

## **Appendix B - Roads Analysis and Access Management Plan**

### **Abstract**

This appendix contains two related documents focused on the Forest road system and access management of Forest roads and trails. The first section contains the roads analysis done in association with the development of the Revised Forest Plan. It is a separate summary of the work done during the planning process with a specific focus on addressing the management of the Forest road system. The second section contains the Access Management Plan. This Revised Forest Plan identifies the access and uses of specific Forest road and trail segments. Implementation of the Access Management Plan will be made through specific Forest Orders.

### **Roads Analysis Chugach National Forest**

#### **Introduction**

On January 12, 2001, the Notice of Final Administrative Policy was published in the Federal Register. This notice adopted a final policy for a roads analysis governing the national forest transportation system. The Federal Register summary of the new process is described as follows:

*The Forest Service is adopting a final policy governing the national forest transportation system. This action is necessary to ensure the National Forest System roads provide for public uses of National Forest System lands; provide for safe public access and travel; allow for economical and efficient management; to the extent practical, begin to reverse adverse ecological impacts associated with roads; and meet all other current and future land and resource management objectives. The intended effects of this final policy are to ensure that decisions to construct, reconstruct, or decommission roads will be better informed by using a science-based roads analysis; that the availability of road maintenance funding will be considered when assessing the need for new road construction; and that, instead of focusing on constructing new roads, emphasis will be given to reconstructing and maintaining classified roads while decommissioning unnecessary classified and unclassified roads.*

Because the requirement to complete a Forest roads analysis was approved during the planning process for the Chugach National Forest Land and Resource Management Plan revision it has been incorporated into the Revised Forest Plan.

According to FSM 7712.13b, roads analysis at the forest scale is critically important, as it provides a context for road management in the broader framework of managing all forest resources. Close coordination with broader scale ecosystem assessments and analyses is essential.

The policy requires the following be considered at the forest scale:

- a. environmental issues potentially affected by road management proposals, such as soil and water resources, ecological processes, invasive species spread, and biological communities (available in-depth from FEIS, Chapter 3, Environment and Effects);
- b. social issues potentially affected by road management proposals such as socio-economic impacts, public access and accessibility for handicapped persons (available primarily from public comments, survey responses, and FEIS, Chapter 3, Social and Economic, Environment and Effects);
- c. an evaluation of the transportation rights-of-way acquisition needs (done through the in-depth Chugach National Forest Plan revision process, and public meetings that resulted in the Preferred Alternative);
- d. the interrelationship of state, borough, tribal, and other federal agency transportation facility effects on land and resource management plans and resource management programs (part of the Forest Plan revision process, especially in FEIS, Chapter 3, Access Management, Environment and Effects);
- e. transportation investments necessary for meeting resource management plans and programs (done in the broad context of the minimal expected future roading needed to support future recreation demand on the Forest); and,
- f. current and likely funding levels available to support road construction, reconstruction, maintenance, and decommissioning (developed for this analysis based on historical and recent funding available).

Prior to adoption of a road analysis requirement, a six step process was developed and distributed to Forest managers. That document titled Roads Analysis: Informing Decisions About Managing the National Forest Transportation System, FS-643 was published in August 1999. The following six steps from that document were used for this Chugach National Forest Roads Analysis:

- Step 1 – Setting up the analysis
- Step 2 – Describing the situation
- Step 3 – Identifying issues
- Step 4 – Assessing benefits, problems and risks
- Step 5 – Describing opportunities and setting priorities
- Step 6 – Reporting

## **Step 1 – Setting up the analysis**

This analysis incorporates information from the following sources:

1. The Revised Forest Plan and FEIS, using the description and effects of the Preferred Alternative.
2. Public comments pertaining to the road system following public review of the Proposed Revised Forest Plan and the DEIS.
3. Road inventory data from the Infrastructure database.
4. The Forest transportation system map.
5. Historical roads funding information.

## **Step 2 – Describing the situation**

The Chugach National Forest is the second largest forest in the National Forest System and is subdivided into three administrative units: the Glacier, Seward, and Cordova Ranger Districts. One-third of the Chugach National Forest is rock and moving ice. The remainder is a diverse and majestic mixture of land, water, plants, and animals. Diversity is what makes the Chugach so unique. The mountains and water of the Kenai Peninsula, the islands and glaciers of Prince William Sound, and the wetlands and birds of the Copper River Delta make the Chugach National Forest a destination for adventures the world over.

The planning area contains 96 watersheds that generally follow major drainage divides within three broad geographic landscapes: the Kenai Peninsula, Prince William Sound and the Copper River Delta. Communities located within the project area include Whittier, Hope, Seward, Cooper Landing, Moose Pass, Tatitlek, Chenega Bay, and Cordova. Adjacent to the project area are the communities of Anchorage, Valdez, Sterling, Kenai, and Soldotna.

### **Current Road System**

The Chugach National Forest is very unique in comparison to other national forests. There are relatively few miles of roads in relation to the amount of land acres. There are 5,491,580 acres of land on the Chugach National Forest. Within the Forest, there are 97 miles of forest development roads, approximately 71 miles located on the Seward and Glacier Ranger Districts and 26 on the Cordova Ranger District. In addition, there are 75 miles of Forest highways, including the Hope Highway and the Copper River Highway, and 100 miles of state highways, including the Seward and Sterling Highways within the Forest. Both state and Forest highways are under state jurisdiction. The greatest road density is on the Kenai Peninsula portion of the Forest. There are no public roads in Prince William Sound.

Roadless lands on the Chugach National Forest consist of 16 areas totaling 5,434,710 acres. There is no designated Wilderness on the Chugach National Forest. The 2,198,170-acre Nellie Juan-College Fiord Wilderness Study Area was established by Congress in 1980.

## **History of Chugach Development**

The United States purchased Alaska from Russia in 1867. By the end of the nineteenth and beginning of the twentieth century commercial fishing, whaling, fox farming, mining and logging had superceded fur trading as financially significant enterprises. Some of these late nineteenth century activities created the future routes for the highway and road system on the Forest.

Gold was discovered on the Kenai Peninsula in the vicinity of the Resurrection Valley in 1890. This led to an influx of over 10,000 people to the area by 1896, the development of the towns of Hope and Sunrise, the establishment of Seward, and what would become the Alaska Railroad. Significant gold deposits were found, claimed and worked between Turnagain Arm and Resurrection Bay, along the east side of the Kenai Peninsula.

The discovery of copper deposits in Prince William Sound led to a similar rush, the development of large industrial complexes such as the Latouche Copper Mining Company on Latouche Island, the establishment of the city of Cordova, and the mining-related Copper and Northwest Railroad. The economic boom attracted not only miners, but also related service workers in a variety of professions and industries. Mining activities almost ceased with the advent of World War II. The physical legacy of mining on the Forest includes prospect test holes, cabins, roadhouses, trail networks, and a variety of industrial mine sites in remote locations.

Commercial timber was rare on the Kenai Peninsula and in Prince William Sound. At the end of the nineteenth century, local trees were generally used for firewood, while commercial timber was brought in from the Pacific Northwest. Commercial logging began as an adjunct to the demands of the mining-related population, who needed timbers for mine supports and pilings, and wood for railroad ties. By 1925, the majority of timber used in Alaska was locally produced, rather than imported. Small mills were set up in Seward and Cordova. Demand increased with Civilian Conservation Corp work in the 1930s, and defense construction in the 1940s. Until 1949, contracts called for cutting 15,000 cords of pulpwood and 3.5 million board feet of saw timber annually on the Chugach National Forest, usually by clear cutting.

Historically, the Forest has sustained a commercial timber industry since the early 1900s when timber was harvested for mining timbers, firewood, and home construction, followed by railroad ties during construction of the Alaska Railroad. Today, a small commercial industry exists which over the last seven years has harvested an average of 3.3 million board feet per year, mostly on the Kenai Peninsula.

Although long established, recreation and tourism on the Chugach National Forest have grown significantly since the 1984 Forest Plan was completed. The Chugach has become a popular recreation destination due to increased tourism in Southcentral Alaska; a growing state population; and the Forest's close proximity to Anchorage, home to half of Alaska's residents. Continued moderate

growth in tourism and population, as well as improved access to the Forest, such as the recently completed road to Whittier, are expected to sustain growth in recreation uses and tourism on the Forest.

With over five million acres, the Chugach offers a wide variety of recreation opportunities, from highly developed, road-accessible experiences to undeveloped, remote experiences. While the size of the Chugach is impressive, the steep terrain, icefields, and glaciers limit the ability of people to easily move around the Forest. Most recreation and tourism occurs in valleys with roads and trails and along shorelines. Concentrated use is expected to increase in these areas.

Most future roading is anticipated to be small-scale improvements to recreation access and will consist of short road segments to trailheads, campgrounds and other developed sites.

**Standards of the Forest Road System**

Forest development roads are maintained at five levels, with Level 5 being the highest level of maintenance (related to standard) and Level 1 being the least (closed roads).

Table B-1 shows the number of miles of road for each maintenance level.

<b>Maintenance Level</b>	<b>Number of Miles</b>
1 – closed roads	1
2 - maintained for high clearance vehicles	30
3 - maintained for passenger car, low user comfort	55
4 - maintained for passenger car, moderate user comfort	11
5 - high standard passenger car road, double lane paved	0
<b>Total</b>	<b>97</b>

Different road maintenance levels for the Chugach National Forest are shown in the following photographs.



**Rabbit Creek Road  
Seward Ranger District  
(Maintenance Level 1)**



**Upper Palmer Creek Road  
Seward Ranger District  
(Maintenance Level 2)**



**Childs Glacier Road  
Cordova Ranger District  
(Maintenance Level 3)**



**Resurrection Pass Trailhead  
Seward Ranger District  
(Maintenance Level 3)**



**Russian River Campground Road  
Seward Ranger District  
(Maintenance Level 4)**

### **Step 3 – Identifying Issues**

Public involvement is the key to identifying and understanding Forest situations and significant issues. The following are some of the methods used for public involvement during the Chugach National Forest Plan revision effort.

#### Revision Newsletters

Newsletters were mailed at key points during the process and were used to keep the public and employees informed on revision progress. The newsletters provided information on revision schedules, public participation opportunities, situation identification, and alternative development. Opportunities were also provided for the public to write opinion sections on topics of interest. The mailing list grew to over 2,000 organizations and individuals and became a particularly good method for informing local and national publics.

#### Interdisciplinary Team Meetings Open to the Public

Early in the revision process the Interdisciplinary Team (IDT) meetings were opened to the public. Open meetings provided an opportunity for timely input from the public at all stages of the planning process. It also gave the public a chance to hear the planning team's dialogue and rationale on all revision phases. The open meetings were very successful. The Forest Supervisor also opened his staff meetings to the public, allowing the public to hear the Forest Supervisor's dialogue and decisions on various revision topics. Open meetings increased communication between the public and the Forest Service and served to minimize surprises in the revision process.

### Revision Website

A website was developed that enabled the public to review revision schedules, IDT meeting dates and download revision documents and maps. Based on feedback from the public a “Current Events” section was constructed. This section provided information on current decisions, processes, and upcoming events.

### Telephone Recordings

Interdisciplinary Team meetings were announced on a telephone recording. Members of the public could access the recording and determine dates, times and locations of revision meetings.

### Collaborative Learning Workshops

At key steps in the process, collaborative learning workshops were held in communities in Southcentral Alaska. They were designed for the public to visit with their neighbors and Forest Service personnel, to gain information and develop revision products. Collaborative learning workshops were held in the communities of: Whittier, Hope, Seward, Cordova, Valdez, Girdwood, Cooper Landing, Kenai, Chenega Bay, Tatitlek, Eyak, and Anchorage.

### **Situation Identification**

The first step in the Collaborative Learning process was determining the public’s interests (desires) for the management of the Chugach National Forest. Following the publication of the Notice of Intent to revise the 1984 Forest Plan in the *Federal Register*, a newsletter was distributed and workshops were held in various communities to seek input.

Approximately 3,000 comments were received during the public comment period. Over the course of two months each comment was reviewed and categorized using a content analysis process. The result was the identification of 24 primary interests in the Chugach National Forest. These interests include:

- Air Quality
- Soil Productivity
- Water Quality
- Ecological Systems Management
- Habitat for Sustainable Populations of Brown Bears
- Management of Fish and Wildlife Habitat
- Threatened, Endangered and Sensitive Species
- Natural Resource Products - Forest Products
- Natural Resource Products - Minerals
- Communication Sites and Utility Corridor
- Heritage Resources
- Motorized Access
- Nonmotorized Access
- Natural Quiet
- Recreation Opportunities
- Scenic Quality
- Tourism
- Wild and Scenic Rivers
- Wilderness Designations
- Employment and Income
- Fire Protection
- Private Property Rights
- Quality of Life and Life Styles
- Subsistence

Situations identify where interests are in conflict or where existing conditions could be improved by changing the 1984 Forest Plan. The following six situations were identified:

- Ecological Systems Management;
- Habitat for Fish and Wildlife;
- Resource Development;
- Recreation/Tourism;
- Recommendations for Administrative and Congressional Designations; and,
- Subsistence.

Once interests and situations were identified, another newsletter was sent and a series of Collaborative Learning workshops were held to validate the findings. Finalized versions of the situation statements are described in detail in Chapter 1 of the FEIS.

### **Linking Public Comments to Alternative Development**

The revision process was developed to provide a direct link from public comments to the development of alternatives. The following seven stages display this linkage:

1. Public comments were classified into eighty categories.
2. The eighty categories were used to develop 24 primary interests.
3. Interests were reviewed to determine situations (significant issues).
4. Activities were identified for each interest.
5. Activities were mixed and matched to build management area prescriptions.
6. Standards and guidelines were determined for activities on when, where, or how resource protection measures should apply.
7. Alternatives were constructed to address various situations using management area prescriptions and standards and guidelines. The road system associated with each alternative is considered to be the preferred system to achieve the theme and desired conditions envisioned for that alternative.

### Public Surveys

The opinions of potentially affected residents are an important consideration in planning decisions. The Alaska Pacific University and the Forest Service cooperatively conducted two surveys as part of the planning process. These surveys were designed to gain a better understanding of the ways in which communities perceived themselves, their views regarding the management of the Chugach National Forest and other public lands, and the role these lands play in helping to determine the quality of life for local residents.

Survey results, reported here, represent responses from the following communities: Anchorage, Cooper Landing, Cordova, Girdwood, Hope, Kenai, Moose Pass, Seward, Soldotna, Sterling, Valdez, and Whittier. Few surveys were returned from the Alaska Native communities of Chenega Bay, Eyak and Tatitlek. The survey concentrated on topics that would assist in the Forest Plan revision process and identify attitudes toward selected forest management issues.

#### Public land use

Considering all public land value responses from the 12 communities surveyed, results suggest that:

- Of 19 public land uses (opportunities), the uses with the highest average importance ratings across communities are:
  - fishing;
  - hunting; and,
  - undeveloped land/wilderness.
- The lowest average importance ratings are for:
  - trapping;
  - ATV/ORV (OHV) areas; and,
  - scenic drives.
- Of 19 public land uses (opportunities) the uses with the highest average satisfaction ratings across communities are:
  - scenic landscapes; and,
  - viewing wildlife.
- The lowest average satisfaction ratings are for:
  - jobs from logging and mining;
  - access for disabled people; and,
  - ATV/ORV (OHV) areas.
- In 8 of 12 communities, the response chosen most often regarding the desired future level of economic activity in the forestry/forest products sector in their community was “no change.” In every community a larger percentage of respondents favored an increase over a decrease in this sector.
- The response chosen most often in every community regarding activity of the mining sector was no change from current levels. Cooper Landing, Hope-Sunrise, Moose Pass, and Soldotna had larger percentages of respondents favoring a decrease over an increase in mining activity in their communities.

- In the communities of Kenai, Sterling and Soldotna the largest percentage of respondents favored an increase in oil and gas activity in their communities, while in all other communities the response chosen most often was for no change in the level of activity in this sector.

#### Recreation and tourism

- A majority of respondents in 8 of the 12 communities (excepting Anchorage, Kenai, Soldotna, and Sterling) indicate that the proper Forest response to increased use of Prince William Sound due to the new Whittier Road is to develop minimal new facilities to mitigate impacts rather than more facilities to enhance use.
- Whittier, Anchorage, Cordova, Valdez and Girdwood each had a majority of respondents favoring an increase in the tourism services sector, while all other communities had a majority of respondents favoring no change in this sector in their community. The communities of Soldotna, Seward and Sterling each had more respondents favoring a decrease in tourism services than an increase.

#### Special designations

- Wild and Scenic River recommendations will be considered in the Forest Plan revision. A majority of respondents in all communities indicate that they prefer as many as five or more rivers in the Forest be congressionally designated as Wild and Scenic.
- Wilderness recommendations will also be considered in the Forest Plan revision. A majority of 9 of the 12 communities (excepting Hope-Sunrise, Soldotna, and Sterling) indicate that they prefer as much as 1.7 million acres or more of the Forest be congressionally designated as Wilderness.

#### Forest access

- A majority of respondents in all communities indicate a preference for five or less new roads in the Forest. Among a variety of possible reasons to construct new roads in the Forest, vegetation management was the reason chosen most often by respondents in 9 of the 12 communities (excepting Cordova, Valdez, and Whittier).
- A majority of respondents in 10 of the 12 communities (excepting Sterling and Valdez) indicated a preference for the current amount of open area and season in the Forest for snowmachine use. More communities secondarily prefer increased access than prefer decreased access.

- A majority of respondents in 10 of the 12 communities (excepting Anchorage and Valdez) indicate a preference for the current amount of open area and season in the Forest for off-road vehicle use.

#### Community quality of life values

Considering all responses from the 12 communities surveyed,

- The three most important public land factors to quality-of-life are:
  - 1) clean air and water;
  - 2) beauty of the surrounding area; and,
  - 3) open undeveloped areas.
- The three public land factors ranked lowest in importance are:
  - 1) subsistence gathering;
  - 2) subsistence hunting and fishing; and,
  - 3) sport hunting and fishing.
- The three public land factors respondents were most satisfied with are:
  - 1) beauty of the surrounding area;
  - 2) clean air and water; and,
  - 3) open, undeveloped areas.
- The three public land factors ranked lowest in terms of satisfaction are:
  - 1) the roads/transportation system;
  - 2) access to and use of public lands; and,
  - 3) subsistence hunting and fishing.

#### Roads

Figure B-1 displays community residents' preferences for the amount of new roads to be constructed on the Forest in the next 10-15 years. Since no definition was given in the survey as to what exactly was meant by the term road (e.g., a 30-mile paved road or a 0.1-mile gravel spur road), it is very difficult to evaluate the alternatives in this regard. The number of new road miles by the end of the first decade under the Preferred Alternative is 33 miles. Most of these roads are very short and would be built to provide access to new recreation facilities such as campgrounds, trailheads and day use sites.

**Figure B-1: Preference for the amount of new roads.**

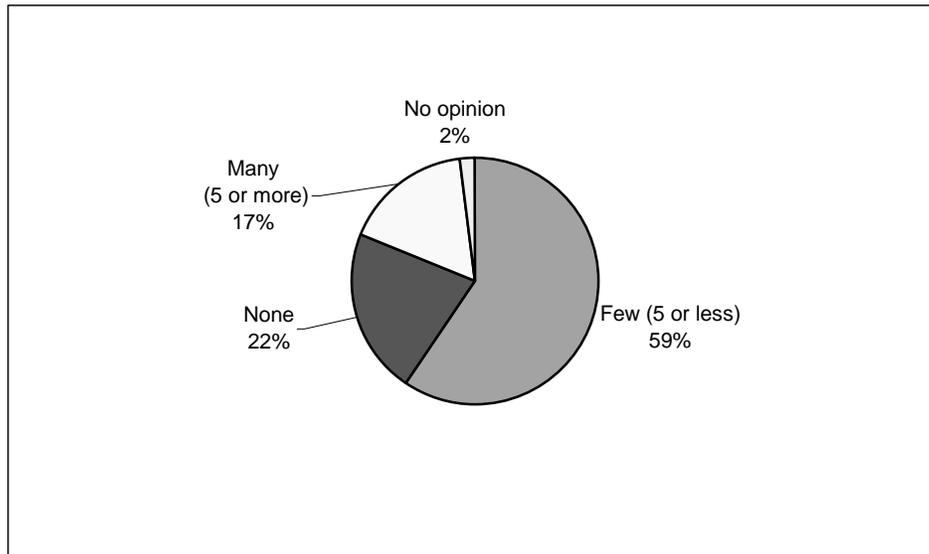
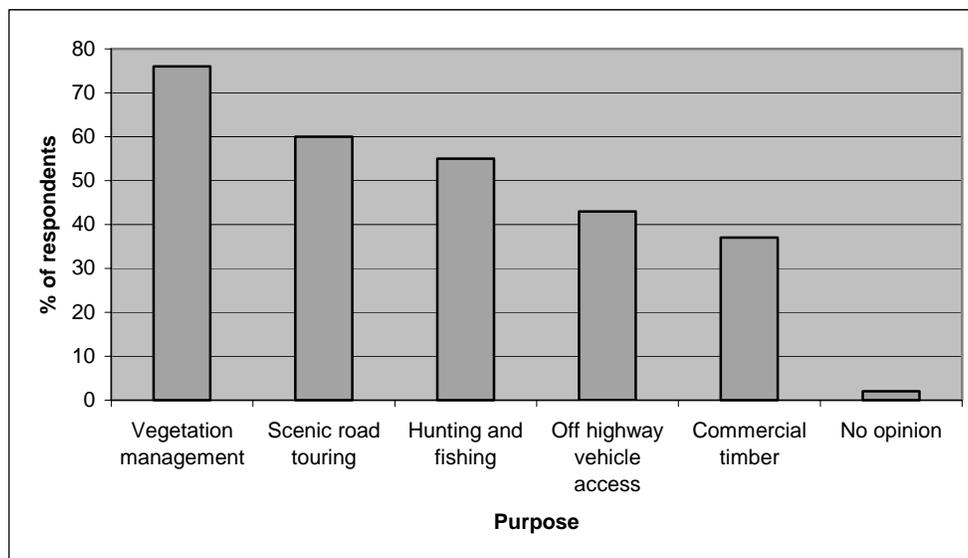


Figure B-2 displays community residents' feelings regarding acceptable conditions for new road building on the Forest.

**Figure B-2: Acceptable purposes for road construction.**



Source: "Planning for the future of the Chugach National Forest" Alaska Pacific University. 1998.

### Social Issues

A majority of respondents in all communities indicated a preference for five or less new roads in the Forest.

The Subsistence section (FEIS, Chapter 3, Environment and Effects) concluded that there would be no significant restrictions to subsistence activities in any of

the alternatives. Since reliable estimates regarding possible variations in the pounds of subsistence resources harvested by alternative are not possible, it is not possible to quantitatively evaluate the alternatives in terms of subsistence values. However, general results from Wolfe and Walker (1987, see FEIS, References for complete citation) suggest that subsistence productivity increases with distance from population centers, decreases with road access, and decreases as the percentage of non-Natives increases in a community's population.

#### **Step 4 – Assessing benefits, problems, and risks**

The integration of science was a critical component in alternative development and effects analysis. The benefits of this integration result in (1) a fuller and richer set of options for decisions, (2) clearly displayed uncertainty and risk associated with proposed courses of action, (3) increased clarity with which evidence and rationales are examined and expressed, and (4) enhanced insights and learning about choices are made, thereby strengthening possibilities for adaptive management.

The role of scientists and researchers has not been to engage in taking policy positions or to make public statements regarding approval or disapproval of policies. However, throughout all steps of this planning process, the consideration of and adherence to principles of science has been a deliberate objective of Regional and Forest decisionmakers, as well as Interdisciplinary Team members. Scientists and researchers, from the Forest Service and other federal and state agencies, universities, and nongovernmental organizations, have been involved in all steps. Among the general responsibilities of scientists and researchers associated with the Forest Plan revision process are the following:

- gathering, synthesizing, testing, and validating information;
- identifying and quantifying risk without recommending what level of risk is appropriate;
- describing the level of confidence in technical information;
- assuring quality of information by following science protocols, including peer review;
- establishing evaluation and decisionmaking criteria; and,
- checking for consistency between research data and decisionmaking.

The benefits, problems and risks related to the road system have been described in the FEIS as follows:

#### **Air**

The Chugach National Forest, for the most part, has remarkably pristine air quality. Alaska's Department of Environmental Conservation has divided the state into five Intrastate Air Quality Control Regions. The Chugach lies within two

of these regions: Cook Inlet and Southcentral Alaska. The Cook Inlet Intrastate Air Quality Control Region covers about a quarter of the Forest, and comprises all watersheds flowing into Cook Inlet (for the Forest this means anything flowing into the Kenai River, or Turnagain and Knik Arms). This portion of the Forest has the greatest potential for air quality impacts from both off-site pollution sources (such as Anchorage and Kenai/Soldotna) and on-site sources (such as highway traffic and wildland and prescribed fires). The rest of the Forest lies within the Southcentral Intrastate Air Quality Control Region where there is less potential for air quality impacts.

Road dust is evaluated on projects where it is determined to be an air quality issue. Mitigation measures could include type of surface, daily time use restrictions, road closures, and the use of dust abatement products or road watering.

Air quality is temporarily lowered on roads and possibly at developed recreation sites by vehicle emissions, dust, and smoke from campfires. On the Forest, since most mineral soils are covered by moss and decayed plants, surface erosion is usually not a major concern. The five major activities that expose mineral soil are road construction, timber harvest, placer mining, recreational development, and overuse by people trampling the vegetation and exposing the soils adjacent to streams. Dust impacts from roads under the Preferred Alternative would not substantially change existing air quality on the Forest except very locally and on a very intermittent basis. Mitigation measures could include type of surface, daily time use restrictions, road closures, and the use of dust abatement products or road watering.

### **Soils**

Soil is the basic component of the environment. Most living things depend on the soil for their initial source of nutrients from which most other living things evolve. Soil absorbs and holds nutrient rich water, releasing it at varying rates to supply nutrients for microorganisms and plants that become the food and habitat for larger animals and people. All renewable resources on the Chugach National Forest depend on soil, which is considered a nonrenewable resource because of the time it takes for its formation.

The ability of a soil to function can be described as soil health or soil quality. The Soil Science Society of America has defined soil quality as the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation. Before soil quality can be protected or enhanced it must be recognized that there are numerous kinds of soil and that the properties of a soil affect a wide variety of ecosystems on the Forest.

The primary goal of soil management on the Forest is to maintain long-term site productivity by keeping soil disturbance to a minimum. Table B-2 displays potential long- and short-term effects on soil productivity associated with road construction.

**Table B-2: Long- and short-term effects on soil productivity from road construction (acres).**

Management Activities		Existing	Preferred Alternative
Timber Harvest Roads <sup>1</sup>	Long-term	0	0
	Short-term	0	0
Roads for Facilities <sup>2</sup>	Long-term	67	61
	Short-term	60	54
Other Road Construction <sup>3</sup>	Long-term	106	0
	Short-term	95	0
Trails Converted to Roads	Long-term	0	2
	Short-term	0	2
Total Potential Disturbance from Roads	Long-term	173	63
	Short-term	155	56

<sup>1</sup> Calculations based on a 14-foot wide running surface (top line, 1.7 acres of long-term disturbance per mile) and 7-foot fill and cut slope (bottom line, 1.7 acres of short-term disturbance per mile) on either side of the road.

<sup>2</sup> Calculations based on a 16-foot wide running surface (top line, 1.9 acres of disturbance per mile) and 7-foot fill and cut slope (bottom line, 1.7 acres of short-term disturbance per mile) on either side of the road.

<sup>3</sup> Assume road design similar to that under Roads for Facilities.

Most disturbances that result from timber harvest are usually associated with road construction and maintenance. Disturbance associated with recreation is usually associated with road and facility construction and from overuse caused by people. The travel surface of roads eliminates the soil productivity (long-term). The cut and fill slopes or borrow ditches reduce the productivity (short-term) for the time period it takes for vegetation to reestablish to the pre-disturbance state. Roads that are associated with timber harvest and mining are usually temporary, and remove the soil productivity while they are in use. They are usually obliterated and allowed to revegetate upon completion of the timber harvest. Stockpiled topsoil can be spread to accelerate revegetation once the road has been closed. Roads that are used as access to permanent recreation or administration facilities (campgrounds, workcenters, trailheads, etc.) permanently remove the productivity of the soil.

Roads that support recreational activities account for the next largest amount of soil disturbance, especially on the Kenai Peninsula. Road construction accounts for the greatest amount of disturbance on the Kenai Peninsula with lesser amounts on the Copper River Delta. None is projected for Prince William Sound. Past management activities have been concentrated within certain watershed associations. Most watershed associations on the Forest are virtually untouched by roads or large-scale management activities and retain pristine watershed characteristics. Management activities have been most concentrated within watershed associations flowing into Cook Inlet. Also, several watershed associations in Prince William Sound have had timber harvest activities, some showing restoration needs. Management activity effects are influenced in part by the local terrain, the precipitation regime and the potential geohazards.

An indirect effect resulting from the construction of roads is the tendency of unwanted plant species and weeds to invade areas of substantial soil disturbance such as road cuts and fills, or to revegetate with seed mixtures that do not include species indigenous to the specific areas.

Proposed trail construction would disturb an area larger than that from proposed road construction.

#### Landslides

Landslides are not a common occurrence on the Chugach National Forest. They most frequently occur on slopes steeper than 72 percent (Swanston 1997, see FEIS, References for complete citation) in soils that have a layer restrictive to downward water flow. This restrictive layer is usually bedrock or compact till. Landslides are also common in clay/silt lacustrine (lake bottom) sediments. Landslides that occur as a result of human activities are caused by roads that cut a portion of the retaining slope, the concentration of water on otherwise stable slopes, timber harvest on shallow soils over bedrock on slopes upwards to 90 percent or more, and road construction over unstable soils on steep slopes when they are saturated. Natural landslides have been identified in the Knowles Head area in northeastern Prince William Sound, Montague Island and scattered across the Kenai Peninsula. All of these areas have some slides that may have resulted from previous management activities.

#### **Water/Riparian/Wetlands**

The Chugach National Forest, situated along the Gulf of Alaska's northern coast, is blessed with abundant water resources. Frequent storms trending eastward across the north Pacific Ocean encounter the Forest's Chugach Mountains, and drop copious quantities of rain and snow. Glaciers are present over about a third of the Forest, and require heavy precipitation and/or cool year-round temperatures in order to persist. Many thousands of lakes dot the Forest, the largest being Kenai Lake (14,000 acres). Average annual precipitation for the Forest is around 100 inches, but varies locally from 20 inches to over 300 inches. The contribution of snow to annual precipitation varies from less than 50 percent in low-lying coastal areas, to 100 percent in the highest mountain regions. Precipitation runoff is a critical medium for both fish and wildlife species, within streams, wetlands and forests. Use of the waters of the Forest for development and human consumption purposes is limited.

The Chugach is somewhat unique among national forests in that hundreds of its streams flow directly into the Pacific Ocean, with most of these stream systems in near pristine condition. Forest drainages flowing to the ocean vary in size from the 24,000-square-mile Copper River basin and the 2,200-square-mile Kenai River basin, down to tiny first order drainages. For some of these drainages, only a portion lies within the National Forest boundary.

The Forest can be divided roughly into three hydrologic units: Cook Inlet, Prince William Sound/Outer Coast, and Copper and Bering River system complexes. In general, the Prince William Sound/Outer Coast unit receives the greatest amount

of precipitation and has the highest streamflows per square mile, while the Cook Inlet unit has the lowest amount.

Forest runoff is predominantly high-quality surface water. Glacial drainages can carry high natural sediment loads. Surface and ground water from the Forest is put to use both consumptively (mining, hatcheries, domestic uses) and non-consumptively (fishing, viewing, recreation). Management activities on the Forest that have the potential to affect water quality and the overall watershed resources include recreation, mining, timber management, road construction, hydropower development, oil, gas, and mineral exploration/extraction, and intensive developed recreation.

In order to meet State of Alaska Water Quality Standards, the Forest protects watershed conditions through the use of Best Management Practices (BMPs) as prescribed in the Alaska Region's Soil and Water Conservation Handbook (FSH 2509.22), laws and regulations. BMPs in the Handbook cover a wide variety of land management actions on National Forest System lands, including watershed management, timber, transportation and facilities, pesticide-use, recreation, minerals, fish and wildlife habitat, fire suppression, and fuels management.

When BMPs are properly applied, pollutant delivery to streams and lakes is minimal and recovery of waters and aquatic sites should be rapid. The physical, chemical, and biological integrity of waters in all watersheds will be as good as in watersheds that are managed exclusively for domestic and municipal supplies.

Soil and water improvements are accomplished on an annual basis to correct problems caused by previous land management. Corrective measures include, but are not limited to, closing, obliterating and revegetating roads, redesigning drainage structures on existing roads to reduce soil loss and stream sedimentation, stabilizing damaged streambank segments using vegetation and/or structural support, and improving the vegetative condition of streamside riparian zones.

Previous management activities have impacted riparian areas throughout the Forest. Water diversion projects for hydropower development have affected the amount and the timing of flows in a stream channel, which can change the natural riparian community. Historic placer mining has in some cases dramatically impacted riparian vegetation and channel form. Access roads and intensive recreation pressure from fishing, camping and boating have also had damaging impacts to localized riparian areas.

Logging and its related activities can also affect the extent, health and vigor of riparian vegetation. Timber sales on the Kenai Peninsula over the last two decades have generally avoided timber harvest within riparian zones. Older timber sales in Prince William Sound (1960s and 1970s) sometimes harvested timber right up to the edge of local anadromous streams. Road and trail construction adjacent to streams can physically remove the riparian vegetation, especially if roads and trails cross or run parallel to stream channels.

Roads potentially could have an impact to the riparian/wetlands areas. Location of the road within the riparian zone is the primary concern. Inappropriate width filter strips or improper drainage between the road and stream can produce additional sediment loading. Sidecast construction or improper road maintenance of existing roads can result in damage to riparian vegetation as well as increasing stream sediment loads.

Potential adverse effects to water resources as a result of road construction and reconstruction are not exclusively dependent on miles or acres. Proper location, design, construction, and maintenance of the roads can have an immense effect on reducing water quality impacts. BMPs will be used in all phases of road development and use. Only the acres of watershed disturbance due to roads can be analyzed.

Adverse effects from snowmobiles are generally limited to areas of concentrated use such as on unplowed roads near access areas. When conditions are right, compacted snow can remain on roads and act as a barrier to spring runoff, which can cause erosion.

### **Aquatic Ecosystems and Essential Fish Habitat**

Fish are a major component of the biodiversity of the Chugach National Forest. The annual spawning migrations of anadromous fish (fish that spend part of their life in the ocean) are necessary for the function of many plant and animal communities. Anadromous fish are key species, with dozens of birds and mammals consuming salmon or salmon eggs. Animals such as black and brown bears and bald eagles are dependent on spawning salmon, or their carcasses for over-winter survival.

Fish and the other aquatic resources on the Forest provide major subsistence, commercial, sport fisheries, and traditional and cultural values. Abundant rainfall, streams with glacial origins, and watersheds with high stream densities provide an unusual number and diversity of freshwater fish habitats. These abundant aquatic systems of the Chugach provide spawning and rearing habitats for many of the fish produced in Southcentral Alaska and Prince William Sound. Maintenance of this habitat and associated high quality water is a focal point of public, state, and federal natural resource agencies, as well as user groups, Native organizations and individuals.

Generally, as total miles of roads and acres of potential timber harvest increases and recreation sites and mineral sites are developed, the potential of altering the structure and function of critical habitat is increased. Therefore, the possibility of impacts to species abundance increases with increased miles of road constructed and acres harvested, or intensive recreation management within riparian habitats. For some species, such as those with small isolated populations, the potential impact may have greater significance than for others.

A qualitative method to determine this potential risk to spawning and rearing habitat is to look at the percentage of the Forest's anadromous fish habitat that is within the five prescription categories. As the prescription category increases the potential level of management intensity increases. Implementation of Category 1

and 2 prescriptions, with their low level of ground disturbing activities, such as roads, trails, timber harvest units, and campgrounds, has a low probability of altering the structure and function of fish habitat.

Road construction and use may be the greatest potential sediment source over both the short-term and long-term. Roads constructed in riparian areas can constrict floodplains and channels resulting in changes to channel morphology and fish habitat (Furniss 1991, see FEIS, References for complete citation). Road construction on steep mountain and hillslope landforms commonly found on the Kenai Peninsula increases the likelihood of landslides, which transport large quantities of sediment and woody debris. The rate of failure would be dependent on storm events. Upon reaching streams, the material can block or cause channel shifts, alter existing habitat structures, fill in pool rearing habitats, and increase fine sediment in spawning gravel. These changes would likely decrease the habitat capability to produce fish.

Approximately two percent of the watershed associations on the Chugach National Forest are currently roaded. However, none of the 95 watershed associations are considered to be roaded in relation to roads causing fundamental watershed process changes. The percentage of roads would increase under the Preferred Alternative, but no more than a few miles of new road per decade.

Research conducted in the state of Washington revealed that the percentage of fine sediments in spawning habitat increased above natural levels when roads occupied more than 2.5 percent of the basin area. King and Tennyson (1984, see FEIS, References for complete citation), found that hydrologic behaviors of small watersheds were altered when roads occupied more than 4 percent of the watershed. The existing and new roads associated with the Preferred Alternative fall well below these threshold levels. The only network of roads that were considered for analysis were the four watershed associations considered for timber entry under high market values in the more resource extraction oriented alternatives (A and B), which were evaluated. The maximum increase, given a scenario where all harvest and road-building activities were contained within a specific watershed, is the 30,400-acre McKinley Lake watershed. McKinley Lake was chosen because it has the highest concentration of potential roads within a watershed association. Under the high timber market conditions with the highest potential road density, the road density would be 0.03 percent, two orders of magnitude below the threshold.

Roads can also be viewed as causing risk to fish movement, primarily due to culverts being used on moderate to high gradient streams. At highest risk are stream-rearing fish, particularly cutthroat trout and Dolly Varden char, which occupy the smaller headwater streams during some parts of their lives. In general, resident species are not as sedentary as previously thought (Armstrong and Elliot 1972, Jones 1997, see FEIS, References for complete citation). High quality spawning habitat may be some distance from high quality rearing or over-wintering habitat of lakes, ponds or pools of large rivers. Juveniles of other stream-rearing fish such as coho salmon are often highly mobile during their

freshwater stage, moving seasonally between stream reaches, so they are also at risk. Survival often is dependent on this seasonal movement. Restrictions in upstream movement could have impact to overall habitat capability. A recent report on the Tongass National Forest (Flanders and Cariello 2000, see FEIS, References for complete citation) found serious problems with culverts blocking fish movement. Preliminary results, based on a criteria that approximates juvenile fish passage at mean flood conditions, suggest that up to 66 percent of the culverts on salmon streams and 85 percent of the culverts on resident trout streams were not considered adequate for fish passage. The relative risk of fish passage would be related directly to the miles of road constructed and number of stream crossings.

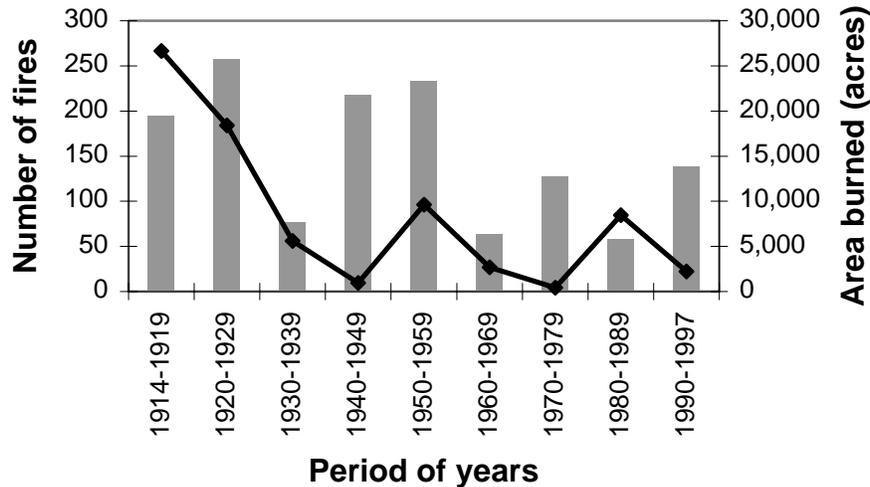
### **Fire Management**

Today, fires generally fall into two categories: wildland fires and prescribed fires. A wildland fire is a fire resulting from an unplanned ignition. It requires an appropriate response to control its spread. A prescribed fire is a fire ignited by management actions to meet specific objectives, such as to reduce hazardous forest fuels or improve wildlife habitat.

Wildland fire has been an important influence on some of the Chugach National Forest's vegetation. Fire has contributed to the landscape diversity most recently in the settlement period on the Kenai portion of the Forest and periodically for the last several thousand years. Prior to the settlement period of the late 1800s, the majority of the age structures of the coniferous forests surveyed were in late successional stages. The Forest's fire history is described in three distinct periods of fire frequency – prehistoric (pre-1740), settlement (1741–1913), and post settlement (1914-1999). The vegetation community component of landscape diversity on the Kenai Peninsula was lower prior to the settlement period and increased in the late 1800s and early 1900s, during a period of major fire occurrences. The fire history of the Kenai Peninsula includes infrequent, but large fires.

Figure B-3 indicates that the largest fires on the Forest occurred during the settlement period with mining and mineral exploration from 1849-1902 followed by railroad development between 1903-1953.

**Figure B-3: Fire history of National Forest lands on the Kenai Peninsula from 1914 to 1997 as indicated by the number of fires and acres burned by decade.**



Source: Potkin 1997.

The risk of human-caused fires will increase due to projected increases in Forest visitor use and access improvements. The risk of fires from lightning is expected to remain constant.

### **Insects and Diseases**

Insects, diseases and related decay processes are an integral and natural part of forest ecosystems. These disturbances play an important role in shaping forest composition, structure, and development. They are fairly widespread over the Forest and act over long periods of time. During periods of epidemic levels, however, dramatic and rapid forest change can occur.

Insects and diseases, along with wildland fire, have been viewed as having negative influences on the Forest. This will still be the case where management objectives conflict with insect and disease outbreaks. However, where management objectives accept the impacts from these outbreaks as being part of the natural disturbance processes in the Forest, they are considered to be beneficial to the Forest's cycles of growth and decline and necessary to the maintenance of the Forest.

The long-range goal of insect and disease management is prevention and suppression through silvicultural treatment of susceptible stands. Control of insects and diseases on the Chugach National Forest has been limited to the Kenai Peninsula in response to the on-going spruce bark beetle epidemic and

has occurred primarily by salvage harvest of dead and dying trees and sanitation harvest to suppress damaging levels of insect and disease populations. Pesticide treatment can reduce spruce beetles in high value areas such as campgrounds and administrative sites.

Since 1987, intensive spruce beetle suppression and salvage treatments have occurred in almost all the Forest's campgrounds on the Kenai Peninsula, some recreation trail corridors and trailheads and in some stands with high levels of dispersed recreation or importance to wildlife along the Kenai River.

Stand management is now regarded as a way to develop stands that are much more resistant to attacks by insects and diseases. In general, management activities that increase stand vigor will usually decrease stand susceptibility to insects or diseases. The amount of forested land that may be susceptible to insects and diseases is directly related to the presence or absence of management.

The extent of road systems determines the ability to access areas where pest populations may be approaching destructive levels or to restore areas already impacted. The Preferred Alternative will make no appreciable change in access for insect and disease management activities.

### **Forested Vegetation**

The forested ecosystems and associated vegetation of the Chugach National Forest are very dynamic. The processes of plant succession and associated disturbance patterns have produced the current vegetative conditions. These natural processes, both part of and necessary for ecosystem function, will continue to produce changes in the future.

Development of access roads and ground-disturbing mineral exploration may affect some forest stands. The potential for intensive development of locatable or leasable minerals is considered to be low in all alternatives. No significant changes to Forestwide cover types or structural stages are expected in any alternative.

Road construction can lead to changes in plant species composition due to modifications in site conditions. Vegetation along the road corridors may be stressed due to changes in site conditions that contribute to increases of certain insect and disease pests. However, roads provide access for conducting forest pest management activities to reduce or prevent damage caused by insect and disease pests.

Roads and trails can function as firebreaks, reducing the fire hazard. Suppression capabilities are improved in areas with road access. Fire risks increase in relation to the number of people using an area. Therefore, available road densities enhance fire suppression capabilities while increasing the risk of human-caused fires.

The majority of impacts to forest vegetation from travel management would result from vegetation alterations during the construction and reconstruction of roads

and trails to meet access management objectives. The estimated acreage that would be converted to roads and trails after the first decade is displayed in Table B-3. Most of this acreage would be located in forested stands that would be converted and maintained as non-forest roads and trails, with corresponding net reductions in both forest cover types and structural stages. Forestwide, the amount is insignificant.

**Table B-3: Acres of vegetation converted to roads and trails - decade 1.**

	<b>Acres</b>
Roads	199
Trails	105
<b>Total</b>	<b>304</b>

Since such a small amount of the habitat might be directly or indirectly affected by potential new road and trail construction, the consequences of the affects of these activities on the plants and their habitat will be minimal. In addition, laws, regulation, policy, land allocations, and Forestwide standards and guidelines will be applied to sustain plants of conservation concern and their habitat. Therefore, there is a low likelihood of effects to the plants or their habitat as the result of implementing the Preferred Alternative.

**Plants**

Road construction can lead to changes in plant species composition due to modifications in site conditions. Vegetation along the road corridors may be stressed due to changes in site conditions that contribute to increases of certain insect and disease pests. However, roads provide access for conducting forest pest management activities to reduce or prevent damage caused by insect and disease pests.

Ecoregions

Because of their very large scale, ecoregions of the Chugach National Forest would not be affected by management activities under the Preferred Alternative.

Impacts to vegetation from travel management would result from habitat alterations during the construction and maintenance of roads and trails. The overall impacts to Forestwide vegetation conditions are minimal due to the small acreages involved.

**Wildlife**

The Organic Administration Act, the Multiple-Use/Sustained-Yield Act, the National Forest Management Act, the Sikes Act, and USDA and Forest Service policy and agreements recognize the shared responsibilities between the Forest Service and Alaska wildlife agencies in the management of fish and wildlife resources on federal lands. These and other laws acknowledge state jurisdiction in resident fish and wildlife management. The Forest Service indirectly affects population numbers, diversity, and species viability through the management of habitat. The Alaska National Interest Lands Conservation Act (ANILCA) provides

for the maintenance of sound populations of, and habitat for, wildlife species of value to the citizens of Alaska and the nation.

In recent decades, public interest and participation in nonconsumptive recreation such as wildlife viewing and photography, along with traditional consumptive activities such as hunting, have gained popularity on National Forest System lands, including the Chugach National Forest. Increased interest in wildlife and its management has led to the establishment of many wildlife advocacy organizations. Many of these organizations play an active role in wildlife management on the Forest in partnership with the State of Alaska and the Forest Service.

The purpose of this analysis is to evaluate how activities associated with the Revised Forest Plan may affect the viability and distribution of wildlife species with potential conservation concerns. Objectives for managing roads and trails are driven by the desires of the public and managing agency mandates, which generally are spelled out in policy, directives or laws. Roads or trails can be used as tools to access land for commodity production, such as timber and minerals, or can serve as transportation systems supplying people access to areas of unique scenic beauty or to dispersed or developed recreational sites.

Wolves are legally hunted and trapped in Southcentral Alaska. Increased roaded access and increased human activity likely increase wolf deaths, both from legal and illegal hunting and trapping. Road management and increased regulation of legal harvests are seen as steps needed to reverse short-term population declines (Carnes et al. 1996, see FEIS, References for complete citation).

Roads constructed for forest management, mining, or recreational purposes may increase the vulnerability of lynx to hunters and trappers (Koehler and Aubrey 1994, see FEIS, References for complete citation) and increase opportunities for accidental road deaths. Lynx are commonly trapped in all game management units. Risks to the viability of the lynx populations on the Forest include loss of early seral habitat, and mortality associated with hunting and trapping. New roads and trails creating new access for trappers and hunters also affect lynx. Fragmentation and perforation of movement corridors by roads and developments may have reduced the ability of lynx to move to and from the mainland from the Kenai Peninsula (Bailey et al. 1986, see FEIS, References for complete citation).

The effects of roads on contiguous blocks of forest are well documented (Tinker et al. 1997, Reed et al. 1996, see FEIS, References for complete citation) and affect a wide variety of species. Roads can directly remove habitat affecting those species that have limited dispersal capabilities, or greatly reduce the amount of interior forest available for species that are interior habitat specialists. Roads also provide access by the public, which reduces effectiveness of surrounding habitats for many wildlife species.

Land corridors set aside for roads and utility access can disturb or displace wildlife species by changing the arrangement of forested and non-forested vegetation types across the Forest. In areas where contiguous forest habitats

exist, these corridors break up these contiguous blocks with long linear landscapes comprised primarily of cleared or early seral vegetation components. Improper powerline design can result in potential electrocution hazard for certain raptor species.

The arrangements of these corridors on the landscape have the potential to affect the dispersal capability of some species of wildlife. Access by humans and their associated recreational activities disrupts and displaces some wildlife.

In addition, areas currently not managed for motorized access are viewed by some as areas in which motorized access may be warranted. However, many of these nonmotorized areas provide some of the last bit of solitude for many wide-ranging forest carnivores. Research on wolves in the eastern U.S. (Mech et al. 1988, see FEIS, References for complete citation) has provided forest managers with some very important information related to road densities and subsequent human access. The result of increases in these activities and exceeding road density thresholds usually winds up in the loss of these species from the area.

Overall, the wildlife resources and associated habitat on the Forest remain in good condition and are mostly dominated by forested stands in late-successional condition. As communities on the Kenai Peninsula continue to expand, many of the important forested connections will be affected or lost. Maintaining options in the future within these narrow bands of habitat will become a high priority for many wide-ranging species. Human resource management and activities will continue to influence species composition, though quite variably, across the Forest. Fire suppression has and continues to influence the amount and distribution of early seral conditions.

### **Heritage Resources**

A series of federal laws mandate that the impact of federally funded or permitted activities on historic properties, also referred to here as heritage resources, and the protection of these properties be considered prior to the initiation of management activities or undertakings. The value of historic properties on national forests are derived from the public's recognition, beginning early in the twentieth century, that these nonrenewable resources are important and should be protected. Through these laws, the public commemorates the historic past by recognizing specific places where activities and events occurred.

The construction of recreation facilities, such as campgrounds, trails, roads, toilets, and parking areas, has the potential to directly affect cultural resources. In all prescription categories, these direct effects will be mitigated before the initiation of construction. Both positive and negative effects can indirectly result from recreation management. Negative impacts include vandalism of sites and theft of artifacts, inadvertent camping directly on sites, and soil erosion. Some of the positive effects are the edification and education of the public about heritage resources, which in turn provides public support for preservation and interpretation. Construction of new trails or roads into areas, which previously had little public access, and improvement of existing trails and roads creates an indirect effect to cultural resources as it opens new areas to recreational activities

and increases the potential for disturbance. Very little of such construction is planned under the Preferred Alternative, so little additional effect is expected to cultural resources from such activities.

The Preferred Alternative would not affect management of heritage resources. Motorized access would decrease in some areas, possibly decreasing the impact of the public on cultural resources.

**Lands**

The number of acres of public land administered by the Chugach National Forest has been changing as Native and state land entitlements are conveyed. Approximately 90 percent of these land entitlements have been conveyed. The *Exxon Valdez* oil spill land acquisitions have resulted in 104,184 acres of fee simple interest and in complex conservation easements. Land and resource data acquired since land conveyance is being used to identify areas for potential ownership adjustments to consolidate resource protection, management, and public activities.

The *Exxon Valdez* oil spill (EVOS) restoration acquisitions have been based on willing sellers offering lands for addition to the public land base. Priorities for action are determined through resource evaluation and identification of benefits to oil spill recovery. This established process will guide all future EVOS funded acquisitions and can assist in evaluating opportunities outside the spill area.

Under EVOS land acquisition, over 120 private land parcels have been identified with potential benefits for acquisition. The National Forest System lands historically administered by the Chugach National Forest on Afognak Island have been selected and are going through the conveyance process. Frequency of land exchanges is increasing as private land developers address difficult access to private land issues. Table B-4 shows the current land status for the Chugach National Forest.

**Table B-4: Chugach National Forest land status (acres), as of January 1, 2002.**

National Forest System	5,391,240
Acquired National Forest	102,790
State of Alaska	383,890
Native Corporations	418,500
Private	16,460
Net National Forest	5,494,030
Gross	6,312,880

Source: Chugach National Forest GIS corporate database.  
Please note that the net acres is slightly different (+0.02 percent) than what was used in the Forest Plan revision analysis. The Forest acres are continually changing as lands are acquired and disposed of.

The 1984 Forest Plan identified that there was a full range of occupancies that are authorized through special use permits, easements and memorandums of understanding. Since 1985 the special use administration workload has increased by approximately five percent per year.

Currently the Forest administers 253 permits consisting of 42 cabins or residences; 80 outfitter/guides; 42 industrial camps; 2 hatcheries; 11 powerlines

and FERC-related activities; 15 electronic sites; 11 roads, and 40 minerals materials permits. Memorandums of Understanding and Agreements include military training exercises, interagency management of lands, resource investigations, and management and navigation aids for boats and aircraft.

The growth of tourism at a rate of 8-12 percent per year will create desire for commercial uses of public lands and the development of private lands with supporting uses such as access, water, and power from public lands. Cumulative effects of increased commercial permits must be addressed within recreation program management. Development of public resources to facilitate private land use will also be addressed through recreation program objectives and legal obligations.

### **Recreation and Tourism**

Recreation and tourism on the Chugach National Forest has grown significantly since the 1984 Forest Plan was completed (Books and Haynes 2001, see FEIS, References for complete citation). The Chugach has become a popular recreation destination due to increased tourism in Southcentral Alaska, a growing state population, and the Forest's close proximity to Anchorage, home to half of Alaska's residents. Continued moderate growth in tourism and population, as well as improved access to the Forest, including the recently completed road to Whittier, are expected to sustain growth in recreation use and tourism on the Forest.

With over five million acres, the Chugach offers a wide variety of recreation opportunities, from highly developed, road-accessible experiences to undeveloped remote experiences. While the size of the Chugach is impressive, the steep terrain, icefields, and glaciers limit the ability of people to easily move around the Forest. Most recreation and tourism occurs in valleys with roads and trails, and along shorelines. Concentrated use is expected to increase in these areas.

Public input to this planning process has identified Recreation and Tourism as one of the six situations central to revising the Forest Plan. The main components of the Recreation/Tourism situation are: 1) people's desire for a variety of recreation settings and opportunities; 2) the desire for either additional or fewer facilities than today's levels; and, 3) competition for access to National Forest System lands among recreationists pursuing different activities, particularly motorized and nonmotorized winter activities

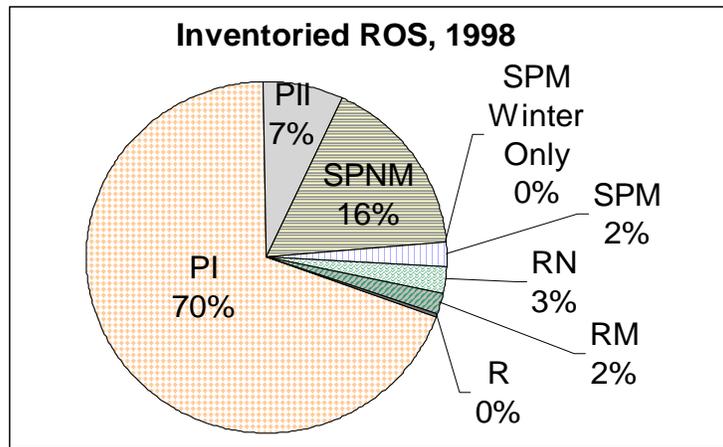
Figure B-4 shows the Inventoried Recreation Opportunity Spectrum classes as a percentage of the Forest's total area. Approximately 95 percent of the Forest currently provides Primitive or Semi-primitive settings. Backcountry recreation opportunities are abundant. In general, much of the Primitive and Semi-primitive areas are difficult to access because of steep terrain, rock, icefields, and glaciers. Approximately five percent of the Forest is classified as Roaded Modified, Roaded Natural, or Rural, with most of that acreage on the Kenai Peninsula. Road access is primarily by the state highway system, including the Seward, Sterling, and Portage Highways on the Kenai Peninsula and the Copper River

Highway on the Copper River Delta. Most campgrounds and other developed sites are in these ROS Classes.

With the difficult access across most of the Forest, it is not surprising that a disproportionate amount of annual use occurs at developed facilities. Although such facilities only account for one percent of the total capacity of the Forest, 22 percent of annual use occurs at these sites. Conversely, only one percent of the available capacity in undeveloped areas (the backcountry) is currently being utilized (Brooks and Haynes 2001, see FEIS, References for complete citation).

The Preferred Alternative would allow the construction of new recreation roads to provide access to new recreation facilities. These are generally short segments within existing road corridors on the Kenai Peninsula.

**Figure B-4: Inventoried ROS classes as percentage of total area.**



**Recreation Opportunity Spectrum (ROS)** A system for planning and managing recreation resources that categorizes recreation opportunities into eight classes. Each class is defined in terms of the degree to which it satisfies certain recreation experience needs based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area and the relative density of recreation use. The seven classes are:

- Primitive I** An unmodified environment generally greater than 5,000 acres in size and located generally at least 3 miles from all roads and other motorized travel routes. A very low interaction between users (generally less than 3 group encounters per day) results in a very high probability of experiencing solitude, freedom, closeness to nature, tranquility, self-reliance, challenge, and risk. Evidence of other users is low. Restrictions and controls are not evident after entering the land unit. Motorized use is rare.
- Primitive II** An unmodified environment generally greater than 5,000 acres in size and located generally at least 3 miles from all roads and other motorized travel routes. A very low interaction between users (generally less than 3 group encounters per day) results in a very high probability of experiencing solitude, freedom, closeness to nature, tranquility, self-reliance, challenge, and risk. Evidence of other users is low. Restrictions and controls are not evident after entering the land unit. Motorized use is rare. Motorized activities are allowed for traditional and subsistence activities.
- Semi-primitive Nonmotorized.** A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located at least 1/2 mile (greater or less depending on terrain and vegetation, but no less than 1/4 mile) but not further than 3 miles from all roads and other motorized travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a high probability of experiencing solitude, freedom, closeness of nature, tranquility, self-reliance, challenge, and risk. There is a minimum of subtle on-site controls. No roads are present in the area.

- **Semi-primitive Motorized** A natural or natural-appearing environment generally greater than 2,500 acres in size and generally located within 1/2 mile of primitive roads and other motorized travel routes used by motor vehicles; but not closer than 1/2 mile (greater or less depending on terrain and vegetation, but no less than 1/4 mile) from better-than-primitive roads and other motorized travel routes. Concentration of users is low (generally less than 10 group encounters per day), but there is often evidence of other users. There is a moderate probability of experiencing solitude, closeness to nature, and tranquility along with a high degree of self-reliance, challenge, and risk in using motorized equipment. Local roads may be present, or along saltwater shorelines there may be extensive boat traffic.
- **Semi-primitive Groups** A natural or natural-appearing environment generally smaller than 50 acres in size and generally located within Semi-primitive Nonmotorized or Semi-primitive Motorized areas. Concentration of users may be high (large groups of up to 100 people for short times) and evidence of users is present. There is a low probability of experiencing solitude, closeness to nature, and tranquility. Some site improvements may be present for resource protection when large groups are on-site, a moderate probability at other times. No roads are present and there may be noticeable boat traffic along saltwater shorelines.
- **Roaded Natural** Resource modification and utilization are evident, in a predominantly naturally appearing environment generally occurring within 1/2 mile (greater or less depending on terrain and vegetation, but no less than 1/4 mile) from better-than-primitive roads and other motorized travel routes. Interactions between users may be moderate to high (generally less than 20 group encounters per day), with evidence of other users prevalent. There is an opportunity to affiliate with other users in developed sites but with some chance for privacy. Self-reliance on outdoor skills is only of moderate importance with little opportunity for challenge and risk. Motorized use is allowed.
- **Roaded Modified** Vegetative and landform alterations typically dominate the landscape. There is little on-site control of users except for gated roads. There is moderate evidence of other users on roads (generally less than 20 group encounters per day), and little evidence of others or interactions at campsites. There is opportunity to get away from others but with easy access. Some self-reliance is required in building campsites and use of motorized equipment. A feeling of independence and freedom exists with little challenge and risk. Recreation users will likely encounter timber management activities.
- **Rural** The natural environment is substantially modified by land use activities. Opportunity to observe and affiliate with other users is important as is convenience of facilities. There is little opportunity for challenge and risk and self-reliance on outdoor skills is of little importance. Recreation facilities designed for group use are compatible. Users may have more than 20 group encounters per day.
- **Urban** Urbanized environment with dominant structures, traffic lights and paved streets. May have natural appearing backdrop. Recreation places may be city parks and large resorts. Opportunity to observe and affiliate with other users is very important as is convenience of facilities and recreation opportunities. Interaction between large numbers of users is high. Outdoor skills, risk, and challenge are unimportant except for competitive sports. Intensive on-site controls are numerous.

## Subsistence

Subsistence hunting, fishing, trapping and gathering activities on the Chugach National Forest represent a major focus of life for many Southcentral Alaskan residents. Some individuals participate in subsistence activities to supplement personal income and provide needed food. Others pursue subsistence activities to perpetuate cultural customs or traditions. Still others participate in activities for reasons unconnected with income or tradition. For all of these individuals, subsistence is a lifestyle reflecting deeply held attitudes, values and beliefs.

New road construction may result in new use patterns around some communities. Some rural residents may view this as a positive development, while others may view it as a negative development. The Preferred Alternative anticipates up to 33 miles of new road construction, most of which is associated with the construction of recreation facilities.

Competition for subsistence resources is a result of factors such as fish and game regulations, the natural distribution of fish and game species across the Chugach, decreases in resource populations as a result of habitat reductions, decreases in resource populations as a result of over-harvest, and access provided to rural communities in the form of roads, ferries, and commercial air carriers. Competition for the more abundant wildlife and fisheries resources near rural communities results from the combination of these factors. For analyzing competition, the following assumptions are made:

1. new road construction adjacent to communities with ferry access will result in increased competition from outside communities;
2. new road construction adjacent to existing road systems where interties between communities exist will result in increased competition from surrounding communities associated with the inter-connected roads; and,
3. large group development sites will increase competition for resources used by rural residents. Development may also displace users from traditionally used sites.

If the small number of additional road miles from the Preferred Alternative caused excess competition, restriction by regulating road use to meet subsistence needs could be affected. Given the small amount of development expected to construct the minimum road system needed for the Preferred Alternative, the possibility of a significant restriction of subsistence use by increasing competition for some subsistence resources is not anticipated.

### **Roadless Areas**

Management of roadless land on the Chugach National Forest is a significant concern with the public, as expressed by issues on sustaining ecosystems, protecting fish and wildlife habitat, designating undeveloped areas for motorized and nonmotorized recreation, maintaining natural quiet areas, and protecting scenic quality. While there is no single designation that applies to roadless area management, many management area prescriptions are applied to areas that are considered roadless. Management area prescriptions include Recommended Wilderness, Wilderness Study Area, Wild River, RNA, Fish and Wildlife Conservation Area, 501(b) – 1, 501(b) - 2, and Backcountry. The common theme of these prescriptions is that they prohibit or limit road construction and other activities that would significantly alter the landscape.

An updated roadless inventory divided the Forest into 16 roadless areas totaling 5,434,710 acres. This is about 99 percent of the Forest's total acres.

Under the Preferred Alternative, 149,960 acres are in management areas that permit the Forest Service to construct roads. All of these areas are on the Kenai Peninsula. Management area prescriptions were applied to many of these areas to facilitate the treatment of timber stands damaged by the spruce bark beetle and to reduce fuel loading. This action would likely have little effect on roadless

acres during the life of the Revised Forest Plan. The priority for restoration activities is near existing roads campgrounds, trailheads, and other human use concentration areas.

It was the intent of the Chugach National Forest to manage these lands as described in the Preferred Alternative. Under the new Roadless Area Conservation Rule, road construction activities are prohibited in inventoried roadless areas. However, the Forest Service has been enjoined by the District Court from implementing this Rule. While there is still a lot of uncertainty in the implementation of this Rule, the Chugach National Forest will manage all inventoried roadless lands under the Final Rule.

### **Access Management**

Access is associated with almost every activity that takes place on the Chugach National Forest. Motorized and nonmotorized access has been identified as one of the most important situations for the Revised Forest Plan to address. Access is necessary for outdoor recreation, suppressing wildland fires, managing fish and wildlife, removing natural resources such as timber products and minerals, gathering fuel wood, accessing private in-holdings, maintaining electronic sites and utility corridors, and managing the Forest in general.

Access management is a tool used to facilitate the movement of people and products. It provides opportunities for the activities listed above and protects resources, mitigates impacts, and minimizes conflict. Modes of access on the Forest include motorized and nonmotorized means. Much of the access to the Forest is not by road and utilizes other motorized (aircraft, boats, snowmachines) and nonmotorized (horse, hiking, skiing) methods. These various forms of travel may occur on paved highways, gravel and dirt roads, trails designated for motorized and/or nonmotorized use, rivers, lakes, saltwater, and general cross-country means. Motorized recreational surface travel off roads and trails is permitted only in winter with adequate snow cover (primarily snowmachines). During the summer season, recreational motorized surface travel off roads and trails is not permitted unless an area is designated as open on the Summer Motorized Recreation Access Map and addressed in a current Forest Order.

Developed access within the Chugach National Forest is limited. Most roads and trails are concentrated on the Kenai Peninsula. There are no public roads in Prince William Sound and only one main road on the Copper River Delta. The same applies to trails, which are most concentrated on the Kenai Peninsula, with a few in Prince William Sound and on the Copper River Delta.

The Chugach National Forest has a very limited road network. State and Forest highways are the backbone of the road system. There are 100 miles of state highways and 75 miles of Forest highways on the Chugach National Forest.

There are also 97 miles of Forest development roads and approximately 13 miles of unclassified roads on the Chugach. Most Forest development roads are concentrated in the valley bottoms. They include roads that access developed sites like campgrounds, trailheads and administrative sites, roads built under a special use permit, and roads developed for resource activities, such as timber

sales. Some of these roads are currently closed to vehicle travel, but available for nonmotorized use. Most roads are gravel surfaced, receiving minimal annual maintenance beyond grading. Roads under special use permit are maintained by the permittee. In addition, a 30-mile road easement has been granted to construct the Carbon Mountain Road on the Copper River Delta.

Table B-5 shows the miles of inventoried road by Forest geographic area.

<b>Geographic Area</b>	<b>Miles of Road</b>	<b>Miles Restricted<sup>1</sup></b>	<b>Miles Open<sup>2</sup></b>
Kenai Peninsula	91	35	56
Prince William Sound	1	1	0
Copper River Delta <sup>3</sup>	48	0	48
<b>Total</b>	<b>140</b>	<b>36</b>	<b>104</b>

<sup>1</sup> Restricted to OHV or nonmotorized uses; open to vehicle use only for specific management activities.

<sup>2</sup> Some miles may be restricted seasonally (i.e., unplowed roads).

<sup>3</sup> Includes the Carbon Mountain Road not yet built but anticipated to be built in the near future.

For the Preferred Alternative, developed access routes within the Forest will be maintained and some new short access routes are planned.

There are two main factors affecting access: (1) the effect from changing management area prescriptions, and (2) the effect from new road construction and road obliteration. Because the Chugach National Forest has so few roads, few roads are planned for obliteration. Some existing roads may be converted to trails, but the access would remain.

Two new roads will significantly change the access patterns on the Forest. The new road to Whittier, extending the Portage Highway and replacing the railroad access, is anticipated to result in a dramatic increase in people coming to Whittier and going out into Prince William Sound. Currently, about 200,000 recreating people visit Whittier annually. This is anticipated to increase to over one million people by the end of the decade. While the projected number of visitors has been subject to question, there is universal agreement that there will be a significant increase in people coming to Whittier and going out into the Sound. These people will be seeking access to the Forest once in the Sound.

The second new road is the Carbon Mountain Road on the Copper River Delta. Chugach Alaska Corporation (CAC) proposes to build a 30-mile long road across National Forest lands to the Bering River Coal Fields. A road crossing privately owned lands (with rights of public access) links the proposed road to the Copper River Highway at mile 41. CAC proposes to harvest about 8,000 acres of commercial timber from their lands over the next 10 to 15 years. While the road is not built across National Forest lands, an easement has been granted and construction is anticipated in the near future. This road will provide easier access to an area of the Forest that is now accessible only by jet boats, airboats and floatplanes.

## **Scenery**

The few changes created by management activities in the viewed landscape of the Chugach National Forest, since the late 1970s, appear mainly on the Kenai Peninsula. The biggest change has occurred from more people going to more places and viewing scenery that was seldom seen previously. Some specific changes that have occurred and have affected the scenery are: several large wildlife habitat improvement areas; expanded road corridors as the result of highway reconstruction; powerline upgrades; small timber sales along the Seward Highway corridor; and, several site-specific changes from new recreation facilities and trails. While there have been numerous other management activities, none have had any effect on the scenery. The viewing of scenery is a major recreation activity in and of itself on the Chugach National Forest. It is also a major component in the overall satisfaction of other activities such as hiking, camping, tourism, and fishing.

## **Forest Products**

Since the Chugach National Forest's creation, both commercial and personal use timber harvest has been a common activity. Specific areas of the Forest with road or water access were used for harvesting wood products. Commercial logging for railroad ties, construction materials and mine props dates back to the late 1800s. Much of this timber harvest occurred on the Kenai Peninsula, although some harvest occurred in Prince William Sound and Afognak Island, primarily during the late 1960s and early 1970s. Personal use harvesting of firewood, cabin logs, poles, Christmas trees, transplant trees and shrubs, and other forest products has remained small, but steady and, like commercial harvest, is generally limited to those areas that have road or water access. Despite the level of historical forest products harvested over the last 90 years, most of the forested lands have never been cut and 99 percent of the Forest remains in an unroaded condition.

The Forest's lack of roads and other infrastructure makes many of its potential products inaccessible or economically infeasible to commercially harvest for purchasers, processing facilities or personal use users, particularly during low to middle market cycles. During the most recent high market cycle of the early 1990s, low value wood fiber from the Forest was harvested and processed for chips as far away as Ketchikan, by Louisiana Pacific prior to the shutdown of its mill in 1998 and in Homer, by Circle D-E. However, with the requirement for domestic processing of logs from national forest lands in Alaska, no major processing facilities in Southcentral Alaska, and high transportation costs to markets both inside and outside the state, it is highly probable that demand for commercial quantities of timber from the Chugach National Forest will continue to remain at low levels during the planning period.

## **Minerals**

Geologic, geophysical, and geochemical investigations, along with surveys of known mines, prospects, and mineral occurrences, have been conducted by the U.S. Geological Survey and the U.S. Bureau of Mines to evaluate the mineral resource potential of the Chugach National Forest. Information from these

studies was used to describe the mineral potential. Identified and potential resources include gold, copper, zinc, silver, lead, coal, oil, and possibly manganese, molybdenum, nickel, chromium, barium, cobalt, tungsten, and antimony. Significant amounts of gold and copper were produced on the Forest in the past. Oil has been produced from the Katalla/Controller Bay area of the Forest.

While significant mineral production, mainly copper, lode gold and placer gold, has taken place on the Chugach National Forest in the past, current activities are generally limited to seasonal and part-time placer gold mining, as well as gravel and rock extraction. Lode gold is not currently being produced, however there is some small-scale exploration ongoing at several historic mines. Copper is not being mined at present.

Increased use of gravel resources on the Forest will be linked primarily to road construction activities, such as reconstruction of the Seward and Copper River Highways. Increased use of rock resources will depend heavily on harbor construction or improvements. Increased activity in placer mining will depend, in part, on the price of gold. Recreational gold panning and suction dredging for placer gold is having an impact on a limited portion of the Forest at the present time. Much of this activity is done by instate visitors, although an increase in tourism might cause an increase in recreational gold panning.

The Forest Service considers mineral exploration and development to be important parts of its management program. It cooperates with the Department of the Interior in administering lawful exploration and development. While the Forest Service is mainly involved with surface resource management and protection, it recognizes that mineral exploration and development are ordinarily in the public interest and can be compatible in the long-term, if not immediately, with the purposes for which national forests were established. National Forest System lands are generally available for mineral exploration and mining unless specifically precluded by an act of Congress or other withdrawal.

The Forest currently has four active community material pits, two (one for sand, and one for gravel) on the Seward District, one (gravel) on the Glacier District, and one (sand) on the Cordova District. There are also two community rock sources on the Seward District. Currently about 30 materials permits are issued each year. Material is also used by the Forest Service for various projects, such as campgrounds, Forest roads and trails.

The Spencer Glacier rock quarry was under permit from 1978 to 1997. It is ideally situated along the railroad and there is a demonstrated demand for the rock produced there. The rock is suitable for riprap for road and harbor projects. The quarry is currently not in operation because there is a mining claim issue to be resolved prior to offering the site for competitive bid.

All lands on the Chugach National Forest are open for permit application for salable minerals, with the exception of the Nellie Juan-College Fiord Wilderness Study Area and certain small withdrawn areas. Approval of permits is discretionary.

## **Social and Economic**

Social and economic analysis is conducted by the Forest Service to determine what effects the agency's land management programs have on local communities and the people using the Forest's resources.

With about 0.23 percent of the United States population and 16 percent of the country's total land base, Alaska is the largest state with the third smallest population base. Anchorage is the largest population center in the state and is often more reflective of trends within Alaska as a whole than is the economic activity in the smaller areas of the Kenai Peninsula Borough and the Valdez-Cordova Census Area. When looking at economic and social information, local conditions in these smaller areas can be swamped by the dominance of Anchorage's population. For this reason, it is important to examine conditions and identify trends for each of the three areas individually.

The United States population grew at a steady rate through the 1979-1997 period. During this period, Alaska's population also saw steady growth with the exception of a decline in the mid-1980s due to an economic recession. These same trends were mirrored in the Municipality of Anchorage. Although the Kenai Peninsula Borough followed state trends in the late 1980s with a small decline in population, the borough has shown significant growth since that time and is currently the fastest growing of the three borough/census areas surrounding the Chugach National Forest. The Kenai Peninsula Borough experienced an average growth rate of 2 percent annually between 1990 and 1997, larger than the state average of 1.4 percent during the same period. The Valdez-Cordova Census Area experienced population declines during the recession of the mid-1980s and had a slower recovery than the other areas.

Along with the population changes, employment in Alaska has also been changing. The distribution of employment by the industry sector in Alaska shows some significant differences from that of the United States as a whole. The agriculture-forestry-fishing sector percentage is higher in Alaska and in Southcentral Alaska due to large commercial fishing and seafood processing operations. The mining sector, which includes all hard rock mining as well as oil and gas operations, and the transportation, public utilities and communications sector, each comprise a larger percentage of employment in Alaska and Southcentral Alaska than in the United States. The largest difference in employment distribution is in the government sector, which includes all local, state, and federal employment. Alaska has 10 percent more of its total non-farm employment in this sector than the nation as a whole has. The higher percentage of employment and higher average earnings in this sector make government an important part of Alaska's economy.

Road management of the Preferred Alternative is expected to have a minimal affect on changing the current social and economic conditions.

## **Step 5 – Describing opportunities and setting priorities**

The roads associated with the Preferred Alternative are considered to be the minimum system needed to achieve the theme and desired conditions envisioned in the design of the alternative. The road system identified in the Preferred Alternative will ensure safe and efficient travel, administration, utilization, forest production, forest health, emergency access, and public access needs on the National Forest System lands of the Chugach National Forest.

The Preferred Alternative encourages natural processes across most of the Forest and allows for active management in selected locations to sustain ecological systems and fish and wildlife habitat. It emphasizes winter motorized recreation, summer nonmotorized recreation, recreation facilities adjacent to existing roads and some marine waters, and undeveloped recreation settings across most of the Forest. The Preferred Alternative will help conserve fish and wildlife habitat while providing recreational opportunities. The Preferred Alternative allows for personal use/free use and small-scale commercial forest products to meet Forest stewardship objectives. It allows for mineral opportunities in most areas with moderate to high mineral potential. It emphasizes Wilderness recommendations and supports recommendation of a set of Wild and Scenic Rivers and RNAs that are representative of the full range of biology and geography of the Chugach. Subsistence activities are emphasized.

### **Road Construction, Maintenance and Reconstruction**

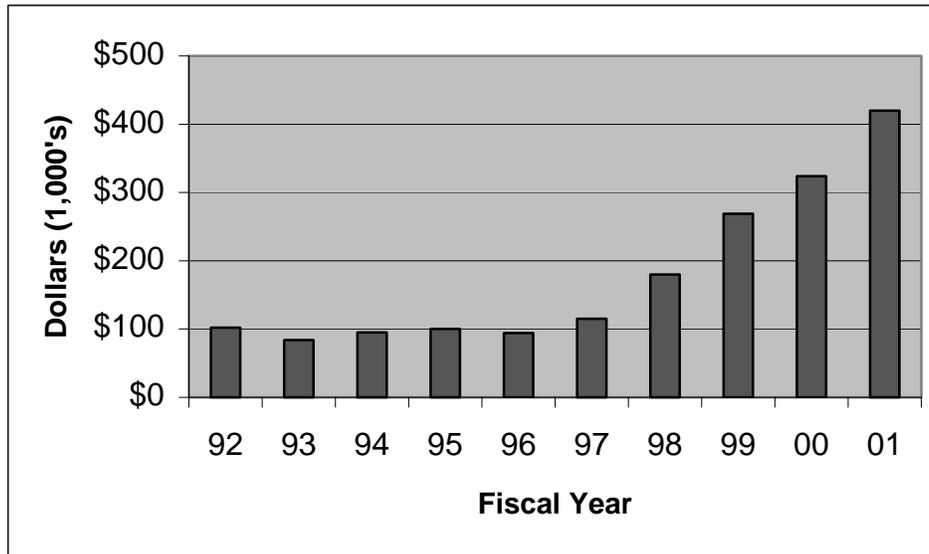
The cost of local, arterial, and collector road construction varies according to the management emphasis of an area. Areas with an emphasis on visual quality (natural settings, etc.) will have higher road construction costs. Roads in these areas will require longer transportation of roadbed material (due to fewer rock quarries per mile of road construction), increased engineering support costs (strategic placement of road), and road location (often constructed in a place that is less cost efficient). On the Chugach, the cost per mile of road ranges from \$30,000 to \$125,000.

Figure B-5 displays the level of funding for road maintenance that the Chugach National Forest received over the last 10 years. According to the Infrastructure Inventory, the deferred maintenance backlog for the Forest is \$2,885,000. The annual maintenance funding needed to keep the system at this level is estimated at \$150,000. Therefore at current funding levels, the Forest is able to reduce backlog maintenance by approximately \$250,000 per year. Current funding would allow completion of all deferred maintenance and roads at design standards within approximately 12 years.

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**Figure B-5: Maintenance funding history (Chugach National Forest).**

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In the management of its road system, the Revised Forest Plan does not anticipate major changes. The priorities for management of the roads will focus on:

1. maintenance of the existing road system;
2. reconstruction of roads needing major repair or changed use;  
and,
3. construction of new roads consistent with the Revised Forest Plan.

The Preferred Alternative, as described in the FEIS and modified in the Record of Decision, and Revised Forest Plan Map provide clear direction as to where these road activities are appropriate and what is emphasized.

At the Revised Forest Plan level, new standards and guidelines for access management have been developed for Forestwide and management area applications.

The Access Management Plan identifies the allowed uses and management of Chugach National Forest roads. Individual roads are listed by name and grouped into the three geographical areas of the Forest: the Kenai Peninsula, Prince William Sound, and the Copper River Delta. These roads can also be found on the Forest Roads Map included with the CD-ROM version of the Revised Forest Plan.

### **Step 6 – Reporting**

Based on the Forest Plan revision process whereby intensive effects analysis and public involvement led to a well informed Preferred Alternative, current and

future road management and improvement decisions are well within the Roads Analysis process. Current funding for road construction and maintenance activities is at a level to maintain and improve the current condition by reducing maintenance backlog. Therefore, Forest managers have the information needed to make future road improvements, including new road construction, consistent with the Revised Forest Plan.

The intended uses of the Forest road system are described on the following pages. Maps that specifically identify the Forest road system are contained on the CD-ROM version of the Revised Forest Plan and FEIS. New proposals influencing roads management are listed in Appendix C. There are no specific proposals for the construction of new roads except for those that could be associated with other management activities, primarily recreation. There are no specific proposals that include the construction of roads in roadless areas. Any such construction would be consistent with national laws, policies, regulations, and Revised Forest Plan direction regarding road construction. Appendix C also lists projects with objectives to restore conditions at specific locations where roads have contributed to environmental problems. Specific projects related to road construction and reconstruction activities other than maintenance will have an environmental analysis and specific project-level decision.

Each management area activity table describes the activities that are allowed in each prescription (Chapter 4 and Appendix F). This information is not repeated here. The current road system of the Forest is summarized by maintenance level in Table B-6. Each of the Forest roads is listed by maintenance level for each District in Table B-7.

**Table B-6: Summary of Forest road system by maintenance level (miles).**

Identifying Number	Road Name or Grouping	Maintenance Level 1	Maintenance Level 2	Maintenance Level 3	Maintenance Level 4	Maintenance Level 5
<b>State Highways</b>						
3	Seward					81
5	Sterling					19
<b>Total</b>						<b>100</b>
<b>Forest Highways</b>						
12	Alyeska					2
14	Hope					18
32	Copper River					45
35	Portage					6
	Exit Glacier					4
<b>Total</b>						<b>75</b>
<b>District Roads</b>						
	Glacier District Forest Roads	0	2	5	4	0
	Cordova District Forest Roads	0	11	14	0	0
	Seward District Forest Roads	0	17	38	5	0
<b>Total</b>		<b>0</b>	<b>30</b>	<b>57</b>	<b>9</b>	<b>0</b>
<b>Roads within Forest Boundary (all maintenance levels)</b>						
<b>Forest Roads</b>		<b>Total</b>		<b>97 miles</b>		
<b>All Roads</b>		<b>Total</b>		<b>272 miles</b>		

**Table B-7: Detailed listing of Forest roads by maintenance level.**

Road Identifier	Road Name	Maintenance				
		Level 1	Level 2	Level 3	Level 4	Level 5
<b>Glacier Ranger District</b>						
40 00 425	East Sixmile			0.200		
40 00 450	Granite Cr Campground			1.373		
40 00 480	Johnson Pass No. Trailhead			0.360		
40 00 460	Power Line		1.300			
40 00 462	Lea		0.538			
40 00 500	Bertha Cr. Campground			0.393		
40 95	Crow Pass Trailhead			0.974		
40 95 100	Glacier RS				0.272	
40 95 101	Glacier RS Bunkhouse			0.033		
40 95 102	Glacier RS Rear Door			0.036		
40 95 103	Glacier RS Overflow			0.041		
40 95 104	Glacier RS Bunkhouse Parking			0.040		
47 00 080	Moose Flats			0.366		
47 00 082	Moose Flats Outhouse			0.011		
47 00 090	Alder Pond			0.200		
47 00 100	Portage Workcenter			0.137		
47 00 150	Explorer Glacier				0.054	
47 00 220	Tangle Pond			0.100		
47 00 230	Black Bear Campground			0.225		
47 00 300	Williwaw Campground				0.212	
47 00 301	Williwaw Campground Loop				1.156	
47 00 302	Williwaw Campground Cross				0.079	
47 00 320	Williwaw Ponds			0.100		
47 00 390	Sewage Lagoon		0.200			
47 00 400	BBVC				0.400	
47 00 401	BBVC Lakeside Parking				0.100	
47 00 402	BBVC Exit				0.100	
47 00 403	BBVC Parking Lot #2				0.100	
47 00 404	BBVC Parking Lot #1				0.100	
47 00 450	Byron Glacier				1.217	
47 00 455	Byron Glacier Trailhead				0.068	
<b>Glacier District Total</b>	<b>10.485 miles</b>	<b>0.000</b>	<b>2.038</b>	<b>4.589</b>	<b>3.858</b>	<b>0.000</b>
<b>Cordova Ranger District</b>						
80 00 010	Cordova Residence			0.044		
80 00 020	Cordova Workcenter			0.084		
80 00 023	Cordova Workcenter Bunkhouse			0.056		
80 00 027	Cordova Workcenter 4-plex			0.037		
80 00 100	Eyak River Landing			0.080		
80 00 101	Eyak River Parking Area			0.136		
80 00 150	McKinley Lakes Parking				0.021	
80 00 160	Pipeline Lake				0.059	
80 00 170	Mile 10.7				0.052	
80 00 200	Cabin Lake			2.697		
80 00 210	Sheridan Glacier			3.990		
80 00 220	Goat Camp (to wash out)		1.264			
80 00 220	Goat Camp (beyond wash out)		5.200			
80 00 230	Dike		2.041			
80 00 240	Alaganik Slough			3.145		
80 00 250	Mile 18		1.206			
80 00 255	Put & Take			0.125		
80 00 265	Muskeg Meadows			0.020		
80 00 270	Hay Stack Trail Parking			0.013		
80 00 285	Alaganik Slough Day Use			0.097		

**Table B-7 (continued): Detailed listing of Forest roads by maintenance level.**

Road Identifier	Road Name	Maintenance Level 1	Maintenance Level 2	Maintenance Level 3	Maintenance Level 4	Maintenance Level 5
<b>Cordova Ranger District (continued)</b>						
80 00 286	Alaganik Slough Day Use Boat Ramp		0.041			
80 00 293	Canoe Route Parking			0.014		
80 00 330	Saddlebag			0.954		
80 00 333	Firewood #1		0.082			
80 00 335	Firewood #2	0.187				
80 00 337	Firewood #3		0.055			
80 00 390	Flag Point		0.160			
80 00 490	Easement Road, MP 37		0.732			
80 00 493	Easement Road, MP 39		0.615			
80 00 550	Childs Glacier			0.803		
80 10	Power Creek (gated)			1.683		
<b>Cordova District Total</b>	<b>25.693 miles</b>	<b>0.187</b>	<b>11.396</b>	<b>13.978</b>	<b>0.132</b>	<b>0.000</b>
<b>Seward Ranger District</b>						
10 00 005	Schooner Bend		0.400			
10 00 010	Resurrection Pass So. Trailhead			0.094		
10 00 020	Kenai River Access, Mile 52.7			0.444		
10 00 025	Footprint Road & Park				0.261	
10 00 026	Footprint Loop				0.026	
10 00 100	No. Cooper Creek Campground			0.282		
10 00 101	So. Cooper Creek Campground			0.290		
10 00 900	Tern Lake			0.261		
10 00 910	Old Sterling		0.300			
10 00 913	Old Sterling Spur		0.100			
10 00 920	Tern Lake Parking			0.092		
10 10	Juneau Creek			2.971		
10 15	Russian River (RR) Campground (CG)			2.041		
10 15 001	RR CG Exit				0.082	
10 15 002	RR CG Overflow Return				0.138	
10 15 003	RR CG Overflow Parking				0.158	
10 15 010	RR CG Upper Trailhead Park				0.025	
10 15 011	RR CG Lower Trailhead Park				0.028	
10 15 012	RR CG Red Salmon Loop				0.279	
10 15 013	RR CG Pink Salmon Loop				0.127	
10 15 014	RR CG Steelhead Parking				0.272	
10 15 015	RR CG Silver Salmon Loop				0.324	
10 15 016	RR CG Rainbow Trout Right Loop				0.190	
10 15 017	RR CG Rainbow Trout Left Loop				0.241	
10 15 018	RR CG King Salmon Loop				0.265	
10 15 100	Lower Russian		0.827			
10 30	Snug Harbor			12.020		
10 30 600	Power Site		0.851			
10 50	Quartz Creek			3.265		
10 50 100	Quartz Creek Campground				1.048	
10 50 150	Crescent Creek Campground				0.468	
20 00 100	Bear Lake			1.400		
20 00 495	Ptarmigan Creek Campground			0.355		
20 00 496	Ptarmigan Day Use			0.191		
20 00 510	Kenai Lake Trailer Site			0.274		
20 00 550	Kenai Lake Workcenter (KLWC)				0.206	
20 00 551	KLWC Bunkhouse				0.126	
20 00 552	KLWC Service Road				0.054	
20 00 875	Upper Trail Lake Trailhead				0.045	
20 00 900	Carter Lake Trailhead				0.035	

**Table B-7 (continued): Detailed listing of Forest roads by maintenance level.**

Road Identifier	Road Name	Maintenance Level 1	Maintenance Level 2	Maintenance Level 3	Maintenance Level 4	Maintenance Level 5
<b>Seward Ranger District (continued)</b>						
20 30	Primrose Landing			0.850		
20 30 001	Primrose CG Boat Launch			0.042		
20 30 010	Primrose Landing Campground			0.181		
20 50	Trail River			0.743		
20 50 200	Trail River Campground			0.503		
20 50 201	Trail River CG Day Use Loop			0.268		
20 50 202	Trail River CG Lakeside Loop			0.271		
20 50 203	Trail River CG Grandview Loop			0.196		
20 50 204	Trail River CG Sprucewoods Loop			0.284		
20 50 205	Trail River CG Terrace Loop			0.482		
40 00 050	Rabbit		1.328			
40 00 053	Jerome		0.793			
40 00 070	Devils Pass Trailhead				0.124	
40 00 080	Eastside		1.911			
40 00 090	Slate Creek		0.923			
40 00 097	Summit Creek Trailhead			0.078		
40 00 120	Tenderfoot Campground			1.013		
40 00 135	Fresno Creek		0.600			
40 00 150	Mills Creek		2.500			
40 00 310	Why		0.600			
40 00 425	East Sixmile		0.200			
44 00 250	Hope Guard Station			0.100		
44 00 400	Bear Creek		0.800			
44 00 800	Porcupine Campground				0.684	
44 60	Palmer Creek		4.358	6.925		
44 60 100	Resurrection Creek			2.440		
44 60 170	Resurrection Pass No. Trailhead			0.040		
44 60 600	Coeur d'Alene Campground			0.010		
44 70	Porcupine		0.500			
<b>Seward District Total</b>	<b>60.603 miles</b>	<b>0.000</b>	<b>16.991</b>	<b>38.406</b>	<b>5.206</b>	<b>0.000</b>

## Access Management Plan

This Access Management Plan addresses only existing roads, trails and routes of the Chugach National Forest and identifies the methods of public access allowed. The methods of access described in the tables that follow apply to the general public. Access for emergencies, administrative purposes, to private lands, or to legal mining claims under a plan of operations may be different than the general access limitations shown in this Access Management Plan. This plan is divided into two parts; Part 1, a Road Management section and Part 2, a Trails and Routes Management section.

This Access Management Plan should be used with the Winter and Summer Motorized Recreation Access Maps. Limits on specific types of access that are more restrictive than the Winter and Summer Motorized Recreation Access Maps may be found in this Access Management Plan. Where known resource impacts occur or are anticipated, or where the road, trail or route is not constructed or maintained to withstand a certain type of access more restrictive limits to access may apply.

Unless specifically stated in a Forest standard, guideline or management area prescription, seasons of use are as follows:

Highway Vehicles	Year-round	High Clearance Vehicles	Year round
OHVs	6/1 – 3/31	Motorcycles	6/1 – 3/31
Horses	7/1 – 3/31	Bicycles	7/1 – 3/31
Hikers	Year-round	Snow Machines	see Forestwide standards & guidelines
Skiers	Year-round	Dog Sleds	Year-round

Seasons of use may be shortened or lengthened by order of the Forest Supervisor depending upon weather or other conditions.

### Part 1 – Road Management

This section details allowed uses and management direction for Chugach National Forest roads. Individual roads are listed by name and grouped by the three geographical areas of the Forest: the Kenai Peninsula, Prince William Sound and the Copper River Delta. These roads are mapped in the Forest's Geographic Information System corporate database and are included with the CD-ROM version of the Revised Forest Plan.

Only roads under the jurisdiction of the Forest Service are listed in Table B-8. Mileage figures in this table may vary slightly from those reported in the Roads Analysis section at the beginning of this appendix because they were generated from different Forest Service databases. Road restrictions that apply to roads under borough, state or other federal agencies may be found by contacting the appropriate agency. Private routes over which the Forest Service has no authority to regulate are not listed.

Modes of access addressed in the table include full sized motor vehicles (over 50 inches wide), high clearance motor vehicles (over 50 inches wide), off highway

vehicles (OHVs), motorcycles, horses (including riding and packing), bicycles, hiking, snowmachines (includes all over-snow vehicles), skiing, and dog sledding. Off highway vehicles and motorcycles not licensed for highway travel are not allowed on Forest Service roads managed for highway-type vehicles.



**Table B-8: Road management.<sup>1</sup>**

Road Names	Forest Development Road Number	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skiing (SK)	Dog Sledding (DS)	Management Direction or Restriction Codes <sup>2</sup>	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula</b>														
Alder Pond Rd	47 00 090	0.17	Y	Y	N	Y	Y	Y	Y	N	Y	Y	1	
BBVC Rd	47 00 400-404	0.24	Y	Y	N	Y	N	Y	Y	N	N	N	1	
Bear Creek Rd	44 00 400	3.50	N	M	M	M	Y	Y	Y	Y	Y	Y	7	
Bertha Creek CG Rd	40 00 500	0.40	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Black Bear CG Rd	47 00 230	0.18	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Byron Glacier Rd	47 00 450	1.20	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Canyon Creek Rd		0.70	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	
Carter Lake Parking Rd	20 00 900	0.04	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	
Cooper Dam Rd		0.40	N	N	N	N	Y	Y	Y	Y	Y	Y	1	
Crescent Creek CG Rd	10 50 100	0.60	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Cripple Creek Rd		0.60	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	
Crow Pass Rd		3.60	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	
Crown Point Mine Rd		4.20	N	N	Y	Y	Y	Y	Y	Y	Y	Y	1	
East Sixmile Rd	40 00 425	0.20	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	3	
Eastside Rd	40 00 080	2.00	N	N	N	N	Y	Y	Y	Y	Y	Y	1	
Exit Glacier Rd		3.48	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	After gate closed, SK and DS ONLY
Explorer Glacier Pullout	47 00 150	0.10	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	

<sup>1</sup> Y – Method of Access is Allowed  
 N – Method of Access is Not Allowed  
 M – Mining Road; Method of Access is Not Allowed for public recreation. Method of Access is Allowed for mining operations personnel only.

<sup>2</sup> **Management Direction or Restriction Codes**

<b>Code</b>	<b>Direction or Restriction</b>
1	No Restrictions
2	No winter maintenance
3	To protect the values of a special area (RNA; special interest area; Wild, Scenic, and Recreational Rivers; Wilderness; etc.
4	To protect soil and water resources by reducing erosion
5	To reduce disturbance to wildlife
6	Funding for maintenance or reconstruction necessary to protect the adjacent resources and provide for a safe public facility is not available
7	To reduce road damage and erosion
8	To provide security for government or permitted facilities
9	Administrative use only
10	To provide a nonmotorized recreation experience

**Table B-8 (continued): Road management.<sup>1</sup>**

Road Names	Forest Development Road Number	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skiing (SK)	Dog Sledding (DS)	Management Direction or Restriction Codes <sup>2</sup>	Special Conditions or Seasonal Restrictions	
<b>Kenai Peninsula (continued)</b>															
Falls Creek Mine Rd		5.70	N	N	Y	Y	Y	Y	Y	Y	Y	Y	1		
Granite Creek CG Rd	40 00 450	1.42	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Grant Lake Mine Rd		2.61	N	N	N	N	N	N	Y	Y	Y	Y	2		
Hershey Mine Rd		1.00	N	N	Y	Y	Y	Y	Y	Y	Y	Y	1		
Hope Guard Station Rd	44 00 250	0.06	N	N	N	N	N	N	N	N	N	N	8		
Jerome Rd	40 00 053	0.80	N	N	N	N	Y	Y	Y	N	Y	Y	10		
Johnson Pass Trail Rd	40 00 480	0.34	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1		
Juneau Creek Rd	10 10	3.10	N	N	N	N	Y	Y	Y	Y	Y	Y	6		
KLWC Rd	20 00 550-552	0.30	N	N	N	N	N	N	N	N	N	N	8		
Lea Rd	40 00 462	0.50	N	N	N	N	Y	Y	Y	Y	Y	Y	6		
Lyons Pond Rd	40 00 150	0.40	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1		
Mills Creek Rd	40 00 150	3.50	N	N	N	N	Y	Y	Y	N	Y	Y	10		
Mink Creek Mine Access		0.90	N	N	N	N	Y	Y	Y	Y	Y	Y	9		
Moose Flats Rd	47 00 080	0.37	Y	Y	N	Y	N	Y	Y	N	Y	Y	1		
N Cooper Creek CG Rd	10 00 100	0.29	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Nearhouse Mine Rd		0.30	N	M	M	M	Y	Y	Y	Y	Y	Y	1		
Nearhouse Mine Rd #2		0.60	N	M	M	M	Y	Y	Y	Y	Y	Y	1		
Palmer Creek Jeep Rd		1.40	N	M	M	M	Y	Y	Y	Y	Y	Y	1		
Palmer Creek Rd	44 60	12.0	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1		
Porcupine CG Rd	44 70	0.59	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Portage Boat Launch Rd		0.09	Y	Y	N	Y	N	Y	Y	N	Y	Y	1		
Portage Glacier Hwy	35	5.79	Y	Y	N	Y	N	Y	Y	N	N	N	1		
Portage Workcenter Rd	47 00 100	0.10	N	N	N	N	N	N	N	N	N	N	8		
Powerline Rd	40 00 460	1.40	N	N	N	N	Y	Y	Y	Y	Y	Y	6		
Primrose CG Rd	20 30 001	0.47	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Primrose Landing Rd	20 30 010	0.85	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Ptarmigan Creek CG Rd	20 00 495-496	0.47	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1		
Quartz Creek CG Rd	10 50 100	0.94	Y	Y	N	Y	N	Y	Y	N	Y	Y	1		
Quartz Creek Rd	10 50	5.90	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	1		
Rabbit Rd	40 00 050	1.30	N	N	N	N	Y	Y	Y	N	Y	Y	10		
Resurrection Creek Rd	44 60 100	4.50	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1		

**Table B-8 (continued): Road management.<sup>1</sup>**

Road Names	Forest Development Road Number	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skiing (SK)	Dog Sledding (DS)	Management Direction or Restriction Codes <sup>2</sup>	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula (continued)</b>														
Russian River CG Rd	10 15 100-103 & 011-018	4.29	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Russian River Trail Rd	10 15 010	0.05	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
S Cooper Creek CG Rd	10 00 101	0.27	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Schooner Bend Rd	10 00 005	0.39	N	N	N	N	N	N	Y	N	Y	N	8	
Sewage Lagoon Rd	47 00 390	0.18	N	N	N	N	Y	Y	Y	N	Y	Y	10	
Slate Creek Mine Rd	40 00090	0.90	N	N	N	N	Y	Y	Y	Y	Y	Y	6	
Swetmann Mine Rd		1.00	N	M	M	M	Y	Y	Y	Y	Y	Y	1	
Tenderfoot CG Rd	40 00 120	1.00	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Tern Lake CG Rd	10 00 900	0.57	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Trail River CG Rd	20 50 200-205	2.53	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Upper Trail Lake Parking		0.06	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	1	
Williwaw CG Rd	47 00 300-302	1.07	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Williwaw Ponds Rd	47 00 320	1.14	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
<b>Prince William Sound</b>														
Two Moon Bay Rd		0.80	N	N	N	N	Y	Y	Y	N	Y	Y	1	HC and OHV by Tatitlek Village Corporation ONLY
<b>Copper River Delta</b>														
Alaganik Rd		3.23	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Cabin Lake Rd		2.81	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Carbon Mountain Rd.		29.0	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	Proposed Road
Childs Glacier Rd		0.77	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
CRD Workcenter Rd		0.05	N	N	N	N	N	N	N	N	N	N	8	
Dike Rd		2.00	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Eyak River Landing		0.07	Y	Y	N	Y	N	Y	Y	N	Y	Y	1	
Firewood Rd		0.20	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Goat Camp Rd		4.40	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Saddlebag Glacier Rd		0.80	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	
Sheridan Glacier Rd		4.23	Y	Y	N	Y	N	Y	Y	Y	Y	Y	1	

## Part 2 – Trails and Routes Management

This section identifies the allowed uses and management direction for Chugach National Forest trails and routes. Individual trails and routes are listed by name and grouped into the three geographical areas of the Forest: the Kenai Peninsula, Prince William Sound, and the Copper River Delta. These trails and routes are mapped in the Forest's Geographic Information System corporate database and are included with the CD-ROM version of the Revised Forest Plan.

Only trails and routes under the jurisdiction of the Forest Service are listed. Trails and routes under the jurisdiction of borough, state or other federal agencies are not included. Restrictions that apply to those trails and routes may be found by contacting the appropriate agency. Private routes over which the Forest Service has no authority to regulate are not listed.

Modes of access addressed in the Table B-9 include full-sized motor vehicles (over 50 inches wide), high clearance motor vehicles (over 50 inches wide), off highway vehicles (OHVs), motorcycles, horses (including riding and packing), bicycles, hiking, snowmachines (includes all over-snow vehicles), skiing, and dog sledding.



**Table B-9: Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula</b>												
Bartlett Glacier Ski Tr	2.31	N	N	N	N	N	N	Y	Y	Y	Y	
Bean Creek Tr	2.02	N	N	N	N	Y	Y	Y	Y	Y	Y	SM 12/1 - 2/15 ONLY
Bertha Creek ATV Tr	0.50	N	N	Y	Y	N	Y	Y	N	Y	Y	
Byron Glacier Tr	0.80	N	N	N	N	Y	Y	Y	N	N	N	Winter travel not recommended
Carter Lake Tr	3.14	N	N	N	N	Y	Y	Y	N	Y	Y	
Center Ridge Ski Tr	1.75	N	N	N	N	N	N	Y	N	Y	Y	
Clemens Cabin Access Tr	0.63	N	N	N	N	Y	Y	Y	Y	Y	Y	
Colorado Creek Tr	4.15	N	N	N	N	Y	Y	Y	Y	Y	Y	
Cooper Lake Cut-off Tr	0.55	N	N	N	N	N	N	Y	Y	Y	Y	
Cooper Lake Tr	3.81	N	N	N	N	N	N	Y	Y	Y	Y	
Cooper Lk-Lost Lk Wn Rt	15.32	N	N	N	N	N	N	Y	Y	Y	Y	
Crescent Creek Tr	5.46	N	N	N	N	Y	Y	Y	N	Y	Y	Winter travel not recommended
Crescent Lake Tr	3.81	N	N	N	N	N	N	Y	N	Y	Y	
Crow Pass Alt Route	0.70	N	N	N	N	Y	Y	Y	N	N	N	Winter travel not recommended
Crow Pass Tr	3.86	N	N	N	N	Y	Y	Y	N	N	N	Winter travel not recommended
Devils Pass Tr	9.57	N	N	N	N	Y	Y	Y	N	N	N	Winter travel not recommended
E Fk Sixmile Boat Access	0.03	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Eagle Glc Crow Creek Rt	2.30	N	N	N	N	N	N	Y	N	Y	Y	
Eklutna Trv-Eagle Glc Rt	6.61	N	N	N	N	N	N	Y	N	Y	Y	
Eklutna Trv-Raven Glc Rt	2.91	N	N	N	N	N	N	Y	N	Y	Y	
Falls Creek ORV Tr	1.48	N	N	Y	Y	Y	Y	Y	Y	Y	Y	
Fresno Creek Tr	3.09	N	N	N	N	N	N	Y	N	Y	Y	
Glacier Moraine Tr	0.12	N	N	N	N	N	N	Y	N	N	N	
Grant Creek Tr	0.70	N	N	N	N	N	N	Y	Y	Y	Y	
Grant Lake Tr	5.03	N	N	N	N	N	N	Y	Y	Y	Y	
Grayling Lake Tr	1.13	N	N	N	N	N	N	Y	N	Y	Y	
Gulch Creek Tr	1.29	N	N	N	N	Y	Y	Y	Y	Y	Y	

<sup>1</sup> Y – Method of Access is Allowed  
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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula (continued)</b>												
Gull Rock Tr	5.03	N	N	N	N	Y	Y	Y	Y	Y	Y	
Hope Point Tr	2.28	N	N	N	N	N	N	Y	N	N	N	
Iditarod Historic Rt	0.58	N	N	N	N	N	N	Y	N	Y	Y	
Iditarod Recreation S Tr	3.18	N	N	N	N	Y	Y	Y	Y	Y	Y	
Iditarod Recreation Tr	3.56	N	N	N	N	Y	Y	Y	Y	Y	Y	
Johnson Creek Winter Rt	4.16	N	N	N	N	N	N	Y	Y	Y	Y	
Johnson Pass Tr	20.69	N	N	N	N	Y	Y	Y	Y	Y	Y	
Johnson Pass Wagon Rd Tr	4.93	N	M	M	M	Y	Y	Y	Y	Y	Y	
Kern Creek Loop Tr	0.86	N	N	N	N	N	N	Y	N	Y	Y	
Leech Lake Tr	0.46	N	N	N	N	N	N	Y	N	Y	Y	
Long Lake Tr	0.59	N	N	N	N	N	N	Y	N	Y	Y	
Lost Lake Tr	6.58	N	N	N	N	Y	Y	Y	Y	Y	Y	
Lost Lake Winter Rt	3.06	N	N	N	N	N	N	Y	Y	Y	Y	
Manitoba Cabin Winter Rt	0.10	N	N	N	N	Y	Y	Y	N	Y	Y	
Meridian Lake Tr	0.43	N	N	N	N	N	N	Y	N	Y	Y	
Mills Creek Tr	0.68	N	N	N	N	Y	Y	Y	N	Y	Y	
Moose Flats Angler Tr	0.07	N	N	N	N	N	N	Y	N	Y	N	
Moose Flats Wetland Tr	0.23	N	N	N	N	N	N	Y	N	Y	N	
Moose Pass-Coop Ldg Wn Rt	7.50	N	N	N	N	N	N	Y	Y	Y	Y	
Mt Alice Tr	0.99	N	N	N	N	N	N	Y	N	Y	Y	
Old Sterling Hwy Tr	0.09	N	N	N	N	Y	Y	Y	Y	Y	Y	
Palmer Lake Tr	0.60	N	N	N	N	Y	Y	Y	Y	Y	Y	
Peterson Creek Tr	0.51	N	N	N	N	N	N	Y	N	Y	N	
Placer River Winter Rt	7.81	N	N	N	N	N	N	Y	Y	Y	Y	
Primrose Tr	6.78	N	N	N	N	Y	Y	Y	Y	Y	Y	
Ptarmigan Creek Cutoff	1.07	N	N	N	N	Y	Y	Y	Y	Y	Y	
Ptarmigan Creek Tr	2.93	N	N	N	N	Y	Y	Y	Y	Y	Y	

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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula (continued)</b>												
Ptarmigan Lake Tr	3.50	N	N	N	N	Y	Y	Y	Y	Y	Y	
Rainbow Lake Tr	0.27	N	N	N	N	N	Y	Y	Y	Y	Y	
Rendezvous Creek Tr	0.56	N	N	N	N	N	Y	Y	Y	Y	Y	
Resurrection Pass Tr	36.12	N	N	N	N	Y	Y	Y	Y	Y	Y	SM 12/1 - 2/15 ONLY
Resurrection River Tr	15.15	N	N	N	N	Y	Y	Y	Y	Y	Y	
Russian Lakes Tr	22.46	N	N	N	N	Y	Y	Y	Y	Y	Y	Closed to SM from Russian River CG to Aspen Flats Cabin
Russian River Anglers Tr	3.61	N	N	N	N	N	N	Y	N	N	N	
Russian River Falls Tr	0.20	N	N	N	N	Y	Y	Y	N	Y	Y	
Slate Creek Tr	0.57	N	N	N	N	Y	Y	Y	Y	Y	Y	
Snow River Winter Rt	13.40	N	N	N	N	N	N	Y	N	Y	Y	
Spencer Glc Winter Rt	2.74	N	N	N	N	N	N	Y	Y	Y	Y	Closed to SM after 3/31
Stetson Creek Tr	5.24	N	N	M	M	Y	Y	Y	Y	Y	Y	
Stumpys Winter Rt	5.42	N	N	N	N	N	N	Y	N	Y	Y	
Summit Creek Tr	8.40	N	N	N	N	N	N	Y	Y	Y	Y	
Swan Lake Winter Rt	1.30	N	N	N	N	N	N	Y	Y	Y	Y	SM 12/1 - 2/15 ONLY
Tincan Mtn Ski Tr	1.92	N	N	N	N	N	N	Y	N	Y	Y	
Tincan Secondary Ski Tr	1.00	N	N	N	N	N	N	Y	N	Y	Y	
Tr Blue Ice Expl Ridge	1.84	N	N	N	N	N	N	Y	N	Y	N	Proposed Trail
Tr Blue Ice Ponds Loop	1.30	N	N	N	N	N	Y	Y	N	Y	Y	
Tr of Blue Ice-Byron TH	0.83	N	N	N	N	N	Y	Y	N	Y	Y	Proposed Trail
Trail Creek Winter Rt	8.14	N	N	N	N	N	N	Y	Y	Y	Y	
Trail Glacier Winter Rt	3.01	N	N	N	N	N	N	Y	Y	Y	Y	
Trail of Blue Ice	6.30	N	N	N	N	N	Y	Y	N	Y	Y	
Trout Lake Tr	0.44	N	N	N	N	Y	Y	Y	Y	Y	Y	SM 12/1 - 2/15 ONLY
Upper Russian Winter Rt	3.19	N	N	N	N	N	N	Y	Y	Y	Y	
Victor Creek Tr	1.92	N	N	N	N	Y	Y	Y	Y	Y	Y	
Wibel Tr	2.82	N	N	N	N	Y	Y	Y	N	Y	Y	

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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Kenai Peninsula (continued)</b>												
Williwaw National Rec Tr	0.31	N	N	N	N	N	Y	Y	N	Y	Y	
Winner Creek S Branch Tr	4.01	N	N	N	N	N	N	Y	N	Y	Y	
Winner Creek Tr	1.48	N	N	N	N	N	N	Y	N	Y	Y	
<b>Prince William Sound</b>												
Beach River Easement Tr	3.25	N	N	Y	N	N	Y	Y	N	Y	Y	
Beach River Side Easement Tr	1.67	N	N	Y	N	N	Y	Y	N	Y	Y	
Box Point Easement Tr	1.46	N	N	Y	N	N	Y	Y	N	Y	Y	
Canoe Creek Tr	1.18	N	N	N	N	N	Y	Y	N	Y	Y	
Canoe Passage Tr	1.84	N	N	N	N	N	Y	Y	N	Y	Y	
Cascade Bay Tr	0.33	N	N	N	N	N	N	Y	N	Y	Y	
Coghill Lake Tr	2.90	N	N	N	N	N	N	Y	N	Y	Y	
Comfort Cove Easement Tr	1.97	N	N	Y	N	N	Y	Y	N	Y	Y	
Deep Water-Contact GI Tr	0.63	N	N	N	N	N	N	Y	N	Y	Y	
Deer Easement Tr	1.76	N	N	Y	N	N	Y	Y	N	Y	Y	
Duck River Easement Tr	5.10	N	N	Y	N	N	Y	Y	N	Y	Y	
Eshamy Lagoon Easement Tr	0.34	N	N	Y	N	N	N	Y	N	Y	Y	
Esther Island N Portage	0.25	N	N	N	N	N	N	Y	N	Y	Y	
Fidalgo-Gravina Portage	0.49	N	N	N	N	N	N	Y	N	Y	Y	
Granite Mine Access Tr	0.52	N	N	N	N	N	N	Y	N	Y	Y	
Heather Bay Easement Tr	1.62	N	N	Y	N	N	N	Y	N	Y	Y	
Hidden Cove Tr	2.75	N	N	N	N	N	Y	Y	N	Y	Y	
Indian Creek Easement Tr	2.39	N	N	Y	N	N	Y	Y	N	Y	Y	
Jackpot Bay Easement Tr	0.92	N	N	Y	N	N	N	Y	N	Y	Y	
Jade Harbor Easement Tr	0.46	N	N	Y	N	N	Y	Y	N	Y	Y	
Lansing Mine Access Tr	0.66	N	N	N	N	N	N	Y	N	Y	Y	
Makaka Lakes Tr	5.12	N	N	N	N	N	N	Y	N	Y	Y	

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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Prince William Sound (continued)</b>												
Milton Lake Tr	1.71	N	N	N	N	N	N	Y	N	Y	Y	
Montague Ridge Easement Tr	1.80	N	N	Y	N	N	N	Y	N	Y	Y	
Olsen Bay Easement Tr	1.59	N	N	Y	N	N	N	Y	N	Y	Y	
Otter Creek Portage	0.82	N	N	N	N	N	N	Y	N	Y	Y	
Otter Creek Portage #2	0.20	N	N	N	N	N	N	Y	N	Y	Y	
Otter Lake Portage	0.13	N	N	N	N	N	N	Y	N	Y	Y	
Patton Bay Easement Tr	1.10	N	N	Y	N	N	N	Y	N	Y	Y	
Patton River Easement Tr	4.27	N	N	Y	N	N	N	Y	N	Y	Y	
Portage Pass Tr	1.49	N	N	N	N	Y	Y	Y	N	Y	Y	Winter travel not recommended
Raging Creek Easement Tr	5.90	N	N	Y	N	N	N	Y	N	Y	Y	
Red Lake Portage	0.16	N	N	N	N	N	N	Y	N	Y	Y	
Robinson Falls Easement Tr	1.98	N	N	Y	N	N	N	Y	N	Y	Y	
Rude River N Easement Tr	8.52	N	N	Y	N	N	N	Y	N	Y	Y	
Rude River S Easement Tr	7.97	N	N	Y	N	N	N	Y	N	Y	Y	
Sahlin Creek Easement Tr	1.18	N	N	Y	N	N	N	Y	N	Y	Y	
Sawmill Bay Easement Tr	0.26	N	N	Y	N	N	N	Y	N	Y	Y	
Shephard Pt Easement Tr	1.51	N	N	Y	N	N	N	Y	N	Y	Y	
Shrode Lake Tr	0.91	N	N	N	N	N	N	Y	N	Y	Y	
Simpson Bay N Easement Tr	2.13	N	N	Y	N	N	N	Y	N	Y	Y	
Simpson Bay S Easement Tr	2.73	N	N	Y	N	N	N	Y	N	Y	Y	
Stellar Creek Easement Tr	1.97	N	N	Y	N	N	N	Y	N	Y	Y	
3 Finger-Shrode Lake Tr	1.62	N	N	N	N	N	Y	Y	N	Y	Y	
<b>Copper River Delta</b>												
Alaganik Boardwalk Tr	0.14	N	N	N	N	N	N	Y	N	N	N	
Alice Smith Intertie Tr	6.17	N	N	N	N	N	N	Y	N	Y	N	
Childs Glacier N Easement Tr	1.17	N	N	N	N	N	N	Y	Y	Y	Y	
Childs Glacier S Easement Tr	2.87	N	N	Y	Y	N	N	Y	Y	Y	Y	

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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skating (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Copper River Delta (continued)</b>												
Childs Glacier Tr	0.70	N	N	N	N	N	Y	Y	Y	Y	Y	
Copper River Easement Tr	5.28	N	N	Y	Y	Y	Y	Y	Y	Y	Y	
Crater Lake Tr	2.15	N	N	N	N	N	N	Y	N	Y	N	
Eyak Lake Weir Easement Tr	0.05	N	N	Y	N	N	N	Y	Y	Y	Y	
Eyak Lk Mid Arm Easement Tr	0.54	N	N	Y	N	N	N	Y	Y	Y	Y	
Eyak Lk S Arm Easement Tr	0.70	N	N	Y	N	N	N	Y	Y	Y	Y	
Eyak River Easement Tr	3.20	N	N	Y	N	N	N	Y	Y	Y	Y	
Fish Habitat Interp Tr	0.12	N	N	N	N	N	N	Y	N	N	N	
Goat Mountain Easement Tr	3.65	N	N	Y	N	Y	Y	Y	Y	Y	Y	
Goodwin Glacier Easement Tr	1.60	N	N	Y	N	N	Y	Y	Y	Y	Y	
Gravel Road S Easement Tr	0.56	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Grinnell Glacier Easement Tr	1.41	N	N	Y	N	N	N	Y	Y	Y	Y	
Haystack Tr	0.70	N	N	N	N	N	N	Y	N	N	N	
Heney Glacier Easement Tr	1.79	N	N	Y	N	N	N	Y	Y	Y	Y	
Heney Ridge Easement Tr	2.54	N	N	N	N	N	N	Y	Y	Y	Y	
Ibeck Creek N Tr	1.28	N	N	Y	N	N	N	Y	Y	Y	Y	
Ibeck Slough E Easement Tr	1.04	N	N	Y	N	N	N	Y	Y	Y	Y	
Lake Elsner Easement Tr	6.03	N	N	Y	N	Y	Y	Y	Y	Y	Y	
Lydic Slough Easement Tr	1.30	N	N	Y	N	N	N	Y	Y	Y	Y	
Marshall Pass Easement Tr	4.75	N	N	Y	N	N	N	Y	Y	Y	Y	
McKinley Lakes Tr	2.24	N	N	N	N	Y	Y	Y	Y	Y	Y	
Meeks Pond Tr	0.53	N	N	N	N	N	N	Y	N	Y	Y	
Miles Lake Easement Tr	4.02	N	N	Y	N	N	Y	Y	Y	Y	Y	
Muskeg Meander Ski Tr	3.06	N	N	N	N	Y	Y	Y	Y	Y	Y	
Old Boundary Easement Tr	0.95	N	N	Y	N	N	N	Y	Y	N	N	
Pipeline Lakes Tr	1.61	N	N	N	N	N	N	Y	N	Y	Y	
Power Creek Easement Tr	2.50	N	N	Y	N	N	N	Y	N	Y	Y	

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**Table B-9 (continued): Trails and routes management.<sup>1</sup>**

Trails and Routes	Miles	Highway Vehicles (HV)	High Clearance Vehicles (HC)	Off Highway Vehicles (OHV)	Motorcycles (M)	Horses (H)	Bicycles (B)	Hiking (HK)	Snowmachines (SM)	Skiing (SK)	Dog Sledding (DS)	Special Conditions or Seasonal Restrictions
<b>Copper River Delta (continued)</b>												
Power Creek Tr	1.79	N	N	N	N	Y	Y	Y	N	Y	Y	
Saddlebag Glacier Tr	3.07	N	N	N	N	Y	Y	Y	Y	Y	Y	
Schwan Glacier E Easement Tr	0.72	N	N	Y	N	N	Y	Y	Y	Y	Y	
Schwan Glacier W Easement Tr	1.08	N	N	Y	N	N	Y	Y	Y	Y	Y	
Scott River NE Easement Tr	1.29	N	N	Y	N	N	Y	Y	Y	Y	Y	
Scott River SE Easement Tr	0.90	N	N	Y	N	N	Y	Y	Y	Y	Y	
Scott River SW Easement Tr	1.24	N	N	Y	N	N	Y	Y	Y	Y	Y	
Sheridan Glacier Easement Tr	0.25	N	N	Y	N	N	N	Y	Y	Y	Y	
Sheridan Glacier Tr	0.29	N	N	N	N	N	N	Y	Y	Y	Y	
Sheridan Glc Fac Easement Tr	0.66	N	N	Y	N	N	N	Y	Y	Y	Y	
Sheridan Mt Easement Tr	2.11	N	N	Y	N	N	N	Y	Y	Y	Y	
Shiels Glacier Easement Tr	0.99	N	N	Y	N	N	Y	Y	Y	Y	Y	
South Pit Rd Easement Tr	0.22	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Tasnuna Canyon Easement Tr	1.66	N	N	Y	N	Y	Y	Y	Y	Y	Y	
Tasnuna Glacier Easement Tr	3.97	N	N	Y	N	Y	Y	Y	Y	Y	Y	
Tasnuna Valley Easement Tr	17.42	N	N	Y	N	Y	Y	Y	Y	Y	Y	
Whiting Falls Easement Tr	1.85	N	N	Y	N	N	N	Y	Y	Y	Y	
Woodworth Glc Easement Tr	1.91	N	N	Y	N	N	N	Y	Y	Y	Y	
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