in inventoried roadless areas where development is allowed, 8% has been roaded. Over the next 20 years under Alternative 1, probably an additional 5% to 10% of the area in inventoried roadless areas would be roaded. If the road program identified in data reported for 2000 through 2004 is a predictor of future activity, then probably an additional 3,200 miles of classified roads would be constructed by 2020. By 2040, between 18% and 28% of the total classified inventoried roadless area acres would be roaded with an estimated additional 6,400 miles of classified roads.

Under Alternatives 2 through 4, the rate of road construction in inventoried roadless areas would be lower than under Alternative 1. Under Alternatives 2 through 4, by 2020 the classified road miles in inventoried roadless areas will have grown by an estimated 1,160 miles, and by 2040, by an additional 1,160 miles. With the addition of an exception for mineral leasing, the total classified road miles in inventoried roadless areas are estimated to increase by 1,360 miles by 2020, and another 1,360 by 2040,

In 1997, there were approximately 4 million miles of public roads in the United States (USDT Bureau of Transportation Statistics 1999). Of these, about 3 million miles were rural public roads (generally, County, secondary State, and Federal land management agency roads). There are an estimated 368,000-miles of NFS roads, which represents approximately 12% of rural public roads. There is no discernable difference between Alternatives 2 through 4 and Alternative 1 in their effects on national rural public road access. Alternatives 2 through 4 would have a minimal effect on rural public road access when assessed nationally.

Included in the analysis are discussions of the implications and consistency with the Forest Service Strategic Plan, the Unified Federal Policy, and other related initiatives.

The initiatives being proposed by the Forest Service, when taken in combination, would result in more informed decisions about conservation management and use of NFS lands. The revision of the Planning Regulations sets the planning framework for considering the road network necessary for sustainable multiple-use management. A roads analysis process at the land management plan level is required by the proposed Roads Policy and will change the current policy emphasis from road development to road maintenance. This analysis, required by the proposed Roads Policy, would examine NFS roads using public involvement and the best available science while considering effects on social, economic, and environmental sustainability.

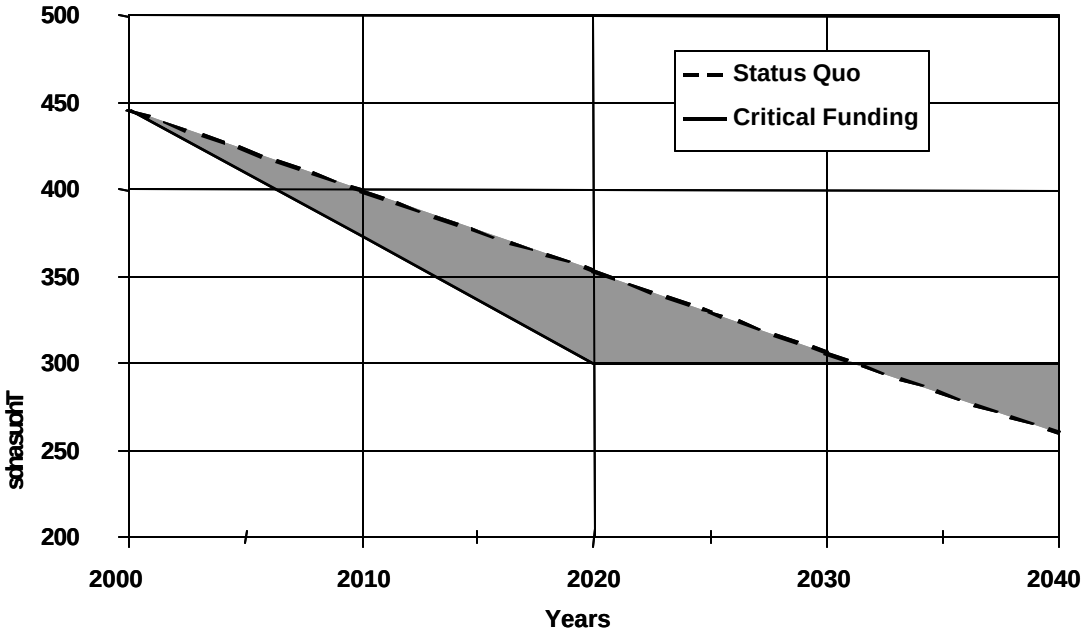
The forest-wide roads analysis process required by the proposed Roads Policy would also be important for its influence on future road-management decisions. Decisions on individual road construction and reconstruction projects in unroaded areas would be informed by roads analysis as influenced by the analysis of unroaded areas required at the time of land management plan revision. The Roads Policy outlines a consistent process that each forest and grassland would follow to determine what roads are needed, including unclassified roads, for the long-term management of NFS lands. Road management decisions, made at the local

level, must comply with existing laws such as the Clean Water Act, the ESA, Highway Safety Act, and be consistent with land management plans.

It is not possible to predict the outcome to NFS roads on individual national forests and grasslands from decisions that will be made at the land management plan and project level from the combined implementation of the Planning Regulations, the Roads Policy, and the alternatives considered in this FEIS. Other initiatives, such as the Unified Federal Policy, the draft Strategic Plan, and the Cohesive Strategy should have minimal effects on NFS roads. Under the Cohesive Strategy, there would likely be a bias toward maintaining and increasing access for fuel treatment in priority areas. The Unified Federal Policy establishes watershed assessments that are expected to be combined with the Roads Policy analysis guidelines to help identify needed and unneeded roads. Additionally, Regional initiatives, specifically the Interior Columbia Basin and Sierra Nevada Framework projects, could also have compounding effects of reducing the miles of classified and unclassified roads, which is consistent with the downward trends projected in Figure 8. Although the alternatives in the Sierra Nevada Framework Project DEIS do not show any decline in NFS road miles as a direct result of the decisions to be made, the DEIS for the Interior Columbia Basin does project declines.

It is possible to estimate reasonably foreseeable trends describing the future amount and condition of roads under Forest Service jurisdiction. It is anticipated that the majority of the existing roads will continue to be needed for management since the road network has continued to grow (Figure 1). The Forest Service estimates that between 260,000 miles and 300,000 miles of NFS roads will exist after implementation of these policies. Decisions about whether a road is needed will be driven by the Forest Service's ability to meet land management plan objectives within the funding received, along with safety and environmental protection standards. The actual amount of NFS roads closed, decommissioned, open to public travel, the standard maintained, and the time to reach a minimum amount of roads needed to best serve current and anticipated management objectives and public uses is dependent on many factors including budgets, environmental risks, capabilities of the land, and use. Management of NFS roads will comply with applicable law, regulation, and policy.

The two scenarios discussed below estimate different foreseeable future scenarios based on projections for access needs, budget, and an assumed rate at which unneeded roads would be identified and removed from the National Forest System Transportation System. The space between these two scenarios represents a range of possible outcomes (Figure 8).




386,000 miles of classified roads plus 60,000 miles of unclassified roads equals 446,000 miles of roads

Status Quo: 260,000 miles of roads after 40 years

Critical Funding: 300,000 miles of roads after 20 years

**Figure 8. Range of possible National Forest System road miles based on funding.**

*Scenario 1: Current Budget Levels* – Under this scenario the current appropriated road construction and maintenance budget of 200 million dollars a year would continue and would keep pace with inflation, which reflects the current trend of a 5% to 10% increase each year. Land management plan revisions guided by new Planning Regulations may identify unroaded areas where road construction could be prohibited. The roads analysis process would be completed on NFS lands and, through land management planning, decisions would be made about which roads are needed. As budgets allow, roads would be maintained at standards that would seek to balance the need for access with environmental protection. Because current funding levels would not achieve all road management objectives, it is likely that NFS roads would continue to deteriorate. Roads would become impassable, decisions to close roads would likely increase, and the level to which the roads are maintained would be lower than is necessary to meet all land management plan goals and objectives. In general, Agency resources would be focused on the 60,000 to 80,000 miles of road that carry the majority of NFS visitors, and on correcting negative environmental effects on the remaining NFS roads. Under this scenario, NFS roads would reach a stable size in approximately 40 years.

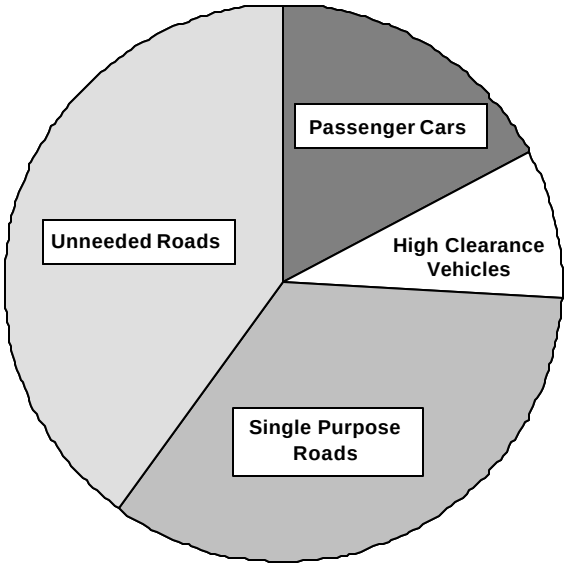
The total road system maintained and open to the public would likely be 100,000 miles; an additional 160,000 miles would likely be single purpose roads open and maintained when needed for national forest management. Of the 100,000 miles open to vehicle use, 60,000 would be maintained for passenger cars and 40,000 would be maintained for high-clearance vehicles.

There would be approximately 126,000 miles of the existing system identified as unneeded and decommissioned along with the estimated 60,000 miles of unclassified roads. The rate of decommissioning would continue at 2500 miles per year with an additional 2500 miles per year likely being closed because lack maintenance will make them impassable even to high-clearance vehicles. The road related deferred maintenance backlog would continue to grow at current rates and it is likely only critical maintenance on the open road system would be preformed.

The Forest Service's ability to implement individual land management plans, regional planning efforts like SNF, ICBEMP, and national efforts like the Cohesive Strategy will not be limited by the these proposed rules ether individually or in combination. In fact these proposed rules--the proposed planning rule, the proposed transportation rule, and the roadless conservation rule will provide the planning framework and policy guidance under which incremental road management decisions will be made in order to accomplish the goals and objectives identified in these planning and policy efforts. In the end, the Forest Service road system's ability to meet the transportation needs identified in these goals and objectives will be a function of available human and capital resources.

**Assumptions for "Status Quo"**

- The Forest Service appropriated road budget would increase at 5% to 10% per year keeping pace with inflation.
- Funding is a limiting factor to implementing policy and management direction.
- Decommissioning would continue at the recent historic rate of approximately 2500 miles per year with an additional 2500 miles per year becoming impassable as the lack of maintenance allows them to revegetate and close through natural processes.
- All of the unclassified roads would be identified as unneeded.
- Road management decisions and the Forest Service's ability to implement them will be influenced by Agency budget levels, and the availability of Forest Service and community resources.




| Maintenance Level | Miles |
|---|---|
| Passenger Cars Maintenance Level (3,4,5) | 60,000 |
| High Clearance Vehicles Maintenance Level (2) | 40,000 |
| Single Purpose Roads Maintenance Level (1) | 160,000 |
| Unneeded Roads | 186,000 |
| **Sum** | **446,000** |

**Figure 9. National Forest System Road System - Scenario 1: Current Budget Levels.**

*Scenario 2: Critical Funding Needs Are Met* – The Forest Service's Natural Resource Agenda sets clear priorities in accordance with the Forest Service Strategic Plan and within the guidelines of the Government Performance and Results Act of 1993. One of the four elements of the Forest Service Natural Resource Agenda is roads, and one of the objectives of the Roads Policy is to seek funding at a level that will allow the Agency to maintain the roads for NFS lands access to acceptable environmental and public safety standards. To do this, the Agency works with Congress and other Federal agencies to establish sustained funding for NFS roads at a $900 million annual level.

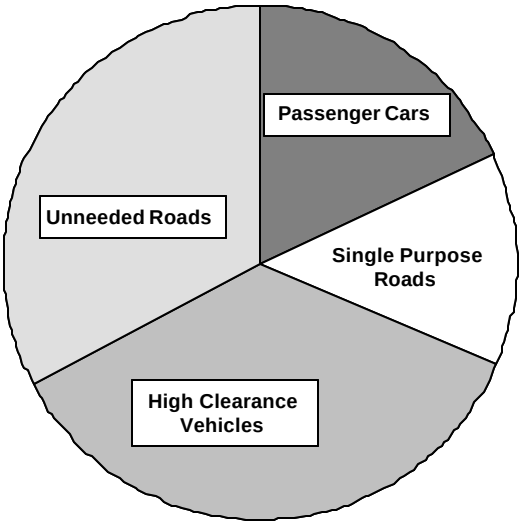
At this funding level, which will meet critical needs, the Forest Service would be able to move methodically to reduce its estimated 8.4 billion dollar capital improvement and deferred maintenance backlog over the next 20 years. Roads analysis process would be completed and NFS roads would be assessed over the next 10 years to determine which roads are needed and which are unneeded for management. These determinations would be made at the appropriate level through environmental analysis. In general, roads would be maintained at standards that would accommodate the appropriate balance between projected demand for access to NFS lands and environmental protection. Decommissioning of unneeded roads would progress at an accelerated pace compared to current trends.

Generally, no roads would be impassable due to lack of maintenance once the crucial deferred maintenance needs are eliminated. Under this scenario, NFS roads would reach equilibrium approximately 20 years from when the Agency starts to receive funding for its critical needs.

The national forest road system would be about 300,000 miles with about 80,000 miles maintained for passenger cars, 60,000 miles of single purpose roads closed between uses and 160,000 miles maintained for high-clearance vehicles. The estimated 146,000 miles of unneeded roads (including unclassified roads) would be decommissioned at the rate of 7000 miles per year.

**Assumptions for "Critical Funding"**

- Decommissioning rates would be at twice the Forest Services' Clean Water Action Plan goal of 3500 miles/yr.
- The Forest Service would have increased levels of public support to decommission roads at the rate of 7000 miles/yr.
- Roads analysis and watershed assessments on all national forest lands would take place as part of the current round of forest plan revisions and unneeded roads would be identified and scheduled for decommissioning.
- Generally, no roads would become impassable due to lack of maintenance.
- Road management decisions and the Forest Service's ability to implement them will be influenced by Agency budget levels, and the availability of Forest Service and community resources.




| Maintenance Level | Miles |
|---|---|
| Passenger Cars Maintenance Level (3,4,5) | 80,000 |
| High Clearance Vehicles Maintenance Level (2) | 160,000 |
| Single Purpose Roads Maintenance Level (1) | 60,000 |
| Unneeded Roads | 146,000 |
| **Sum** | **446,000** |

**Figure 10. National Forest System Road System - Scenario 2: Critical Funding Needs Are Met.**

The Forest Service's ability to implement individual forest plans, regional planning efforts like SNF, ICBEMP, and national efforts like the Cohesive Strategy will not be limited by the these proposed rules ether individually or in combination. In fact these proposed rules--the proposed planning rule, the proposed transportation rule, and the roadless conservation rule will provide the planning framework and policy guidance under which incremental road management decisions will be made in order to accomplish the goals and objectives

identified in these planning and policy efforts. In the end, the Forest Service road system's ability to meet the transportation needs identified in these goals and objectives will be a function of available human and capital resources.

Alternatives 2 through 4 would contribute to the downward trends described above because there would be fewer roads constructed under these alternatives than under Alternative 1. However, the difference in effects between Alternative 1 and Alternatives 2 through 4 is minimal when looking at the likely trends in access on NFS lands over the next 20 to 40 years. Other policy changes and available funding for NFS roads are more likely to affect downward trends discussed above.

*Creation of Unroaded Areas* – The combined effect of implementing the Roads Policy, proposed Roadless Rule, and individual land management plans all within the planning framework established in the Planning Regulations would likely be reductions in road densities and possibly the creation of unroaded areas. The prohibitions on road construction and reconstruction proposed under Alternatives 2 through 4 would not apply to these newly created unroaded areas.

It is impossible to predict how many local land management plan and project level decisions would result in road density reductions and in turn how much and where unroaded areas would be created or enlarged. Land management plan goals, such as reducing road densities for big game or recreation management, eliminating failing roads in riparian areas, or reducing fragmentation of a particular wildlife habitat, may result in road decommissioning projects. Consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service during project-level planning may result in road decommissioning to meet conservation strategy or recovery goals or to implement measures in biological opinions. The following two examples illustrate how road decommissioning could affect the amount of unroaded area acres.

In the first example, the land management-plan objective may be to reduce road density (measured as miles of road per square mile). Through planning, consultation, and local collaboration, it could be determined that the road density is too high and should be reduced to meet resource management goals. In this case, elimination of roads, even a large number of individual roads or miles of roads, may not create or enlarge unroaded areas as road density is reduced and roaded access is maintained. This particular management scenario is quite common throughout Agency-managed lands in the West. Eliminating roads to reduce road density and not creating unroaded areas is likely to be the most common decommissioning scenario accounting for perhaps 90% or more of road decommissioning decisions.

The second example is the purposeful creation of unroaded acres as a by-product of implementing land management plan objectives. For example, a watershed could have originally been roaded to provide access for timber management activities. Under new land management-plan direction, the same area could now be managed for other values or under a different land allocation. To reduce erosion, rehabilitate drainage patterns, increase water quality, stabilize vegetation, enhance the scenic quality, reduce landslide potential, enhance fish and wildlife habitat, and create a more secure domestic water supply, all roads could be decommissioned and the watershed restored to a more natural condition. Examples of this

can be found in the portions of the Pacific Northwest that are covered by the Northwest Forest Plan where the Aquatic Conservation Strategy has placed an emphasis on road decommissioning and watershed restoration.

Restoration of large portions of watersheds where management objectives no longer require roaded access, while expected to remain uncommon, are likely to be more frequent as the Forest Service manages for sustainability of forest ecosystems. The Agency estimates that unroaded area acres are likely to increase 5% to 10% by the time NFS roads stabilize at 260,000 miles to 300,000 miles nationally.

In both of these examples it is less likely that unroaded areas would be expanded in the East due to the way these national forests were reserved, their tendency to contain more roads not under Forest Service jurisdiction, the differences in habitat and habitat needs for protected species and the differences in geology, hydrology, and topography.

The Planning Regulations would require the responsible official, at the time of plan revision, to identify and evaluate the important social and ecological characteristics of unroaded areas and inventoried roadless areas, and make a determination if they should receive any additional protection. This would take place in the context of the collaboration, sustainability, and science requirements of the Planning Regulations.

The proposed Roads Policy would require that each forest and grassland undertake a roads analysis process at the national forest level. The findings of this analysis may inform a revision or an amendment of land management plans. The roads analysis process would ensure local public and private collaboration in informing road management decisions. Classified, unclassified, and temporary roads would be inventoried, mapped and a determination made by responsible officials as to whether a road is needed and, if so, where it would be located. The draft environmental assessment for the Roads Policy estimated that, at a minimum, approximately 2,900 roads would be decommissioned annually. In some cases, roads may be converted to and managed as designated trails. It is during this assessment and decision-making process that the effects of road decommissioning, including unroaded area creation, would be disclosed.

There would not be any additional unroaded areas created because of selecting and implementing the alternatives analyzed in this FEIS.

# Information Used:

The data used in this analysis came from two primary sources. First, the road program planned for the years 2000 to 2004 came from the data based developed for this project as a result of several calls to Forest Service field units. Secondly, historic data on road program budget and activity data came form historic Forest Service business reports and other internal documents.

# Methodology:

The effects on the NFS road system and Forest Service roads program are generally displayed in terms of miles constructed or reconstructed and those miles that would be prohibited as a result of the action alternatives. Effects of roads on specific resources, and on the Tongass N.F. are analyzed in the appropriate section of chapter 3 in the FEIS and in other resource specialist reports.

Historic trends and data collected form Forest Service Field units was used to describe the Forest Service roads program both in the near term, 2000 to 2004 and to estimate future program levels over the next twenty to forty years. The road mileage data collected from Forest Service field units (Appendix A, Table A-1) was summarized (Appendix B, Table B-1). The assumptions used to summarize the data in Table A-1 are as follows:

- Unless miles associated with a project were specifically identified as reconstruction or temporary it was assumed that the reported road miles were new construction of classified roads. The one exception to this rule was that if the project was identified as being associated with an existing classified road then it was assumed to be reconstruction (e.g. if the project description included a road name or number).

- Project types 4,5 and 6 were grouped into one category called access.

- If the project was identified as having a valid right but also had a question mark beside it (Y?) it was assumed a valid right existed.

Throughout the course of analyzing alternatives questions about specific projects arose. As this happened EIS team members contacted Forest Service field units to validate and update the non-timber project data. In particular recreation, minerals and wildlife data was reviewed. As the specialists on the EIS team field verified the data in Table A-1, the summary spreadsheet, Table B-1, was updated. Table B-1 was used to generate the tables in the FEIS and in this report.

Projections of long term effects over the next 20 to 40 years were made after consultation with EIS team members and taking into account projections for individual resources and interactions between resources. In addition, projections for NFS roads were made using historic trends and a panel of transportation experts that interpreted trends and made reasonable projections for the future.

Definitions of common terminology were coordinated between Forest Service policy efforts for both the Road Policy and Planning Regulations.

# Results:

*Alternative 1 – No Action*

An estimated 1,160 miles of classified and temporary roads (including public roads not under Forest Service jurisdiction and private roads) are planned to be constructed or reconstructed in inventoried roadless areas over the years 2000 to 2004. Table 2 shows the miles of classified and temporary road construction and reconstruction in inventoried roadless areas, required to support the timber offer volume projected over the same years. The estimated percentage of the classified roads that would be closed after planned use is also displayed. Forty-two percent of the planned timber-related roads are single-purpose roads closed to traffic between uses or are short-term roads that would be decommissioned. In addition, all of the planned temporary roads would be decommissioned within 10 years after use. The Forest and Rangeland Renewable Resources Planning Act of 1974, generally requires temporary roads to be closed and revegetated after use.

By closing or decommissioning roads after use, the long-term effects on the environment are reduced. On the other hand, while temporary road construction must comply with law, regulation, and policy, in general, temporary roads are not designed or constructed to the same standards as classified roads and are not intended to be part of the National Forest System Transportation System. The results can be a higher risk of environmental impacts over the short run. The effects of the road construction and reconstruction are described for the prohibition alternatives for each resource later in this chapter.

**Table 2. Miles of planned timber-related road construction activities, 2000-2004.**

| Region | Classified road const | Classified road reconst | Temporary road const | Total all categories | Estimated closures of classified roads | Estimated closures of classified roads (%) |
|---|---|---|---|---|---|---|
| Northern (1) | 12 | 33 | 7 | 52 | 26 | 58 |
| Rocky Mountain (2) | 16 | 25 | 18 | 59 | 31 | 76 |
| Southwestern (3) | 0 | 0 | 3 | 3 | 0 | 0 |
| Intermountain (4) | 73 | 15 | 28 | 116 | 49 | 56 |
| Pacific Southwest (5) | 4 | 3 | 4 | 11 | 4 | 57 |
| Pacific Northwest (6) | 16 | 1 | 2 | 19 | 17 | 100 |
| Southern (8) | 5 | 16 | 4 | 25 | 18 | 86 |
| Eastern (9) | 6 | 6 | 35 | 47 | 11 | 92 |
| Alaska (10) | 214 | 0 | 77 | 291 | 32 | 15 |
| **Total** | **346** | **99** | **178** | **623** | **188** | **42** |

### *Alternatives 2 through 4*

The direct effect of implementing the national prohibitions outlined in all three alternatives is an immediate end to 867 miles of projected road construction and reconstruction, including temporary roads planned in inventoried roadless areas from 2000 through 2004. Long term, this is expected to result in a reduction in the Forest Service road program of approximately 173 miles per year (based on the 5-year average of the data collected).

Prohibiting new roads would prevent any construction activities that would result in adding classified or temporary road miles in inventoried roadless areas. The prohibition on reconstruction would prevent any construction activities that would result in improving or relocating an existing road in inventoried roadless areas. In general, improvements include expanding a road's design capacity allowing it to accommodate more traffic; changing its design function, for example, from that of a low standard single use road to a primary access route for low clearance passenger cars. Relocation means physically moving all or part of an existing road to a new location and includes decommissioning the old section of road. See the Glossary for specific definitions.

Design criteria used under Alternatives 2 through 4 include exceptions to the prohibitions on road construction and reconstruction when:

- A road is needed to protect public health and safety in cases of imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
- A road is needed pursuant to reserved or outstanding rights or as provided for by statute or treaty; or
- **Road realignment** is needed to prevent irretrievable resource damage by an existing classified road that is deemed essential for public or private access, management, or public health and safety, and such damage cannot be corrected by maintenance;
- A road is needed to conduct a proposed action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, section 311 of the Clean Water Act, or Oil Pollution Act.

Any roads constructed or reconstructed because of the exceptions (as noted in Chapter 2) are subject to other laws, regulations, and policies governing these activities. In particular, the requirements being established in the Roads Policy, including interim requirements for inventoried roadless areas and use of the Road Analysis Process would apply, if included in the final Roads Policy.

In general, road construction or reconstruction done under one of the above exceptions would be the minimum needed to meet the required short-term access need, if possible, and would be designed to minimize and mitigate impacts on an inventoried roadless area's roadless characteristics.

Approximately 293 miles of roads planned in inventoried roadless areas (combined construction and reconstruction 2000 through 2004) would qualify under the exceptions. This represents an average annual road program of about 59 miles per year in inventoried roadless areas under the prohibition alternatives.

Table 3 summarizes, by Forest Service region, the planned road construction and reconstruction not related to timber harvest. Table 4 shows miles of road construction and reconstruction for various resource management purposes that would be prohibited under Alternatives 2 through 4.

**Table 3. Planned miles of non-timber-related road construction activities including estimates for roads under Forest Service jurisdiction, other public roads, and private roads in inventoried roadless areas, 2000-2004 (Alternatives 2 through 4).**

| | Excepted[a] | | | | Not Excepted[a] | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Classified road const | Classified road reconst | Temp road const | Sub total | Classified road const | Classified road reconst | Temp road const | Sub total | Total |
| Northern (1) | 64 | 0 | 8 | 72 | 14 | 1 | 0 | 15 | 87 |
| Rocky Mountain (2) | 25 | 0 | 0 | 25 | 41 | 2 | 0 | 43 | 68 |
| Southwestern (3) | 13 | 0 | 0 | 13 | 7 | 0 | 0 | 7 | 20 |
| Intermountain (4) | 41 | 19 | 0 | 60 | 41 | 52 | 0 | 93 | 153 |
| Pacific Southwest (5) | 27 | 0 | 0 | 27 | 31 | 0 | 0 | 31 | 58 |
| Pacific Northwest (6) | 24 | 0 | 0 | 24 | 9 | 2 | 1 | 12 | 36 |
| Southern (8) | 19 | 0 | 0 | 19 | 7 | 4 | 0 | 11 | 30 |
| Eastern (9) | 1 | 0 | 0 | 1 | 12 | 0 | 0 | 12 | 13 |
| Alaska (10) | 52 | 0 | 0 | 52 | 20 | 0 | 0 | 20 | 72 |
| **Total** | **266** | **19** | **8** | **293** | **182** | **61** | **1** | **244** | **537** |

[a] Exceptions to the prohibitions as noted in this FEIS.
*(USDA Forest Service 1999h; Roadless Database 2000)*

The prohibitions on road construction and reconstruction in Alternatives 2 through 4 do not restrict or limit road maintenance. All activities that are needed to meet a road's current road management objective would be allowed. For example, if the gravel surfacing on the road shown in Figure 6 wears out, then it could be replaced. If a bridge or culvert on that same road needs to be replaced because it is no longer safe or it no longer meets environmental standards, then the replacement would be allowed. However, if it were desirable to make that road two lanes, and pave it to accommodate an increased need for access, those improvements would not be allowed because this is reconstruction, which is prohibited under Alternatives 2 through 4. If a road is proposed for reconstruction to protect an endangered run of salmon in a nearby stream and reduce sedimentation, then that would be allowed. In general, those activities needed to maintain a road's current design standard, maintenance level or traffic service level would be

allowed. Maintenance activities needed to meet new environmental or safety requirements resulting from law, regulation or policy would also be allowed.

**Table 4. Planned miles of classified and temporary roads by resource area that would be prohibited under Alternatives 2 through 4 (2000-2004).**

| | Timber | Mineral | Recreation | Access | Wildlife | Total |
|---|---|---|---|---|---|---|
| Classified road construction | 346 | 59 | 24 | 85 | 14 | 528 |
| Classified road reconstruction | 99 | 0 | 8 | 48 | 5 | 160 |
| Temporary road construction | 178 | 0 | 1 | 0 | 0 | 179 |
| **Total** | **623** | **59** | **33** | **133** | **19** | **867** |

*(Roadless Database 2000)*

Timber harvest contracts and other commercial activities provide a means of accomplishing needed road reconstruction and maintenance. As a requirement of a timber sale contract, special use permits, or other contracts, safety and environmental problems on existing NFS roads would be corrected to the extent necessary for executing the permit or contract. Road maintenance is performed based on the level of use by the commercial user, or funds are collected for later maintenance by the Forest Service. This reconstruction and maintenance provides an indirect benefit to other road users and contributes to the accomplishment of Forest Service management objectives including elimination of backlog maintenance and capital improvement needs. As timber harvest is reduced in Alternative 3 and eliminated in Alternative 4 these direct and indirect benefits would be forgone.

Any appropriated funds for road construction or reconstruction not spent in inventoried roadless areas because of the national prohibitions would be shifted to other high-priority roads to meet health, safety, and environmental protection and mission needs.

The issue of increased law enforcement costs, both to the Forest Service and to cooperating State and local law enforcement organizations, was identified during the scoping process and during public comment on the DEIS. No closure orders would be issued because of the prohibitions outlined in Alternatives 2 through 4. There would be no additional time requirements or economic burdens placed on law enforcement beyond what already exists as a result of current regulation at CFR 36, Part 261 – Prohibitions.

## Effects of Social and Economic Mitigation on National Forest System Roads

With the additional mitigation proposed in Chapter 2, the Secretary's authority to grant rights-of-way for State highway projects (23 U.S.C. 317) is maintained. Over the 5 years from 2000 to 2004, only one 5.5-mile State-highway relocation project is proposed in an inventoried roadless area, on the Chugach National Forest. In most cases, other classified roads not under Forest Service jurisdiction, public roads (County, city), and private roads

would be able to be constructed or reconstructed within existing rights-of-way or within rights-of-way granted under one of the exceptions. In cases where additional rights-of-way are needed and the exceptions do not apply, then those requests would not likely be granted.

If road construction and reconstruction for leasable minerals is permitted, then an additional 59 miles of road construction would be allowed during the 5 years from 2000 through 2004. This, along with the State Highway Project on the Chugach National Forest, would increase total miles excepted from 293 to 358, which is an average of about 65 miles per year, or approximately 13 additional miles per year than under Alternatives 2 through 4.

**Ro*ad related hazardous substance releases on FS lands***.

Currently no data on hazardous substance releases is collected at the national level within the Forest Service. The EPA (phone call by DEIS Team Hydrologist) has a national database but it has little information about NFS lands (seven spills all at air tanker bases). Individual national forests and State DEQ's may collect and store this information but it is not collected and aggregated by the Forest Service at the regional or national level.

While some of the literature (USDA, Forest Service, In Press) suggests an increase in potential risk as more roads are constructed, professional experience and judgment (DEIS Team Hydrologist, DEIS Team Engineer & Forest Service Chief Environmental Engineer) suggests that they are random occurrences that are difficult to predict. Experience also suggests that there are two categories: "spills" associated with commercial activities such as permittees, timber sale operators, and commercial transportation of hazardous substances through NFS lands to private property and rural communities; and illegal dumping. In general spills are more likely to occur on State, County and high standard Forest Service roads and are dependent on road condition, design standard, traffic type, traffic speed and traffic volume along with other variables. Illegal dumping is more likely to occur in secluded areas on Forest Service lands located close to urban, or other heavily populated areas.

Because of the unpredictable nature of these events and the small chance of their occurrence on roads in inventoried roadless areas, hazardous substance releases is not a reliable measure of differences between action alternatives and was not included in the effects analysis in the DEIS, or in the FEIS.

### *Environmental Engineering*

The Comprehensive Environmental Response Compensation, and Liability Act of 1980, CERCLA (P.L. 96-510, stat. 2767; 42 U.S.C. 9601, 9603, 9607, 9620,) encompass emergency response, site remediation and spill prevention. The USDA Forest Service has enforcement authority through Executive Order 12580, sec. 2(j). The act is comprehensive in coverage covering both prevention and response to uncontrolled hazardous substance releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergency situations and to prevent

and remedy problems. Under the Department of Agricultures Environmental Initiative, the Forest Service has instituted these actions under the Environmental Compliance and Protection Program. The majority of the work performed addresses cleanup and natural resources restoration at abandoned/inactive mine and landfills sites. CERCLA actions are exempted from this rule. CERCLA is discussed as part of the minerals section in the FEIS.

# Conclusions:

At approximately 386,000 miles NFS roads were constructed primarily to support timber harvest on NFS lands and the miles of roads constructed has declined as the timber program as declined.

Today Recreation use accounts for a majority of the use on NFS roads.

As a result of total road funding declining over the last two decades, the Forest Service can no longer maintain its road system to safety and environmental standards and it is faced with a growing 8.4 billion dollar deferred maintenance and capital improvement backlog.

Prohibiting road construction in inventoried roadless areas will reduce construction of NFS roads by 70 miles per year with a road maintenance savings of about $105,000 each year.

Total road construction and reconstruction for all jurisdictions, will be reduced by 867 miles over the five years 2000 to 2004 (173 miles per year) under the prohibition on road construction and reconstruction. These numbers vary slightly if any of the proposed mitigations are adopted.

Existing access will not be affected as a result of the prohibitions on road construction and reconstruction in inventoried roadless areas. Opportunities for expanding access in the future will be limited to that allowed under exceptions and mitigations.

Existing roads will be maintained to meet current road management objectives.

Long term this action will have little effect on availability of access to national forests or rural access in general.

Long term this action when taken in combination with other proposed national policies and regional planning efforts could result in fewer roads on NFS lands and more acres being managed for their roadless character. Although neither will happen as a direct result of implementing this action.

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# Appendix A: Non-Timber Related Projects Requiring Road Construction and Reconstruction.

*Table A-1: OTHER PLANNED OR ANTICIPATED projects before FY 2005. The following table lists other activities and types of projects (e.g. recreation development, heritage development, energy and minerals, access, special forest products, and other special uses) that cannot be completed without road construction or reconstruction within Inventoried Roadless Areas. Last updated October 2000.*

| Planned projects that cannot be completed without road construction or reconstruction within IRAs that DO NOT ALLOW road construction or reconstruction. | Planned projects that cannot be completed without road construction or reconstruction within IRAs that ALLOW road construction or reconstruction. | Type of Proj.** | Planned FY for project | Miles of road (re)construction required | Valid Existing Rights? (Y/N) | CHAPTER 3 COMMENTS | Region | Regional Sums: |
|---|---|---|---|---|---|---|---|---|
| | x | 4 | 2000 | 1.0 | N | To historic site. | 1 | |
| | x | 3 | 2000 | 0.5 | N | HMO closure. Rd construct. Then oblit. | 1 | |
| | x | 3 | 2000 | 1.0 | N | HMO closure. Rd construct. Then oblit. | 1 | |
| | oil and gas exploration | 3 | 2000 | 1.5 | Y | existing lease | 1 | |
| | 7 | 3 | 2000 | 4.9 | Y | Oil Development | 1 | |
| | 1 | 1 | 2000 | 0.5 | | Overnite campsite | 1 | |
| | Stimson Lumber | 4 | 2000 | 0.5 | Y | ANILCA. NEPA | 1 | |
| Treasure Mountain Ski Area | | 1 | 2000 | 5 | N | Draft EIS summer 2000 | 1 | |
| Wayup/Fourth of July Access | | 4 | 2000 | 2 | y | ROD to be issued 12/99 | 1 | |
| Batis ANILCA access | | 4 | 2000 | 3.0 | Y | access to private inholding | 1 | |
| Oil and Gas pipeline linear ROW | Oil and Gas Pipeline linear ROW | 6 | 2000 | 8.0 | N | Rd construction is acturally construction of linear ROW and temporary rds | 1 | |
| | x | 2 | 2001 | 1.0 | N | To historic site. | 1 | |
| | x | 6 | 2001 | 0.5 | Y | Along mun. water line. | 1 | |
| | x | 3 | 2001 | 0.5 | Y | Min. exploration. W/ construct. | 1 | |
| | x | 3 | 2001 | 2.0 | Y | O&G explor. | 1 | |
| | oil and gas exploration | 3 | 2001 | 1.5 | Y | existing lease | 1 | |
| | 7 | 3 | 2001 | 4.9 | Y | Oil Development | 1 | |
| Bear Lake Access Request | | 4 | 2001 | 2 | y | Submitted a request in FY2000 | 1 | |
| Montanore Mine | | 3 | 2001 | 25 acres | y | The ROD was issued in 1993, although they havent proceed yet. The 25 acres is the mill site. | 1 | |
| | x | 3 | 2002 | 1.0 | Y | O&G explor. | 1 | |
| | x | 6 | 2002 | 0.5 | Y | Core drill for dam. | 1 | |
| | oil and gas exploration | 3 | 2002 | 1 | Y | existing lease | 1 | |
| | pipeline const. For snowmaking pond | 1 | 2002 | 2 | Y | Part of approved Master Development Plan | 1 | |
| | 7 | 3 | 2002 | 4.9 | Y | Oil Development | 1 | |

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|---|---|---|---|---|---|---|---|---|
| Plum Creek | | 4 | 2002 | 0.5 | Y | NEPA underway to do land exchange; if the land exchange is unsuccessful, then NEPA will be done FY2002 for ANILCA access. | 1 | |
| Prospect Hill | | 3 | 2002 | 1 | y | Submitted a request in FY2000 | 1 | |
| | x | 4 | 2003 | 1.0 | Y | To private land. | 1 | |
| | x | 4 | 2003 | 3.0 | Y | To private land. | 1 | |
| | x | 3 | 2003 | 2.0 | N | HMO closure. Rd construct. Then oblit. | 1 | |
| | x | 3 | 2003 | 2.0 | Y | O&G explor. | 1 | |
| | x | 4 | 2003 | 0.5 | Y | To private land. | 1 | |
| | oil and gas exploration | 3 | 2003 | 1 | Y | existing lease | 1 | |
| | 7 | 3 | 2003 | 4.9 | Y | Oil Development | 1 | |
| | x | 4 | 2004 | 1.5 | Y | To private land. | 1 | |
| | x | 4 | 2004 | 1.0 | Y | To private land. | 1 | |
| | x | 6 | 2004 | 0.5 | Y | Along mun. water line. | 1 | |
| | x | 3 | 2004 | 3.0 | N | HMO closure. Rd construct. Then oblit. | 1 | |
| | oil and gas exploration | 3 | 2004 | 1 | Y | existing lease | 1 | |
| | restaurant const. | 1 | 2004 | 0.50 | y | Part of approved Master Development Plan | 1 | |
| | 7 | 3 | 2004 | 4.9 | Y | Oil Development | 1 | |
| Miscellaneous mining requests | | 3 | 2001-2005 | 2 | y | Potential requests based on existing mining claims | 1 | |
| Chevron drilling proposal | | 3 | before 2005 | 3.5 | Y | area has been leased | 1 | |
| | 2 Aband Mine Rec. | 3 | FY00 | 1.2 | N | Benefits city of Helena mun. water supply | 1 | |
| | Oil & Gas | 3 | FY00-FY05? | 0.5 | N | Est. based on EIS | 1 | |
| | Exploration/mining | 3 | FY00-FY05? | 1.5 | Y & N | Estbased on exper | 1 | |
| | Aband Mine Rec. | 3 | FY00-FY05? | 3 | N/A | Projection | 1 | |
| | | | | | | to be done FY 2000 | 1 | **89.7** |
| | 1 | 3 | 2000 | 5 | Y | Coal lease | 2 | |
| | 1 | 3 | 2000 | 2 | N | Coal Lease Modif. | 2 | |
| | 2 | 3 | 2000 | 12 | N | Exp of Int Gas leas | 2 | |
| | 1 | 1 | 2000 | 2 | N | Disp.Rec Rd Reconst | 2 | |
| | 1 | 6 | 2000 | 2.5 | Y | Mtc of water facility | 2 | |
| 0 | Beaver Creek | 3 | 2000 | 2 | y | Oil and Gas lease | 2 | |
| | 1 | 5 | 2001 | 2 | | Bearscat TS | 2 | |
| | 1 | 3 | 2001 | 6 | N | Coal Explor. License | 2 | |
| 0 | Mamm Creek | 3 | 2001 | 2 | y | Oil and Gas lease | 2 | |
| 0 | Piney88 LLC | 4 | 2001 | 2 | y | Private land access | 2 | |
| | 1 | 3 | 2002 | 6 | N | Coal Explor. License | 2 | |
| | 1 | 4 | 2003 | 0.5 | N | BLM timber rd. | 2 | |
| | 1 | 3 | 2003 | 3 | N | App to lease coal | 2 | |
| | 4 | 4 | 2004 | 2.5 | N | Pvt land access | 2 | |

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|---|---|---|---|---|---|---|---|---|
| | 1 | 1 | 2005 | 0.5 | N | Trailhead Dev. | 2 | |
| | 1 | 3 | 2005 | 8 | N | General gas leases | 2 | |
| | 5 | 6 | 2005 | 7.5 | Y | Exist. Water rights | 2 | |
| | 1 | 6 | 2005 | 3 | Y | Anticipated water project | 2 | |
| 0 | Beaver Creek | 4 | 1999 and 2000 | 2 | y | ANILCA | 2 | |
| 1 | | 4 | 2001-2002 | 3 | Y | | 2 | |
| Locatable | Locatable | 3 | Anytime between FY01 - FY05 | 1 | Y | Mining Claims | 2 | |
| | Oil and Gas | 3 | Anytime between FY01 - FY05 | 1 | N | Would become valid right after the lease is issued. Forest has a couple on hand which need to be processed. | 2 | 75.5 |
| | Proposed Onion Mountain Comm. Site | 6 | 2000 | 2 | N | T14N, R3E, S27&34 | 3 | |
| | FR 84 | Road Recon. | 2004 | 1 | | Watershed improvement | 3 | |
| | CERCLA/AML | 3 | 2000-2005 | 10 | N | 4 separate areas | 3 | |
| | Land Exchange Prelim. Negotation | | | | | T14N, R4E, S21, 27, 28, 34 | 3 | |
| | Mining Claims | 3 | | | Y | Blind Indian Creek Unit | 3 | |
| | Sipapu Ski Area | 1 | 2004 | 5 | N | Ski Area Expansion | 3 | 18 |
| | Under the Rim Trail | 1 | 2000 | 0.5 | N | Trailhead/access | 4 | |
| | Trailhead Coral | 1 | 2000 | 0.2 | N | D1 Gravel to trailhead. | 4 | |
| | Canal Canyon Trailhead | 1 | 2000 | 0.5 | N | D2/3 | 4 | |
| | Aspen Pipeline | 3 | 2000 | 5 | N | D1 Pipeline corridor and access. | 4 | |
| | Natural Gas Pipeline | 3 | 2000 | 5 | N | D1 Pipeline corridor and access. | 4 | |
| | PDC #20-1 | 3 | 2000 | 1 | Y | D2/3 Application for Permit to Drill | 4 | |
| | Pines Tract | 3 | 2000 | 3 | Y | D2/3 Coal Exploration | 4 | |
| | Hjorth | 3 | 2000 | 0.5 | Y | D2/3 Application for Permit to Drill | 4 | |
| | FR50007 | 4 | 2000 | 4.1 | N | | 4 | |
| | FR50123 | 4 | 2000 | 0.8 | N | | 4 | |
| | Spring City Municipal Water Development | 6 | 2000 | 2 | Y | D1 Reconstruct Municipal Water System. Water Rights. | 4 | |
| SitLA Req. | | 6 | 2000 | 2 | Y | | 4 | |
| | SitLA Req. | 6 | 2000 | 1.5 | Y | | 4 | |
| | Daggar Falls | 1 | 2000 | 6 | y | Resconstruction | 4 | |
| | Sunshine Mineral Exploration | 3 | 2000 | 0.5 | y | | 4 | |
| | Owl Creek Hot Springs | 4 | 2000 | 4 | y | Private Property | 4 | |
| | Fontenelle Rd | 4 | 2001 | 1 | Y | | 4 | |

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|---|---|---|---|---|---|---|---|---|
| | I-6295 Phosphate Prospecting Permit | 3 | 2001 | 0.5 | N | 50% roadless; See attached comment. | 4 | |
| | I-3777 Phosphate Prospecting Permit | 3 | 2001 | 1.0 | N | 100% roadless; See attached comment. | 4 | |
| | I-014958 Phosphate Lease Modification | 3 | 2001 | 0.0 | Y/N? | See adjacent comments and those attached to this cell. | 4 | |
| | I-4975 Phosphate Prospecting Permit | 3 | 2001 | 1.0 | N | 50% roadless | 4 | |
| | I-31944 Phosphate Exploration License | 3 | 2001 | 2.5 | N | 70% roadless - see Excel comment (attached to this cell) | 4 | |
| | Powell Point | 1 | 2001 | 1 | N | Trailhead/access | 4 | |
| | Potters Pond | 1 | 2001 | 1 | N | D2/3 | 4 | |
| | Muddy Tract | 3 | 2001 | 3 | Y | D2/3 Coal Exploration | 4 | |
| | FR50044 | 4 | 2001 | 16 | N | | 4 | |
| | FR50269 | 4 | 2001 | 1.5 | N | | 4 | |
| | Twin Lake Dam | 6 | 2001 | 0.5 | Y | D2/3 Dam Reconstruction | 4 | |
| | Craig Johansen | 6 | 2001 | 0.5 | Y | D2/3 Develop springs. Water Right. | 4 | |
| | Bear Creek | 6 | 2001 | 1 | N | D2/3 Riparian | 4 | |
| | Water Systems | 6 | 2001 | 0.5 | y | Maintenance road | 4 | |
| Davis Ranch | | 6 | 2001 | 3 | y | Access Road | 4 | |
| Private Access | | 6 | 2001 | 2 | y | Access Road | 4 | |
| | Custer Motorway | 1 | 2001 | 1.5 | y | Relocation | 4 | |
| | 8 Mile Creek | 4 | 2001 | 1 | y | Relocation | 4 | |
| | Pete's Hole | 1 | 2002 | 0.5 | N | D2/3 | 4 | |
| | Questar/Aspen | 3 | 2002 | 5 | Y | D2/3 Right of Way | 4 | |
| | Mill Fork Coal | 3 | 2002 | 2 | Y | D2/3 RFFD | 4 | |
| | Meadow Gulch | 6 | 2002 | 1 | N | D2/3 Landslide restoration | 4 | |
| Eiquarian Ditch | | 6 | 2002 | 0.5 | y | Maintenance road | 4 | |
| | Little Bear | 4 | 2002 | 1 | y | Relocation | 4 | |
| | Fish Creek** | 1 and 4 | 2002 | 1.5 | y | Relocation | 4 | |
| | Muley Creek | 3 and 4 | 2002 | 2 | y | Relocation | 4 | |
| | O&G Drilling | 3 | 2003 | 3 | Y | D2/3 RFFD, Application for Permit to Drill | 4 | |
| | Dry Wash | 6 | 2003 | 2 | N | D2/3 Wildlife Winter Range | 4 | |
| Annie Ck Rd | | 6 | 2003 | 1.5 | y | Maintenance road | 4 | |
| | White Valley | 4 | 2003 | 1 | y | Relocation | 4 | |
| | FR50022 | 4 | 2004 | 4 | N | | 4 | |
| Lines Point | | 6 | 2004 | 5 | y | access road | 4 | |
| | Pine Creek | 6 | 2004 | 4 | y | Ditch road | 4 | |
| | Boise Cascade | 6 | 2004 | 4 | y | cost share roads | 4 | |
| Walters Ditch | | 6 | 2004 | 1 | y | access road | 4 | |
| | Walters Wellsite | 6 | 2004 | 1 | y | road use permit | 4 | |

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|---|---|---|---|---|---|---|---|---|
| Twin Lakes Res | | 6 | 2004 | 1 | y | Maintenance raod | 4 | |
| | O&G Drilling | 3 | 2005 | 3 | Y | D2/3 RFFD, Application for Permit to Drill | 4 | |
| | FR50079 | 4 | 2005 | 13.4 | N | | 4 | |
| | Table Top Exploratory Oil and Gas Well | 3 | 2000? | 1 | Y | Existing Lease - Approved 1994 EIS | 4 | |
| | Vibaka Creek | 3,4 | 2000-2005 | 1.5 | Y | | 4 | |
| | Miller Mtn | 3,4 | 2000-2005 | 0.5 | Undetermined | | 4 | |
| N/A | Springville Crossing Road | 4 and 6 | FY2000-2001 | 3.0 | Y* | Arterial road realigned and relocated for safety, fisheries, water quality, soil stability, and road mtce reasons. Work planned since 1988. Road is corridor between 2 roadless areas. Project would not affect net acres; one area would be larger, the other smaller. Road to be rebuilt to mitigate administrative and recreation access issues associated with Diamond Fork Pipeline CUP completion project (see below). | 4 | |
| N/A | Sheep Creek/Indian Creek Road | 4 | FY2000-2002 | 4.0 | N | Arterial road to be reconstructed and relocated to address safety, fisheries, water quality, soil stability, and road maintenance issues. Work planned since 1989. Road forms boundary of two roadless areas which could be affected by relocation. | 4 | |
| N/A | Diamond Fork Pipeline CUP Project | 6 | FY2000-2002 | 1.5 | Y* | Central Utah Project completion authorized by law. Lands withdrawn for purposes of this project. Three roads involved: 2 extending 0.5 miles into roadless areas, the other 0.25 miles. | 4 | |
| N/A | Williams Pipeline | 3 | FY2001 | 7.0 | N | Proposed addition of 2 pipelines to utility corridor. This would broaden the corridor. Corridor forms a boundary of a roadless area, and in one reach separates 2 roadless areas. | 4 | |
| N/A | Right Fork White River Road | 4 | FY2001 | 2.0 | Y* | Road accesses private lands. Private lands on one side of road, roadless on the other. Major safety, watershed, fish, access, and road mtce issues. | 4 | **153** |
| | Fiber optic conduit | 4 and 6 | 2000 | 1 | | | 5 | |
| | 5 | 3 | 2001 | 0 | Y | Abandoned mines reclamation; equipment access to be provided using temporary roads as needed. | 5 | |
| Private Property | | 4 | 2002 | 2 | Y | Harvest Plan active | 5 | |

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|---|---|---|---|---|---|---|---|---|
| | 4-Hills Mine Preference Right Lease Application | 3 | 2004 | 5.5 | Y | Not yet approved | 5 | |
| | Sherwin Ski Area | 1 | ?? | 9.5 | N | Timing uncertain | 5 | |
| mining | mining | 4 | 00-05 | 2 | y | | 5 | |
| | U C Berkely Observatory | 6 Proposed | 2000 - 2001 | 1 | Uncertain | The application for this proposal will require complete NEPA analysis, which has not yet been started, and resolution of the roadless issue. U C Berkely has indicated they will be requesting assistance from Congressman Herger for this resolution. | 5 | |
| 4 FLPMA SUPs | 4 FLPMA SUPs | 4 | 2000 - 2004 | 2 | Y | 1/4 mile per SUP | 5 | |
| 3 Mining Claims | 2 Mining Claims | 3 | 2000 - 2004 | 2 | Y | 1/4-1/2 mile per claim | 5 | |
| | expansion of minerals operations | 3 | 2000-2006 | 6.0 | Y | active mining | 5 | |
| | 23 | 3 | 2002-2005 | 0 | Y | Abandoned mines reclamation; equipment access to be provided using temporary roads as needed.Subject to funding availability. | 5 | |
| | U C Berkely Observatory | 6 | Existing | 0.33 | Yes Special Use Permit | Facilities have been under special use permit since 1959 predating roadless area, but have ecpanded several times. Roadless boundary incorrectly included a portion of this permitted use. | 5 | |
| | Mustang Canyon Exploratory | 3 | FY 2001 | 0.5 | N | | 5 | |
| Harkless Flat "Big Ears" | | 6 | FY 2002 | 5.0 | N | | 5 | |
| | irrigation water convey | 4 | ongoing | 0.5 | | | 5 | |
| | utlity trans | 3 and 4 | ongoing | 2 | | | 5 | |
| | Railroad | 6 and 4 | ongoing | 6 | | | 5 | |
| | 1 | 4 | Ongoing | 0 | Y | Maintenance of system roads in designated roadless areas | 5 | |
| Black Crow | | 3 | 2004 | 1 | no VER | | 5 | |
| Lonesome Coyote | | 3 | 2004 | 0.5 | no VER | | 5 | |
| | | | | | | | 5 | |
| Road access | | 4 | before 2004 | ? | | pvt. Logging | 5 | |
| | Road access | 4 | before 2004 | ? | | pvt. Logging | 5 | |
| | Road access | 4 | before 2004 | ? | | access | 5 | |
| | 6 | 3 | Ongoing | 0 | Y | Ongoing investigations at potential CERCLA sites identified in Abandoned & Inactive Mines Inventory. Equipment access provided using temporary roads as needed. | 5 | |

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|---|---|---|---|---|---|---|---|---|
| geothermal | geothermal | 4 | unknown | 5 | y | | 5 | **51.83** |
| Steve White Mine Access Road | | 3 | 2000 | 0.5 | Y | | 6 | |
| Plum Creek Access | | 4 | 2000 | 0.5 | Y | | 6 | |
| | Plum Creek Access | 4 | 2000 | 2.5 | Y | | 6 | |
| | Wolf Creek Ditch Diversion Dam replacement | 6 | 2001 | 0.5 | Y | Permittee has water rights | 6 | |
| | Pelican Butte Ski Area | 1 | 2002 | 3.5 | Y | FEIS and Decision expected in late FY 2000 | 6 | |
| Azurite Mine | | 3 | 2003 | 10 | Y | Rights have not be validated; road reconstruction needed to access claim | 6 | |
| Gold Ring Mine | | 3 | 2004 | 2 | Y | | 6 | |
| California Energy & Oxbow Power | | 3 | 2005 | 1 | N | | 6 | |
| | California Energy & Oxbow Power | 3 | 2005 | 2 | N | | 6 | |
| | Emery Mine | 3 | 2005 | 0.2 | Y | | 6 | |
| | NICORE roads | 3 | 2000-? | 5 | yes | Proposal | 6 | |
| | Hall/Shuttpelz Lakes Day Use Area | 1 | 2001 | 0.3 | N | Area laready has road and vacated cabin on site. EA?DN complete. | 6 | |
| | Siltcoos Beach Sand Road | 1 | 2001-2002 | 0.5 | N | Depends on definition of a road. In the oregon Dunes NRA, the Dunes Plan calls for construction of "designated routes" to channel OHV traffic away from senstive areas. These "sand roads" look and function like roads and accommodate 4x4 street legal vehicles, including two-way traffic | 6 | |
| Dunes Overlook Visual Restoration | | 1 | ongoing | 0.5 | N | Temporary road needed to provide access for bulldozers to reach foredune area to remove unwanted vegetatioin and restore sand dunes | 6 | |
| | Exploration and development of geothermal leases | 3 | none officially planned by permittee, but potential is there. | 1.5 | Y | Newberry Geothermal Pilot project June 1994 ROD authorized road construction for the development and exploration of geothermal leases. Authorization was for total of 3.0 miles, 1.5 miles have already been constructed. | 6 | |
| Deadhorse Creek Hydroelec. Proj. FERC No. 4282 | | 3 | unknown | 0.5 | No, except reserved powersite under Sec. 24, Fed. Power Act. | FERC FEIS 9/97; decision pending. | 6 | |

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|---|---|---|---|---|---|---|---|---|
| | Irene Creek Hydroelec. Proj. FERC No. 10100 | 3 | unknown | 0.5 | No, except reserved powersite under Sec. 24, Fed. Power Act. | FERC FEIS 4/98; amended application filed 7/99. Further analysis & decision pending. | 6 | |
| | Anderson Creek, Hydroelec. Proj. FERC No. 10416 | 3 | unknown | 0.5 | No, except reserved powersite under Sec. 24, Fed. Power Act. | FERC FEIS 4/98; amended application filed 7/99. Further analysis & decision pending. | 6 | |
| | Norway Mine | 3 | unknown | 5 | Y | Anticipated Project | 6 | |
| | Lone Eagle Group | 3 | unknown | unknown | Unknown | Anticipated Project | 6 | |
| | Kirkwood | 4 | 2001 | 2 | M | | 6 | |
| | Gold King Mine | 3 | unknown | 3 | Y | Anticipated Project | 6 | |
| | Hudson Crk Mine | 3 | unknown | 0.5 | Y | Anticipated Project | 6 | |
| | Obrien Crk Mine | 3 | unknown | 0.5 | Y | Anticipated Project | 6 | |
| | Reservoir & Ditch Maintenance | 6 | unknown | 5 | Y | Anticipated Project | 6 | 48 |
| | Smith Road Easement | 4 | 2000 | 0.5 | N | Applicant already has written Chief on Project | 8 | |
| Equitable Resources | | 3 | 2001 | 3 | Y | Natural Gas | 8 | |
| Equitable Resources | | 3 | 2002 | 4 | Y | Natural Gas | 8 | |
| Equitable Resources | | 3 | 2003 | 4 | Y | Natural Gas | 8 | |
| Equitable Resources | | 3 | 2004 | 4 | Y | Natural Gas | 8 | |
| | Mineral access oil | 3 | annual | 1 | Y | Public Safety/Regs | 8 | |
| | Pipeline access | 4 | annual | 1.5 | Y | Public Safety/Regs | 8 | |
| N/A | None | | | | Y | No projects are currently planned, however most of the subsurface is in private reserved or outstanding mineral rights. | 8 | 18 |
| | 1 | 4 | 2000 | 0.5 | y | Private landowner has inquired about accessing his 40 acres, has not applied yet tho | 9 | |
| 0 | 1 | 6 | 2001 | 1.9 | Y | Maintenance of an existing dam is being analyzed. Alternatives range from removal to reconstruction. | 9 | |
| | Flat Rock Run Gas Development | 3 | 2002 | 1.5 | N | | 9 | |
| | Glady Fork Gas Development | 3 | 2004 | 1.5 | N | | 9 | |
| | East Spruce Gas Development | 3 | 2004 | 6.5 | N | | 9 | |

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|---|---|---|---|---|---|---|---|---|
| | Van Run Gas Development | 3 | 2004 | 2.5 | N | | 9 | **14.4** |
| Cascade Point Access Road | Same | 4 | 2001 | 2.5 | N/A | | 10 | |
| | Lake Dorothy Hydro | 3 | 2001 | 1.5 | N/A | | 10 | |
| | Small Timber Sale Roads | 5 | 2002 | 2 | N | Free use, house logs, firewood | 10 | |
| Otter Creek Hydro | | 3 | 2003 | 0.5 | N/A | | 10 | |
| Katalla Area | | 3 | 2004 | 7 | Y | Access to reserved oil and gas area | 10 | |
| East Bradfield Canal Access Road | Same | 4 | 2004 | 8.5 | N/A | | 10 | |
| | Carbon Mountain Road | 4 | 2000-2005 | 23 | Y | Proposed access road to private lands owned by Chugach Alaska Native Corporation | 10 | |
| Carbon Mountain Road | | 4 | 2000-2005 | 2 | Y | Proposed access road to private lands owned by Chugach Alaska Native Corporation | 10 | |
| | Bear Creek Placer | 3 | 2000-2005 | 5 | Y (?) | ? = valid existing rights not verified. | 10 | |
| | Falls Creek Lode | 3 | 2000-2005 | 3 | Y (?) | | 10 | |
| | Crown Point Lode | 3 | 2000-2005 | 6 | Y (?) | | 10 | |
| | Gilpatrick Dike Lode | 3 | 2000-2005 | 2 | Y (?) | | 10 | |
| | Mills Creek Placer | 3 | 2000-2005 | 1 | Y (?) | | 10 | |
| | Sterling Highway Realignment | 4 | 2002-2005 | 5.5 | N | Proposed by State of Alaska, Dept. of Transportation | 10 | **69.5** |
| | | | **Sum:** | **537.9** | | | **Sum:** | **537.9** |

**Type of Project: 1 = recreation dev, 2 = heritage dev, 3 = energy & minerals, 4 = access, 5 =special forest products, 6=other special uses.

# Appendix B: Summary Of Road Miles By Project Type.

Table B-1 is a summary of the road miles reported as planned for the years 2000-2004 fro those projects requiring roads and not related to timber sales: Last updated October 2000.

| | Valid Existing Right? | Region 1 | Region 2 | Region 3 | Region 4 | Region 5 | Region 6 | Region 8 | Region 9 | Region 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Road Construction | | | | | | | | | | | |
| Minerals | Yes | 42.5 | 10 | 3 | 18.5 | 20.5 | 15.5 | 17.5 | 0 | 30 | 157.5 |
| Minerals | No | 2 | 33 | 0 | 5 | 2 | 5 | 0 | 12 | 0 | 59 |
| Recreation | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recreation | No | 6 | 0.5 | 5 | 0 | 9.5 | 3.5 | 0 | 0 | 0 | 24.5 |
| Access | Yes | 20.7 | 20 | 10 | 39.5 | 4 | 6.5 | 0 | 0.5 | 17 | 118.2 |
| Access | No | 6.5 | 3 | 2 | 18.5 | 14.5 | 1.5 | 0.5 | 0 | 25 | 71.5 |
| Wildlife | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Wildlife | No | 0 | 0 | 0 | 0.5 | 7 | 0.5 | 6 | 0 | 0 | 14 |
| SubTotal | | **77.7** | **66.5** | **20** | **82** | **57.5** | **32.5** | **25** | **12.5** | **72** | **445.7** |
| **Road ReConstruction** | | | | | | | | | | | |
| Minerals | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minerals | No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recreation | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recreation | No | 1.5 | 2 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 8.5 |
| Access | Yes | 0 | 0 | 0 | 19 | 0.33 | 0 | 0 | 0 | 0 | 19.33 |
| Access | No | 0 | 0 | 1 | 47.9 | 0 | 0 | 0 | 0 | 0 | 48.9 |
| Wildlife | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wildlife | No | 0 | 0 | 0 | 0 | 0 | 1.5 | 3.8 | 0 | 0 | 5.3 |
| SubTotal | | **1.5** | **2** | **1** | **70.9** | **0.33** | **2.5** | **3.8** | **0** | **0** | **82.03** |
| **Temporary Roads** | | | | | | | | | | | |
| Minerals | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minerals | No | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Recreation | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recreation | No | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Access | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Access | No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wildlife | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wildlife | No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SubTotal | | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **Total** | | **87.2** | **68.5** | **21** | **152.9** | **57.83** | **36** | **28.8** | **12.5** | **72** | **536.73** |