



United States Department of Agriculture

# Proposed Revised Land Management Plan



Forest  
Service

Alaska  
Region

Chugach  
National Forest

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## **Proposed Revised Land Management Plan for the Chugach National Forest**

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# Introductory Framework

## Plan Organization

This Land Management Plan for the Chugach National Forest (referred to as the plan or forest plan) is organized into four parts and a map package: Part 1—Resource and Management Vision, Part 2—Forestwide Management Direction, Part 3—Management Area Management Direction, Part 4—Plan Monitoring Program, and the Forest Plan Map Package.

### Part 1—Resource and Management Vision

This vision provides the context for managing the landscapes of the Chugach National Forest by describing the roles, contributions, and settings that these public lands provide to Alaska Natives, local communities, southcentral Alaska, and the Nation. It identifies the challenges that managers face in implementing the Forest Service mission of providing sustainable, multiple uses of the land and resources for present and future generations. The management vision for the Chugach National Forest presents the desired social, economic, and ecological attributes that the Forest Service will work to achieve or maintain across the landscape. Descriptions of each of three geographic areas are provided.

### Part 2—Forestwide Management Direction

This direction contains plan components and other plan content that applies forestwide and is organized around two strategic management goals and their related desired conditions and objectives. Forestwide standards and guidelines that constrain land and resource management activities and project decisionmaking are also provided here.

### Part 3—Management Area Management Direction

Management areas are spatially identified areas within the national forest that vary by management intent or purpose. This part describes the suitable uses and management intent for eight management areas and includes plan components that address area-specific constraints to activity planning and decisionmaking.

### Part 4—Plan Monitoring Program

This part of the plan describes the monitoring questions and associated indicators that together establish a framework for measuring and evaluating conditions that result from implementing management direction in the plan. The plan monitoring program is used to determine the degree to which land management is maintaining or making progress toward achieving desired conditions.

## Forest Plan Map Package

There are seven reference maps included with this forest plan:

- Map 1 National Forest with Geographic Areas
- Map 2 Watersheds
- Map 3 Landtype Associations
- Map 4 Management Areas
- Map 5 Recreation Opportunity Spectrum
- Map 6 Scenic Integrity Objectives

- Map 7 Inventoried Roadless Areas

## **Purpose of the Forest Plan**

This forest plan provides management direction for the National Forest System lands within the boundary of the Chugach National Forest.

The 2002 forest plan was revised using current information and guidance found in the provisions of the 2012 National Forest System Land Management Planning Rule (36 CFR Part 219) and associated final directives (FSH 1909.12). Land management planning guides the Forest Service to fulfilling its stewardship responsibilities under the sustainable, multiple-use management concept, which is to meet the diverse needs of the American people and to protect the resources of the national forest. Sustainable, multiple-use management means that various activities that have social or economic values may take place within the national forest, while ecosystem processes and biological characteristics remain intact and functional over time. To be successful, sustainable multiple-use management requires adaptive strategies or approaches for planning and decisionmaking in the face of uncertainty and changing conditions. By design, the forest plan provides an adaptive management framework that identifies desired characteristics to be managed for; assigns measurable actions for achieving desired conditions; and directs key outcomes and conditions to be monitored for feedback.

The Chugach National Forest land management plan provides broad guidance and information for project and activity decisionmaking for the next 10 to 15 years. The plan has the following characteristics:

- It is strategic in nature. It does not include project level decisions. Those decisions are made later after specific proposals are identified and analyzed, and the opportunity for public involvement is provided.
- It includes the following plan components: goals, desired conditions, forest plan objectives, standards and guidelines, and suitability determinations of lands for various multiple uses.
- It is intended to be adaptive, in that new knowledge and information can be reviewed and the plan changed, if appropriate, at any time. Changes to plan components may require an amendment.
- It honors the continuing validity of private, statutory, or pre-existing rights.

## **Legal Framework**

A framework of laws, regulations, and legislation guides the management of National Forest System lands. Legal mandates governing national forest management date back to the Organic Act of 1897, which provided that national forests would be managed for the dual purpose of protecting water flows and providing a continuous supply of timber to the American public. The Multiple Use Sustained Yield Act (1960) provides for the sustainability of the multiple uses of natural resources in ways that best meet the needs of the public while maintaining the long-term productivity of the land for multiple uses and in such a manner that these lands are available to future generations.

The National Forest Management Act of 1976 and its accompanying regulations guide the creation, revision, and amendment of national forest land management plans. The Forest and Rangeland Renewable Resources Planning Act of 1974 directs that the suitability of lands for resource management be identified and a process for the revision of land and resource management plans established. The multiple-use desired conditions and objectives, design criteria (standards and guidelines), and plan monitoring program all work together to focus management direction for the Chugach National Forest.

The National Environmental Policy Act (NEPA) of 1969 requires all major Federal actions significantly affecting the human environment to be analyzed, and the consequences to the quality of the human environment from proposed management actions are to be considered. The regulations implementing NEPA further require that agencies prepare environmental impact statements concurrent and integrated

with environmental analysis and related surveys and studies required by such laws as the Endangered Species Act of 1973, the National Historic Preservation Act of 1966, the Wilderness Act of 1964, and the Wild and Scenic Rivers Act of 1968. Other environmental review laws and executive orders, such as the Clean Air Act of 1970 and the Clean Water Act of 1948, are also considered.

Additional direction for managing National Forest System lands comes from a variety of sources, including executive orders, the Code of Federal Regulations (CFRs), and the Forest Service directive system, which includes the Forest Service Manual (FSM) and the Forest Service Handbook (FSH). These types of management direction are generally not repeated in the forest plan.

## **Laws Unique to Alaska National Forest Management**

The Alaska Statehood Act of 1958, the Alaska Native Claims Settlement Act of 1971 (ANCSA), and the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provide specific and unique direction for the management of public lands in Alaska. Regulations from both of these laws are incorporated into the forest plan as appropriate.

The Alaska Statehood Act provides Federal lands selection rights to the State of Alaska. ANCSA is a settlement of aboriginal claims and allows for Alaska Native peoples to select lands from public lands, including the Chugach National Forest. These land conveyances are ongoing and affect access to and management of the national forest.

ANILCA provides specific direction for management of wildlife, fisheries, subsistence use, access, and wilderness areas on public lands. Section 501(b) of ANILCA directs that the Forest Service administer lands in the Copper River-Bering River area for the conservation of fish and wildlife species and their habitat. Lands in this part of the national forest are assigned to a special 501(b) management area. Section 704 of ANILCA created the Nellie Juan-College Fiord Wilderness Study Area in Prince William Sound.

## **Plan Components and Other Content**

The forest plan includes goals, desired conditions, objectives, standards and guidelines, and suitability determinations. These elements, referred to as plan components, apply to decisions made for site-specific projects or activities. Any substantive change to a plan component will require a plan amendment. A change to other plan content may be made using an administrative change process. See the Changes to the Plan section in this Introductory Framework for more specific information.

### **Plan Components**

#### **Goals**

Goals are broad statements of intent usually related to process or interaction with the public. Goals are expressed in general terms but do not include completion dates (36 CFR 219.7(e)(2)). Goals are an optional plan component used to organize a suite of desired conditions that together provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area. Goals appear in Part 2—Forestwide Management Direction.

#### **Desired conditions**

A desired condition is a description of specific social, economic, or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined but do not include completion dates (36 CFR 219.7(e)(1)(i)).

Desired conditions are the foundational building blocks for the forest plan. All other plan components are tiered to the set of desired conditions that describe the social, economic, and ecological attributes that will

be used to guide management of the land and resources of the Chugach National Forest. Desired conditions are visionary. They are not commitments or final decisions approving projects or activities. The desired condition for some resources may currently exist, while for other resources, it may only be achievable over a long time period. The Forest Service may need to make adjustments to the desired conditions if monitoring results indicate they are not achievable in the long term. Desired conditions are in the Forestwide Management Direction and Management Area Management Direction parts of this plan.

## **Objectives**

An objective is a concise, measurable, time-specific statement of a desired outcome or rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets (36 CFR 219.7(e)(1)(ii)).

Objectives describe the focus of management in the plan area within the plan period. Objectives that are defined as occurring during the life of the plan refer to the first 15 years of plan implementation. Objectives are in the Forestwide Management Direction and Management Area Management Direction parts of this plan.

## **Standards**

A standard is a mandatory constraint on project and activity decisionmaking. Standards are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR 219.7(e)(1)(iii)).

Standards can be developed for forestwide application or for specific areas and may be applied to all management activities or selected activities. Standards are in the Forestwide Management Direction and Management Area Management Direction parts of this plan.

## **Guidelines**

A guideline is a constraint on project or activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR 219.7(e)(1)(iv)).

Guidelines can be developed for forestwide application or for specific areas and may be applied to all management activities or to selected activities. Guidelines are in the Forestwide Management Direction and Management Area Management Direction parts of this plan.

## **Suitability Determinations**

Specific lands within the national forest are identified as generally suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan also identifies lands within the national forest as generally unsuitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity (36 CFR 219.7(e)(1)(v)).

Identifying suitability of lands for a use in the forest plan indicates that the use may be appropriate, but does not make a specific commitment to authorize that use. Final suitability determinations for specific authorizations occur as part of the project level or activity decisionmaking process. Generally, National Forest System lands are suitable for all uses and management activities appropriate for national forests, such as outdoor recreation, range, or timber harvest, unless identified as unsuitable. Suitability determinations are found in the Management Area Management Direction part of this plan.

## Other Plan Content

### Special areas

Special areas are lands that have designations by Congress or another delegated authority. Special areas are designated because of their unique or special characteristics. This plan provides direction for the following special areas: a wilderness study area, wild and scenic rivers, national heritage areas, national historic landmarks, national historic trails, national recreation trails, research natural areas, and ANILCA-designated areas.

### Management and geographic areas

Every plan must have management areas or geographic areas or both. A plan may identify designated or recommended designated areas as management areas or geographic areas (36 CFR 219.7(d)).

Management areas and geographic areas are used to describe how plan components apply to specific parcels of National Forest System lands with locations shown on maps. Geographic areas are based on place, while management areas are based on purpose.

Plan guidance in a management area generally differs from forestwide guidance by constraining or limiting activities and uses otherwise allowed outside of a management area. In certain instances, an activity or use may be authorized within a management area that is otherwise constrained or limited by forestwide guidance.

This plan identifies as management areas the following types of designated or recommended designated areas: the wilderness study area; wild, scenic, and recreation Rivers; research natural areas; and ANILCA 501(b) areas.

### Plan monitoring program

Monitoring is conducted to determine if a change in plan components or other plan content may be needed. The plan monitoring program includes questions and associated indicators to inform the management of resources within the plan area, including by testing relevant assumptions, tracking relevant changes, and measuring management effectiveness and progress toward achieving or maintaining the plan's desired conditions or objectives. Questions and indicators are based on one or more desired condition, objective, or other plan component, but not every plan component needs to have a corresponding monitoring question.

## Project Consistency with the Forest Plan

As required by the National Forest Management Act (NFMA) and the National Forest System Land Management Planning Rule (2012), all projects and activities authorized by the Forest Service must be consistent with the plan. As projects and activities are planned, an interdisciplinary team assesses the potential environmental, physical, biological, aesthetic, cultural, engineering, and economic impacts on the area.

Projects and activities include all actions identified by 16 USC 1604(i). A project or activity must be consistent with the plan by being consistent with applicable plan components (see the Plan Components section).

Plans also contain other content (see the Other Content section). Projects and activities are not required to be consistent with this other content.

Where a proposed project or activity would not be consistent with a plan component, the responsible official has the following options:

- To modify the proposal so that the project or activity will be consistent

- To reject the proposal
- To amend the plan at the same time as the approval of the project or activity so that the project or activity is consistent with the plan as amended; the amendment may be limited to apply only to the project or activity

## Desired Conditions

To be consistent with the desired conditions of the plan, a project or activity must be designed to meet one or more of the following conditions:

- Maintain or make progress toward one or more of the desired conditions of the plan without adversely affecting progress toward, or maintenance of, other desired conditions
- Be neutral with regard to progress toward plan desired conditions
- Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward or maintenance of one or more desired conditions in the short term
- Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward other desired conditions in a negligible way over the long term

Project documentation should explain how the project is consistent with desired conditions and describe any short term or negligible long term adverse effects the project may have with the maintenance or attainment of any desired condition.

## Objectives

A project or activity is consistent with the objectives of the plan if it contributes to or does not prevent the attainment of any applicable objectives. Project documentation should identify any applicable objective(s) that the project contributes to and document that the project does not prevent the attainment of any objectives. If there are no applicable objectives, the project will be consistent with the objectives of the plan, and project documentation should state that fact.

## Standards

Standards are constraints upon project and activity decisionmaking. A project or activity must be consistent with all standards applicable to the type of project or activity and its location in the plan area. A project or activity is consistent with a standard in only one way:

1. The project or activity is designed in accord with the standard.

Variance from a standard is not allowed except by plan amendment. Project documentation should confirm that the project is consistent with applicable standards.

## Guidelines

A project or activity must be consistent with all guidelines applicable to the type of project or activity and its location in the plan area. A project or activity is consistent with a guideline in either of two ways:

1. The project or activity is designed in accord with the guideline.
2. A project or activity design varies from the exact words of the guideline, but it is as effective in meeting the purpose of the guideline to contribute to the maintenance or attainment of the relevant desired conditions and objectives.

The project record should document how the project is consistent with the applicable plan guidelines. Guidelines must be followed, but they may be modified for a specific project if the intent of the guideline is followed and the deviation is addressed in the project record with supporting rationale. However, when deviation from a guideline does not meet the original intent, a plan amendment is required.

## **Suitability Determinations**

A project or activity can be consistent with plan suitability determinations in two ways:

1. The project or activity is a use identified in the plan as suitable for the location where the project or activity is to occur.
2. The project or activity is not a use identified in the plan as suitable for the location (i.e., the plan is silent on the use or the plan identifies the use as not suitable), but the responsible official determines that the use is appropriate for that location's desired conditions and objectives.

Project documentation should describe that the project or activity is either: (1) a use for which the area is specifically identified in the plan as suitable or (2) not a use for which the area is specifically identified in the plan as suitable, but it is nonetheless appropriate for that location.

## **Management Areas, Geographic Areas, and Special Areas**

Where the plan provides plan components specific to a management area, geographic area, or special area, a project or activity must be consistent with that area-specific direction. Project documentation should describe how the project or activity is consistent with the area-specific plan components.

## **Changes to the Forest Plan**

A plan amendment is required to add, modify, or remove one or more plan components (i.e., goals, desired conditions, objectives, standards and guidelines, and suitability determinations) or to change how or where one or more components apply to all or part of the plan area (including management areas or geographic areas) (36 CFR 219.13(a)).

Other content of the forest plan that are not plan components provide information and/or background material integral to the successful implementation of the forest plan. As conditions change, this information can be updated with administrative changes.

The procedures for amending or administratively changing a forest plan are outlined in the applicable planning regulation (FSH 1909.12 Chapter 20).



# Part 1—Resource and Management Vision

The vision for the Chugach National Forest is to maintain the terrestrial and aquatic ecosystems that occur within the national forest and to sustain an array of ecosystem benefits for southcentral Alaska. These ecosystems provide many benefits and uses, including: clean air, clean water, productive soils, diverse habitats, sustainable fish and wildlife, recreational opportunities, cultural benefits, quality jobs, and products that support traditional uses, communities, and economies at local, regional, and national levels. For most of the national forest, this vision is not dependent on restoring habitat damaged by prior human activities. It is because these ecosystems are largely intact in a naturally functioning state that such a future is achievable.

The Chugach National Forest has played an important role in shaping the environment, cultures, customs, and economies of southcentral Alaska. This vision recognizes that social and economic components are not separate from ecological systems. The stewardship played by humans to sustain these relationships depends on an appreciation of both the human and ecological complexities that are uniquely tied to the management of the Chugach National Forest and how these can be expected to change over time.

## Geographical Location

The Chugach National Forest is in southcentral Alaska where distinct cultures, customs, and ways of life converge; urban and rural residents alike value it for subsistence, recreation, work, and adventure. The Chugach National Forest is in an area that has been continuously inhabited for more than 10,000 years by native people of the Chugach, Eyak, Ahtna, and Dena'ina.

The Chugach National Forest is the farthest north and west of all national forests in the National Forest System and by declaration is the second largest at 5,417,172 acres. Land ownership patterns have been dynamic as a result of implementing the Alaska Statehood Act and the Alaska Native Claims Settlement Act, and therefore, acreage values assigned to the national forest are expected to change during the life of this forest plan. The national forest is divided into three administrative units: the Glacier, Seward, and Cordova Ranger Districts.

The Chugach National Forest is bordered by the Wrangell-Saint Elias National Park and Preserve to the northeast of the Copper River Delta and by public lands managed by the Bureau of Land Management to the east. On the Kenai Peninsula and to the west, the national forest is bordered by the Kenai National Wildlife Refuge and the Kenai Fjords National Park. To the north and near Girdwood, the national forest is bordered by the Chugach State Park. Communities within the planning area include Whittier, Hope, Cooper Landing, Moose Pass, Tatitlek, Chenega Bay, Eyak, and Cordova. Adjacent to the planning area are the communities of Anchorage, Seward, Girdwood, Valdez, Sterling, Kenai, and Soldotna. The Chugach National Forest is quite literally the backyard for approximately half of Alaska's population.

## Roles and Contributions of the Chugach National Forest

The Chugach National Forest is composed of large, functional, intact ecosystems spread across coastal and inland landscapes and is located in close proximity to half the population of Alaska. What distinguishes the Chugach National Forest from other public lands with the same characteristics is that it is managed for multiple uses as defined in the Multiple Use Sustained Yield Act of 1960. The ecosystems of the Chugach National Forest provide many valuable benefits for residents of Alaska and visitors from other parts of the United States and the world.

## Unique Physical and Biological Characteristics

Nearly 96 percent (5,184,000 acres) of the national forest is managed to allow natural ecological processes to occur with limited human influence. Intact, functional ecosystems occur across all three geographic areas. These include terrestrial ecosystems (soils, vegetation, and wildlife), aquatic ecosystems (freshwater and coastal marine), and the interface between the two (riparian areas and wetlands).

Glaciers and associated ice fields are a dominant physical feature of the Chugach National Forest. Almost all land now within the national forest was covered by glaciers during the last glacial maximum until about 14,000 years ago. The topography of the national forest was partially formed as the lands were scoured and exposed by up to 18 periods of glacial formation and retreat. Glacial outwash formed river valleys and drainages and distributed sediments. Snow and ice currently cover more than one quarter of the national forest, and glaciers continue to influence this landscape and its hydrologic processes.

Climate within the Chugach National Forest is influenced by both maritime and continental weather patterns, and each of the three geographic areas is different. The Kenai Peninsula receives the least amount of precipitation. Prince William Sound receives the most precipitation and has the largest percent of perennial snow and ice cover. The Copper River Delta is influenced by strong continental winds that blow in from the north and cool the area.

Tectonic movement has greatly influenced the Chugach National Forest. Southcentral Alaska is one of the most tectonically active areas of the world. Movement can be rapid and result in large disturbed and displaced areas; the 1964 earthquake raised much of the eastern part of the Chugach an average of 10 feet in a matter of minutes. Earthquakes of the magnitude of the 1964 event occur at a frequency of perhaps once every 300 to 800 years in southcentral Alaska. However, earthquakes of lesser magnitude capable of causing landslides and other environmental disturbances occur at a much higher frequency.

The interaction of complex topography, varied climate, and periodic disturbance (e.g., insect outbreaks, fire, earthquakes, avalanches, etc.) coupled with numerous plant species has resulted in a rich vegetation mosaic across the Chugach National Forest. The national forest is home to the northern most Pacific coastal temperate rainforest and is the northern edge for several trees characteristic of this ecosystem, including Sitka spruce, western hemlock, and yellow-cedar. Yellow-cedar is a species in decline throughout much of its range due to climate change, but it is thriving in small pockets in Prince William Sound and, based on climate projections, is less vulnerable to decline in this location than in southern populations. Forests on the Kenai Peninsula are a unique transitional blend of boreal forests and temperate rainforests, containing a diverse suite of species at or near their range limits. More than 560 vascular plant species have been documented forestwide, equaling about one-third of the flora of Alaska. Additionally, more than 280 vegetation types have been documented. The richness and diversity of the native vegetation within the national forest likely provides a degree of resilience to climate change and other disturbances.

Chugach National Forest ecosystems provide habitats for many resident species of wildlife and fish as well as important habitat connections for migratory species, such as shore birds and anadromous fish, whose migration paths cross the national forest. Except for dusky the Canada goose, for which there is a concern about the capability to persist, wildlife populations are not thought to be currently at risk due to isolation or fragmentation of habitat. More than 90 percent of watersheds within the national forest are in good condition and functioning properly. The presence of five species of salmon is one of the defining features of ecosystems of the Chugach National Forest. Decaying salmon carcasses infuse important marine derived nutrients into aquatic, riparian, and terrestrial ecosystems.

The Copper River Delta complex is one of the largest wetlands in the world and has been designated as a Western Hemisphere Shorebird Reserve Network Site of Hemispheric Importance—the highest designation awarded to shorebird habitat. The Copper River Delta is an important socio-economic

resource and the largest of the three Key Coastal Wetlands of the Alaska Region. It has a crucial role in the survival of coastal migrant waterbirds using the Western Hemisphere Pacific Flyway. Hydrologic functions of the Copper River Delta complex are ecologically significant and socio-economically important, sustaining valuable habitats for fisheries and other aquatic resources. Nutrients carried down the Copper River Delta complex are important to the Gulf of Alaska marine ecosystem.

Of all the national forests, terrestrial invasive species populations are arguably least abundant within the Chugach National Forest. Surveys have found that most areas of terrestrial invasive plant occurrence are in areas of intensive human-caused disturbance, such as road edges, visitor facilities, trailheads, and trails. Terrestrial invasive plants are presently rare within the natural communities of the national forest. As noted in the Management Challenges section, the spread of the aquatic invasive plant *Elodea* spp. (waterweed) is an emerging issue for the Chugach National Forest.

## Social and Economic Characteristics

Ecosystem services are the benefits people obtain from ecosystems. With the mandate of managing the Chugach National Forest for multiple uses, a wide variety of goods, services, and benefits are available to individuals and society.

For thousands of years, the lands that are today recognized as the Chugach National Forest have been inhabited by Alaska Natives. Alaska Natives continue to live within and use the resources of the national forest for traditional and modern cultural practices.

The Chugach National Forest is the primary salmon production area in southcentral Alaska, and up to one-ninth of the salmon in the Pacific Ocean rely on the high quality water and stream habitats provided by the national forest. The annual economic impact of salmon produced within the national forest in commercial fisheries is more than 230 million dollars per year. The economic impact of recreational fisheries is more difficult to assess, but it is substantial considering it is estimated to support more than 1,000 jobs. In short, Chugach National Forest fish resources play a substantial role in the economic, social, and cultural well-being of Alaska.

Wetlands comprise nearly one quarter of the Chugach National Forest and act as water filters to remove impurities. Intact wetlands and riparian areas store water, releasing it slowly over time and reducing the probability of floods. Good quality water is provided for municipal and public water supplies, fish hatcheries, and fish and wildlife habitat. Ample water supplies provide for hydroelectric operations, fish passage, and water related recreation. The national forest provides a wide range of research possibilities and a unique opportunity to study climate change on glaciers, hydrology and aquatic ecosystems, and in boreal and temperate forest ecosystems.

The Nellie Juan-College Fiord WSA encompasses much of western Prince William Sound. Although not a federally designated wilderness area, it is managed for the preservation of wilderness character. As one of the multiple uses of national forests, preserving wilderness character carries a suite of biophysical, social, and economic benefits, including subsistence, recreation, tourism, hunting, clean air, carbon sequestration, habitat protection, and more.

Harvesting and gathering fish, wildlife, berries, mushrooms, and medicinal plants occurs within the Chugach National Forest for both recreational and subsistence purposes. Qualified rural residents of some communities within the national forest boundary are eligible to participate in the subsistence harvest of fish and wildlife species through Federal regulations. A small amount of commercial timber and firewood harvest occurs. Firewood and house logs are also harvested for personal-use. Rock, sand, and gravel are sold and extracted for construction products.

People derive broad, nonmaterial benefits from the Chugach National Forest, including educational opportunities, recreational experiences, tourism, aesthetics, and spiritual and cultural heritage. People

from all over the world visit the national forest to see glaciers, salmon, and bears, and to participate in hiking, boating, fishing, skiing, riding snowmachines, and to enjoy stunning scenery. The Chugach National Forest provides a wide variety of recreation activities suitable for users of varying abilities. Campgrounds, day use areas, and trails occur immediately adjacent to highways. Opportunities to experience isolation and quiet are accessible by longer hikes, or via boat or plane. Many enjoy experiencing the national forest from aboard cruise ships and boats of many types.

The Chugach National Forest offers businesses and individuals' opportunities for jobs and income related to vegetation treatment, outdoor recreation and tourism, selling forest products, providing guided activities, and operating campgrounds under special use permit. Communities with larger populations have more diverse economies and are less dependent on the national forest for these opportunities.

## Management Challenges

The set of integrated ecological, social, and economic plan components described in other parts of this forest plan are based on an understanding of the management challenges identified here. Recent and increasing climate change effects represent perhaps the most pervasive environmental alterations affecting the Chugach National Forest and present management challenges affecting aquatic, terrestrial, and social/cultural systems.

## Aquatic Ecosystems

Maintaining the ecological integrity of aquatic systems and associated species, while maintaining human benefits and uses, presents several management challenges. Some watersheds and corresponding wetland/riparian areas are vulnerable due to water quality issues resulting from the proximity of several river systems to major highways on the Kenai Peninsula, motor vehicle use within off-road areas, mining activities, oil pipeline degradation (Copper River basin), introduced aquatic species, water temperature changes, bank destabilization due to recreation activities, and fecal coliform from increased human activity. Water quantity may change due to water withdrawals, increasing demands for water storage through development of hydroelectric facilities, mining operations, and long term climate change.

A climate change vulnerability assessment identified that approximately 8.5 percent of national forest watersheds are likely to change from snow-dominated to transitional snow-dominated within the next 30 to 50 years. Climate change may also result in increased bank erosion from increased flood frequency and magnitude. Some watersheds will change from continued glacial retreat, which can affect quantity and timing of flows as well as biological resources and human uses dependent on the glacial systems. Changing watershed conditions may affect salmon habitat and aquatic species distribution. Salmon populations may change in response to a combination of commercial, sport, and subsistence fishing pressure and to climate change effects on their habitats during their various life cycle stages.

The spread of *Elodea* spp. (waterweed), a highly invasive aquatic plant, is an emerging issue in Alaska and within the Chugach National Forest. *Elodea canadensis* has been found in a number of lakes and sloughs on the Copper River Delta. Recent surveys have found it spreading to new lakes and known populations are growing in size. The ecology and long term effects of *Elodea canadensis* on the Copper River Delta are not well understood and are being investigated. Outside its native range, this plant has often degraded water quality, impeded boat traffic, reduced dissolved oxygen, and impacted native fisheries.

## Terrestrial Ecosystems

As with aquatic systems, maintaining the ecological integrity of terrestrial systems and associated species, while maintaining human benefits and uses, presents several management challenges. Initial modeling as

part of a climate change vulnerability assessment suggests that Chugach National Forest vegetation will have variable ecological responses to climate change. Perhaps the least change will be in the temperate rainforests of the Copper River Delta and the Prince William Sound, which are expected to remain as rainforests.

Increasing levels of natural and human-caused disturbance, increasing tourism and population growth, and the effects of climate change make portions of the national forest vulnerable to the introduction and spread of terrestrial invasive organisms, which would result in adverse effects to ecosystem function, biological diversity, and sustainability. Pollution and chemical spills, such as marine debris, the *Exxon Valdez* oil spill (EVOS), and local point source pollution, will continue to present challenges for land managers in some areas. The condition of some wildlife individuals and populations may be at risk due to increased human use and the introduction of diseases, pathogens, and invasive species. Human use of key wildlife habitat can result in conflicts between wildlife and people. An example is human-bear interactions resulting in injuries to humans or bears killed in defense of life and property. Eliminating or minimizing such conflicts is a management challenge.

The 1964 earthquake uplifted the Copper River Delta between 6 and 11 feet. Mudflats that were subtidal prior to the earthquake are becoming tidal marsh and woody plants are becoming more dominant on the uplifted tidal marsh. These changes pose challenges in managing wildlife habitats. The Copper River Delta is projected to have a relatively stable supply of moose browse available into the future. This browse could be further increased if desired by treating portions of the Sitka alder dominated areas with mechanical cutting to stimulate willow growth.

## **Social and Cultural Systems**

The Chugach National Forest has relatively remote landscapes comprised of rugged, steep terrain; deep valleys; expansive wetlands; unobstructed rivers; and jagged coastlines. Access is limited and occurs in the few areas where highways, trails, or railroads have been built or is by boat or plane. Human use in these limited areas will continue to increase, presenting challenges for the long term management of natural resources, for protecting sites sacred to Alaska Natives and their traditional Native uses of the lands, for resolving recreation use conflicts, and for determining capacity of permitted and non-permitted recreational uses.

The status of land ownership will continue to change in some areas of the national forest due to land conveyances to others through the Alaska Native Claims Settlement Act, Native Allotment Act, and Alaska Statehood Act. The need to ensure access to remaining National Forest System lands through the development of easements and rights-of-way, and the ability to process land adjustments, such as exchanges, may be challenging with expected flat or declining budget levels. Management challenges associated with questions of jurisdiction or ownership, especially with respect to submerged lands and coastal lands that were either uplifted or subsided due to the 1964 earthquake, require ongoing coordination with other land owners and managers, including Alaska Native Corporations, the State of Alaska, and the Bureau of Land Management.

Requests for filming permits, outfitter and guide use, communication site development, and research permits are expected to increase. Additionally, declines are expected in the condition of existing facilities that were permitted more than 30 years ago (e.g., power lines and hatcheries). These trends will present challenges and opportunities for determining levels of use and will be an important element of economic growth for small communities.

One of the biggest challenges may be sustaining recreation opportunities into the future, specifically how to expand or maintain existing recreation infrastructure and access throughout the national forest while demand for recreation opportunities increases and diversifies. New types of activities may compete for use of areas leading to potential user conflicts. Recreation facility maintenance funds have been

decreasing, making it more difficult to maintain facilities; consequently, deferred maintenance of these assets may increase. It will be a challenge to meet the needs of different user groups if new facilities are needed to accommodate increased use. Additionally, climate change may affect the timing, location, and ability to pursue some recreational activities (i.e., changing water levels for rafting, availability of fishing opportunities, and lack of snow at trailheads for skiing and snowmachining).

Managing access for recreation and other national forest uses continues to be one of the major challenges given the limited areas where roads and trails currently occur and could be built. With approximately 97 percent of the national forest within inventoried roadless areas, the ability to create access to new areas for firewood collection, mineral materials sources, motor vehicle recreation activities, or subsistence uses is limited. Conflicts may continue to increase between various users on the existing limited access routes.

Major infrastructure proposed to be built on or across National Forest System lands from other agencies or corporations will present management challenges in keeping ecosystems intact, protecting existing recreation opportunities, and maintaining resource uses of the national forest. The need to collaborate closely with these entities as these activities are planned and implemented is crucial.

Smaller communities adjacent to the Chugach National Forest are not serviced by natural gas companies and have high winter heating fuel needs and costs. In the past, the amount of dead and dying forest from insect-related mortality has been meeting the needs of the residents of these communities to supply them with accessible wood energy/firewood. The source of the wood energy has come mostly from the Chugach National Forest, State of Alaska, Native Corporation, and other private lands. This source of firewood is slowly declining and the demand for free use (36 CFR 223.10 to 36 CFR 223.13) from the national forest is expected to increase. These needs could be met through the implementation of varied forest stand treatments, such as fire and fuel breaks, right of way clearing disposal, wildlife treatments, and treatments through stewardship contracts and agreements.

The Nellie Juan-College Fiord WSA was designated in 1980 through passage of the ANILCA. This area is approximately 1.9 million acres and is a challenge to administer for the preservation of wilderness characteristics due to the increasing human use pressures since access has been improved via the Whittier tunnel. These pressures include recreational kayaking, hunting, special use demands, sightseeing tours, and increased demand for winter motor vehicle recreation. Another challenge is the wilderness study area designation, an interim designation that can be a source of confusion.

## **Management Focus**

This section briefly describes the character, strategies, or intended outcomes for the three geographic areas of the Chugach National Forest: Kenai Peninsula, Prince William Sound, and Copper River Delta. It is intended as a starting point for developing management approaches and strategies for each of the relatively unique geographic areas and may assist with guiding project and activity development to meet forestwide or management area specific desired conditions.

### **Kenai Peninsula Geographic Area**

The Kenai Peninsula geographic area is the most western portion of the Chugach National Forest and encompasses an area of 1.1 million acres. Although the smallest of the geographic areas, the impact and use by humans is the greatest, due in part to area's close proximity to the metropolitan center of Anchorage and extensive network of public roadways. The Kenai Peninsula has the bulk of the national forest's campgrounds (14 of 15) and the most extensive trail system (401 of the 516 miles of national forest trails). Ninety percent of the State highway system within the national forest boundary occurs within the Kenai Peninsula geographic area.

The Kenai Peninsula is the driest portion of the national forest due in part to the presence of the Kenai Mountains intercepting moisture from storm systems that typically approach the region from the

southeast. Climate change, in the short term, is not expected to substantially alter the hydrologic character of watersheds in this area. However, snowpack is expected to decrease at lower elevations. Ecologically, this area is a transition zone from temperate rainforest to boreal forest with the common trees being Lutz spruce and paper birch. Only 18 percent of the landscape is forest, with the remainder being either scrub or high alpine, both dominated by the impacts of ice, snow, and avalanches. This diversity of habitats supports a range of wildlife species, including: brown bear, moose, Dall sheep, caribou, bald eagle, wolverine, and gray wolf. Salmon occur throughout most watersheds and play a significant ecological role in terms of wildlife food and a source of marine derived nutrients that ensure productivity of the aquatic and terrestrial ecosystems.

Mountain scenery and wildlife viewing opportunities along the Alaska Railroad and public road systems are abundant. The Begich, Boggs Visitor Center in Portage Valley provides a focus for Forest Service interpretative and educational programs. Some of the largest recreational fisheries in Alaska for Chinook, sockeye, and coho salmon and rainbow trout occur in Kenai Peninsula waters. The Russian River, which is the location of one of these large fisheries, has one of the highest concentrations of bears and humans within the national forest and strategies are implemented to minimize human-bear interactions. Subsistence hunting provides an important source of food and economic benefit to local communities.

## **Prince William Sound Geographic Area**

At 2.6 million acres, Prince William Sound is the largest of the geographic areas and is also the most remote. The glacier scenery and wild ecosystem setting that characterizes this area is largely accessible by only boat or plane. Ninety-six percent of the area is classified as either backcountry or wilderness study area and is managed to retain this character.

Near the northern extent of temperate rainforest, this area receives considerable precipitation (80 to 160 inches annually) and is not as cold in the winter as the Kenai Peninsula to the west. Much of the winter snowfall occurs near or just below the freezing point under current conditions. Climate change will increase these winter temperatures and cause a shift from snow to rain at lower elevations. This will reduce snowpack, impact the timing of stream flow conditions and has the potential to alter aquatic ecosystems for some of the watersheds in this area.

Forests cover 30 percent of the Prince William Sound land area, the most of the three geographic areas. Sitka spruce, mountain hemlock, western hemlock, and yellow-cedar occur here. This area is the national forest's primary producer of pink salmon, with a substantial portion originating from hatcheries that operate at remote locations. Chum salmon are also widely distributed throughout watersheds in this area. The cutthroat trout that occur in this area are at the extreme northern end of the species range. As in all areas, salmon provide a source of food to wildlife and nutrients to the aquatic and terrestrial ecosystem. These nutrients help support much of the wildlife in the area, especially black and brown bears, bald eagles, and seabirds. Sitka black-tailed deer, Steller sea lions, and sea otters are also present.

Recreation and tourism in Prince William Sound occurs primarily during the summer months and is largely staged from commercial or private boats. Most of the human impact is limited to the shoreline area, but some dispersed hiking, hunting, and fishing occurs in upland areas. A major commercial salmon fishery occurs in the Prince William Sound, primarily for pink and chum salmon. The annual catch has been in the range of 80 to 100 million fish in recent years with a total economic impact of approximately 440 million dollars.

## **Copper River Delta Geographic Area**

The Copper River Delta is the most eastern geographic area, covering 1.6 million acres of the national forest. The most dominant feature of this area is the delta wetland, which is one of the largest in the world and is part of the Western Hemisphere Shorebird Reserve Network. With the exception of localized roads

near Cordova, the only means of access is via trail, boat, or plane. Ninety-three percent of this area was designated by ANILCA to be managed primarily for the conservation of fish and wildlife.

The climate is characteristic of a temperate rainforest and is similar to that of Prince William Sound, with the exception of the area near the Copper River, which has more extreme winters due to downriver winds bringing colder air from the interior portions of Alaska. Although climate change is expected to reduce snowpack in low elevation portions of this area, watershed transitions from the snow to rain precipitation type will most likely be uncommon over the short term. The impact of the changes that occur on stream conditions and associated aquatic ecosystems will be buffered by the influence of watershed glaciers that are common for watersheds in this area.

Mountainous terrain of ice, snow, or rock covers nearly half of the land area. In contrast to Prince William Sound, only 15 percent of the land is forested, typically occurring as vegetation strips between adjacent open wetlands. Sitka spruce and western hemlock are common tree species. The Copper River wetland provides critical nesting habitat for dusky Canada geese and is one of the largest staging areas in the world for migratory shorebirds. Other species of public and management interest that occur in this area are brown bear, black bear, gray wolf, and bald eagles. Salmon, along with Dolly Varden char, cutthroat trout, and eulachon, are abundant in the waters of the Copper River Delta. Rare populations of steelhead also occur here. Major runs of sockeye and Chinook salmon pass through the lower Copper River on their migration to spawn in the upper tributaries of the Copper River.

Subsistence, recreational, and commercial fishing provide an important source of food and economic benefit to the local community. Wildlife viewing, especially during the annual shorebird festival, and hunting also provide recreational and economic benefits. A majority of area visitors view mountain scenery, glaciers, and wetlands and experience fish and wildlife in association with the Copper River Highway corridor and at dispersed sites that are accessible from that road corridor.

# Part 2—Forestwide Management Direction

## Introduction

Forestwide Management Direction describes the strategy the Forest Service intends to use to achieve or maintain the forestwide desired conditions as discussed here. Also discussed in this section are forestwide objectives, standards, and guidelines.

## Goals and Desired Conditions

The land and resources of the Chugach National Forest are to be managed using goals and desired conditions that result in resilient, intact ecosystems that provide a range of sustainable benefits and uses now and into the future.

This emphasis on resiliency and sustainability upholds an adaptive and active management philosophy that includes working with other Federal agencies, State agencies, private landowners, communities, and Alaska Native Corporations and tribes to accomplish this vision.

The following goals and desired conditions explain the conditions, processes, and relationships that the Forest Service will seek to achieve. Some conditions may already exist, while others may be achieved during the life of the forest plan. Others may only be achieved during a longer period of time, possibly decades. Making progress toward achieving the goals and desired conditions will depend on funding and program direction provided by higher levels in the agency and Congress and may also be affected by natural events.

### Goal 1: Provide for Ecological Sustainability

The Chugach National Forest contributes to ecological, social, and economic sustainability by maintaining the integrity and productivity of plan area ecosystems. This integrity is achieved when native species and habitat features of ecosystems are present and functioning in a manner that is resilient to natural and human induced disturbance and retains the capacity to adapt to longer-term changes in the natural environment (e.g., climate change).

### Desired Conditions for Goal 1: Provide for Ecological Sustainability

#### Air

**FW-G1-DC-01:** Ambient air quality across the national forest meets Federal and State standards and supports ecosystem sustainability. Forest Service management activities do not contribute to increased atmospheric deposition of pollutants that may adversely impact ecosystem function.

**Scale:** Airshed.

#### Soil

**FW-G1-DC-02:** Soils retain their productive potential at levels that support the long term resiliency and sustainability of ecosystems.

**Scale:** Subwatershed.

#### Water

**FW-G1-DC-03:** Instream flows, including water yield, timing, frequency, magnitude, and duration of runoff, are sufficient to maintain aquatic and wetland habitats.

**Scale:** Watershed.

**FW-G1-DC-04:** Good quality water, measured by chemical, physical, and biological characteristics, exists within the national forest in quantities sufficient to sustain aquatic life and to support terrestrial habitats.

**Scale:** Subwatershed.

## **Watersheds**

**FW-G1-DC-05:** Natural disturbance regimes (e.g., glacial action, snow avalanches, earthquakes, floods, insects and pathogens, windthrow, lightning-caused fire, and climatic variations) remain the primary drivers of shifting patterns of species composition and structure within and between watersheds.

**Scale:** Subbasin.

**FW-G1-DC-06:** Priority watersheds are identified for maintenance or restoration based on the Forest Service National Watershed Condition Framework.

**Scale:** Watershed.

## **Aquatic habitats**

**FW-G1-DC-07:** Stream channel morphology, structure, complexity, and diversity are in ranges that are characteristic of the local geology, climate, and geologic processes.

**Scale:** Subwatershed.

**FW-G1-DC-08:** Aquatic habitats are sufficient in quality, diversity, and abundance to support self-sustaining populations of native aquatic species.

**Scale:** Watershed.

## **Riparian habitats**

**FW-G1-DC-09:** Riparian areas are free from human-caused detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that adversely affect water conditions and fish habitat.

**Scale:** Subwatershed.

**FW-G1-DC-10:** Riparian management zones, designed to assist in the maintenance of habitat diversity, are delineated for all lakes, perennial and intermittent streams, and open water wetlands.

**Scale:** Subwatershed.

## **Terrestrial habitats**

**FW-G1-DC-11:** Terrestrial habitats are sufficient in quality, diversity, connectivity, and abundance to support self-sustaining populations of native plants and animals and desirable non-native species (e.g., moose on the Copper River Delta and Sitka black-tailed deer).

**Scale:** Watershed.

**FW-G1-DC-12:** Habitat connectivity exists within and between watersheds in a manner that is consistent with naturally occurring patterns of both habitat linkage and isolation. This pattern, whether it connects or isolates habitats, serves a critical role in the survival and life history requirements of aquatic, riparian, and upland species of plants and animals.

**Scale:** Watershed.

**FW-G1-DC-13:** Terrestrial habitats as measured by vegetation structure, density, and species composition are resilient to damaging insects and pathogens.

**Scale:** Subbasin.

**FW-G1-DC-14:** Wildland fires burn within their natural range of severity, frequency, and intensity, allowing terrestrial ecosystems to function in a sustainable manner.

**Scale:** Watershed.

### **Species diversity**

**FW-G1-DC-15:** Native plants and animals dominate the biota. Populations of invasive species are absent or trending towards eradication and do not negatively influence ecosystem function. Establishment of invasive species new to the national forest is prevented. Existing invasive species are prioritized for eradication, containment, or control.

**Scale:** Watershed.

**FW-G1-DC-16:** Aquatic species composition, distribution, genetic diversity, abundance, and reproductive resilience are characteristic of the hydrologic setting and disturbance regimes of the geographic area where they developed.

**Scale:** Watershed.

**FW-G1-DC-17:** Riparian species composition, structural diversity, and distribution are characteristic of the setting where it occurs and the hydrologic and disturbance regimes where it developed.

**Scale:** Subwatershed.

**FW-G1-DC-18:** Terrestrial species composition, distribution, genetic diversity, abundance, and reproductive resilience are characteristic of the terrestrial setting and disturbance regimes of the geographic area where they developed.

**Scale:** Watershed.

**FW-G1-DC-19:** Federally listed species are trending towards recovery and the conservation status of at-risk species is improving.

**Scale:** Subwatershed.

**FW-G1-DC-20:** Ecological conditions to maintain viable populations of the dusky Canada goose (*Branta canadensis occidentalis*) and other species of conservation concern exist within the plan area.

**Scale:** Subwatershed.

## **Goal 2: Contribute to Social and Economic Sustainability**

The Chugach National Forest contributes to the ecological, social, and economic sustainability of the plan area by maintaining intact, resilient ecosystems and their associated services, benefits, and uses. These ecosystem services, benefits, and uses contribute to subsistence lifestyles; add millions of dollars to regional and local, rural economies; and enhance the quality of life and sense of place for both present and future generations.

## Desired Conditions for Goal 2: Contribute to Social and Economic Sustainability

### Areas of tribal importance

**FW-G2-DC-01:** The activities of the Forest Service and Alaska Corporations and Native tribes complement one another to meet common objectives across shared boundaries.

- Additional capacity within the Forest Service and Alaska Corporations and Native tribes is developed to support collaborative efforts that include increased cultural awareness, shared traditional knowledge, and youth engagement in national forest management.
- Sustainable quantities of renewable national forest resources and culturally significant foods are available for traditional uses.

**Scale:** Forestwide.

### Cultural resources

**FW-G2-DC-02:** Cultural resources are identified, evaluated, preserved, and protected in compliance with the National Historic Preservation Act. Prehistoric and historic sites and traditional cultural properties listed or eligible for listing in the National Register of Historic Places are preserved and protected for their significant cultural, historical, and archaeological values and are free from adverse impacts. Cultural resources identified as priority assets have distinct public values that are protected and actively maintained. Opportunities for interpretation, research, stewardship, and enjoyment of the cultural past are available. Knowledge about the past is synthesized and readily available for public interpretation.

**Scale:** Forestwide.

### Jobs and economic well-being

**FW-G2-DC-03:** Sustainable and predictable levels of goods and services, such as recreation and tourism opportunities; established fisheries (sport, commercial, personal, and subsistence); minerals and energy generation; forest products; outfitter/guide services; and ecosystem stewardship opportunities, are available to communities. These goods and services contribute to the local economy through the generation of jobs and income while creating a variety of products for use, both nationally and locally.

**Scale:** Forestwide.

### Land ownership

**FW-G2-DC-04:** As land entitlements of Alaska Native corporations and the state of Alaska are fulfilled, lands within and adjacent to the national forest boundary are adjusted to consolidate ownership interests and support resource management objectives. Specific desired conditions for land ownership include:

- Land entitlements created under ANCSA, the Alaska Statehood Act, and related authorities are finalized, and remaining selections are vacated to remove title encumbrances and associated Forest Service management restrictions.
- The boundaries of National Forest System lands and interests in lands (including roads, trailheads, and trails) are posted, and maps are recorded to provide notice to adjacent landowners and to reduce the potential for trespass and encroachment. Boundaries of adjoining lands with the greatest likelihood of development are the highest priority for marking and mapping.
- All Forest Service interests in lands, including conservation easements and water rights, are monitored, maintained, and, subject to valid existing rights, are protected against devaluation or loss.
- Land ownership adjustments through purchase, donation, exchange, or other authority are used to consolidate lands, produce management efficiency, and to support resource management objectives.

- Opportunities to unify split estate National Forest System lands are realized.
- National Forest System lands retain those interests necessary to support long term management goals (e.g., subsurface estate or water rights).
- Land acquisitions include those interests necessary to support long term management goals (e.g., subsurface estate or water rights).
- Additional road and trail rights-of-way are obtained as necessary to provide public access to the national forest.

**Scale:** Forestwide.

## **Community participation and collaboration**

**FW-G2-DC-05:** Multiple use and enjoyment opportunities within the national forest result from collaborative engagement between the Forest Service and others. Community participation and citizen engagement is a common occurrence, resulting in long lasting partnerships. Relationships with new entities are established in a manner that attracts non-traditional users and strengthens the connections between surrounding communities and the national forest.

Ample opportunities and events to connect people with nature exist across the national forest.

**Scale:** Forestwide.

## **Fire-adapted human communities**

**FW-G2-DC-06:** Risk to human life, primary residences, inhabited property, and community-dependent infrastructure from wildfire is low. Fire suppression activities within the national forest are prioritized in accordance with the Alaska Interagency Wildland Fire Management Plan.

There is close coordination with State and private land owners for wildland fire response and hazardous fuels reduction activities conducted within or near the national forest.

Vegetation treatments within the wildland urban interface (WUI) and Community Wildfire Protection Plan (CWPP) areas are based on wildfire protection objectives, which may override ecological desired conditions.

An education and outreach program provides information and approaches to reduce adverse impacts to property and infrastructure.

**Scale:** Forestwide.

## **Clean air and water**

**FW-G2-DC-07:** Airsheds and watersheds are in good functioning condition and enhance the quality of life for area residents and national forest visitors.

- Clean air: National forest visitors experience clean air and clear vistas. Activities meet all National Ambient Air Quality Standards designed to protect human health and public welfare. Smoke from prescribed burning on National Forest System lands is minimal and short in duration.
- Clean water: High quality water is produced within the national forest from appropriate watersheds sufficient to sustain municipal drinking water needs, recreation opportunities, and scenic character. Applicable national, State, local, and tribal water quality criteria are met.

**Scale:** Airshed and watershed.

## Scenery

**FW-G2-DC-08:** High scenic integrity is evident in the places people prefer to visit and view. Scenic characteristics are conserved, maintained, and enhanced in order to retain the distinctive landscape character and sense of place associated with the Chugach National Forest.

**Scale:** Forestwide.

## Fish, wildlife, and plants

**FW-G2-DC-09:** The Chugach National Forest continues to be one of the best places in the nation to see and catch salmon, observe and harvest wildlife, and experience a diverse mosaic of native plant communities. These resources are maintained, and their importance in defining the distinctive biological, social, and economic fabric of Alaska is perpetuated.

**Scale:** Forestwide.

**FW-G2-DC-10:** Enhancement of existing fish and wildlife habitat to improve fishing, hunting, subsistence use, and wildlife viewing opportunities occurs as needed in collaboration with other agencies and partners and with consideration for retaining ecosystem integrity.

**Scale:** Forestwide.

## Human-bear interactions

**FW-G2-DC-11:** National forest visitors are aware they are in bear habitat and act responsibly, resulting in fewer injuries to themselves and less bear mortality or injury from defense of life and property actions.

**Scale:** Forestwide.

## Sustainable recreation opportunities

**FW-G2-DC-12:** The Chugach National Forest is recognized as a place for world class, nature-based outdoor recreation. In partnership with organizations and communities, the national forest provides unparalleled outdoor experiences that showcase the natural and cultural heritage of the Kenai Peninsula, Prince William Sound, and Copper River Delta geographic areas.

Recreation opportunities are managed to promote sustainable ecological, economic, and social conditions. High use recreation sites and trails are supported by communities through shared infrastructure development, delivery of information, and provision of recreation services. Recreation opportunities contribute to the health and vitality of individuals and communities by promoting physical exercise, adventure, community connections, and personal well-being. Opportunities to participate in the management and stewardship of natural and cultural resources are provided through high quality volunteer and service programs, acknowledging that people use volunteering as a form of recreation.

Recreation opportunities are enhanced to be more accessible to persons with disabilities and are inclusive of a culturally diverse population.

Developed recreation areas, municipal watersheds, and administrative sites are withdrawn from mineral entry.

**Scale:** Forestwide.

## Facilities and infrastructure

**FW-G2-DC-13:** The Forest Service provides safe, clean, and well-maintained recreation facilities. Visitor use does not adversely impact natural or cultural resources. Recreation sites and trails meet Forest Service national quality standards.

Recreation facilities and constructed features minimally affect natural and cultural resources. Recreation operations have a minimal environmental footprint. Developed facilities are energy and cost efficient. External partnerships result in additional resources and funding to support new investments

Backlogged maintenance needs decrease over time as work is performed to bring facilities to standard.

**Scale:** Forestwide.

## **Roads and trails access**

**FW-G2-DC-14:** A system of roads, trails, and areas designated for non-motorized and motor vehicle use is identified and is available for public use.

Roads and trails are safe and responsive to public needs and desires, are efficiently managed, have minimal effect on aquatic and terrestrial systems, meet Forest Service national quality standards, and are in balance with available funding.

Roads and trails are properly designed and maintained to minimize and avoid adverse environmental impacts. User-created trails are restored to natural conditions, and unnecessary forest system roads and trails are decommissioned. Trails and trailhead parking areas are free from hazards, invasive species, and litter.

Rights-of-way and easements provide adequate and legal access to National Forest System lands. Jurisdiction of borough and local access roads is appropriate to assure management objectives are met for both private and state lands.

**Scale:** Forestwide.

## **Renewable and non-renewable energy**

**FW-G2-DC-15:** Exploration, development, production and transmission of renewable and non-renewable energy resources contribute social and economic benefits to local communities and to the nation and are conducted in a manner that minimizes adverse impacts to natural, cultural, scenic resources, and ecosystem integrity.

**Scale:** Forestwide.

## **Minerals**

**FW-G2-DC-16:** Development of mineral resources contributes to local, regional, or national markets for valuable commodities and adds social and economic benefits to local communities. Mineral development is managed in a manner that minimizes adverse impacts to groundwater, natural, cultural, and scenic resources and meets legal mandates. Past and present mine facilities are sufficiently reclaimed to prevent or control on-site and off-site impacts to the environment and national forest surface resources.

**Scale:** Forestwide.

## **Forest products**

**FW-G2-DC-17:** Forest products are available for harvesting for cultural, personal, and commercial use in a sustainable manner. Timber harvest meets multiple use goals of providing wood products for commercial and private use, wildlife habitat enhancement, improving forest health, or achieving a forest desired condition.

**Scale:** Forestwide.

## Subsistence activities

**FW-G2-DC-18:** Wild, renewable resources provided by the national forest are sustained by the ecological and cultural processes under which they historically developed and contribute to the livelihood and lifestyles of both rural and non-rural Alaska residents.

- Consistent with ANILCA, Federal subsistence use remains a priority for the harvest of wild renewable resources across the national forest, including the utilization of customary and traditional wildlife and fish species for eligible rural residents.
- The national forest remains integral to providing the opportunity and resources necessary to pursue Federal subsistence uses, as well as state sport and personal use activities.

**Scale:** Forestwide.

## Special uses

**FW-G2-DC-19:** Authorizations are granted for special uses that the national forest has a distinctive niche to provide. These authorizations are administered to agency standard and protect natural resource values consistent with ecological, social, and economic desired conditions.

- Environmental and visual impacts of emerging technology, electronic sites, utility corridors, and other permitted infrastructure are minimized through coordination and colocation and are in harmony with the surrounding landscape.
- Recreation events rarely affect the experience of other national forest users.

**Scale:** Forestwide.

## Research, education, and interpretation

**FW-G2-DC-20:** The diverse ecological, physical, and social characteristics across the Chugach National Forest provide outstanding opportunities for research, education, and building science literacy. A commitment to supporting science-based land management is maintained. Through research, education, and interpretive activities, the public is made aware of national forest contributions to providing ecosystem services, including outdoor recreation and societal well-being.

**Scale:** Forestwide.

## Special areas

### Inventoried roadless areas

**FW-G2-DC-21:** The undeveloped character of inventoried roadless areas is retained by restricting road construction, road reconstruction, and timber harvest activities consistent with the 2001 Roadless Area Conservation Rule.

**Scale:** Forestwide.

### Iditarod National Historic Trail

**FW-G2-DC-22:** The Iditarod National Historic Trail connects the communities of Seward and Girdwood with a trail system that features world class summer and winter recreation opportunities and celebrates the rich history of the area. All trail easements for segments crossing non-federal lands are obtained to preserve the historic characteristics for which the trail was designated. Local communities and partner agencies and organizations are actively involved in management and maintenance of the trail.

**Scale:** Kenai Peninsula Geographic Area.

## **National recreation trails**

**FW-G2-DC-23:** The Resurrection Pass National Recreation Trail offers visitors the opportunity to access spectacular natural landscapes and intact ecosystems from the existing highway system. The trail system is maintained to accommodate diverse recreation opportunities throughout the year. As a result of sustainable maintenance strategies, a series of backcountry cabins are available for trail users to rent for remote overnight accommodations along the trail.

The Williwaw National Recreation Trail offers opportunities to view and experience the glacial landscape and ecosystems of the Portage Valley area. Connections to the Trail of Blue Ice and other adjacent recreation opportunities in Portage Valley are promoted and maintained in a sustainable manner.

**Scale:** Kenai Peninsula Geographic Area.

## **Scenic byways**

**FW-G2-DC-24:** People traveling the Seward Highway experience the rugged natural scenery of ocean and mountain landscapes and can access a variety of recreational opportunities. The Seward Highway corridor provides a safe, aesthetically pleasing driving experience. This is a result of Federal, State, and local agencies working together with local communities and organizations to cooperatively maintain and improve features within the highway corridor. Forest Service management activities along the Seward Highway blend in with natural settings and meet and/or improve aesthetic values. Effective visitor management along the highway corridor promotes long term economic development.

**Scale:** Kenai Peninsula Geographic Area.

## **Kenai Mountain-Turnagain Arm National Heritage Area**

**FW-G2-DC-25:** The Kenai Mountains-Turnagain Arm (KMTA) National Heritage Area encompasses a landscape of mountains, lakes, rivers, fjords, roads, trails, and small communities with nationally significant historic and cultural value.

Community centered initiatives that preserve the region's nationally important history are encouraged and supported as a result of cooperatively working with the KMTA Corridor Communities Association, Alaska Native corporations, partners, and communities.

A variety of opportunities are available for people to learn about this area's rich geologic, cultural, and natural history.

**Scale:** National Heritage Area.

## **Key coastal wetlands**

**FW-G2-DC-26:** The Copper River Delta wetland complex provides high biological productivity for migrating waterfowl, fisheries, shorebirds, and a variety of other species. These wetlands retain diverse and productive habitat where native species are abundant and have viable reproductive rates; have sufficient genetic diversity for survival and adaptation; remain connected in a functional natural state; and have sufficient resilience to accommodate stressors (e.g., climate change).

This wetland complex maintains globally significant cultural and ecological services through national forest management and active partnerships, such as the Copper River International Migratory Bird Initiative (CRIMBI), local Alaska Native organizations, nonprofit organizations, Pacific Flyway Council, and universities.

- This wetland complex sustains existing levels of fish and wildlife productivity and habitat diversity.
- The wetland complex supports stable or increasing populations of migratory and resident waterbirds.
- Needs of rural Alaskan residents' that are tied to intact, functioning wetlands are met.

- The Forest Service maintains strong international partnerships for migratory waterbirds through CRIMBI that include education, outreach, research, monitoring, and on-the-ground conservation actions.
- The wetland complex serves as a primary focus for scientific enquiry regarding international wetland complexes, vegetation succession, bird migration, and aquatic resources.
- The Forest Service and its partners are recognized as a resource for international conservation of migratory birds.
- Economic benefits of migratory bird conservation, education, and tourism are recognized in local communities and may also benefit communities throughout the range of these migratory birds.

**Scale:** Copper River Delta wetland complex.

## Objectives

Objectives are projections of Forest Service activities and program outcomes. By design they are measurable and time specific. Like goals and desired conditions, objectives are not commitments or final decisions approving projects or activities. Rather, they provide strategic direction. They help to identify priorities and outcomes for making progress toward achieving the desired conditions listed above.

The objectives that follow are based on several factors, including ecological needs, workforce capacity, and expected funding (budgets, partnerships, and cooperative agreements). This list of objectives is not intended to limit or guarantee the amount of work that will be accomplished. More or less work may be accomplished depending on Forest Service funding and staffing levels, cooperative agreements, environmental conditions, and other factors and opportunities that may occur during the life of the plan.

The objectives listed here are expected to be accomplished during the first decade following plan approval, unless otherwise indicated within a specific objective statement.

## Ecological Sustainability

**FW-OB-01:** Within the first five years of plan implementation, identify impacted watershed features across the national forest, including recreation resources, and designate at least two priority watersheds for maintenance or restoration management actions.

**FW-OB-02:** During the first decade of forest plan implementation, identify at least five human activities that are negatively impacting stream, lake, riparian, and wetland habitats or aquatic species and implement mitigations to retain the historic range of variability of habitat and aquatic species.

**FW-OB-03:** During the first decade of forest plan implementation, identify critical water demands within the national forest to maintain fish and wildlife species and habitats, municipal needs, energy production, and recreational activities and file at least one instream reservation application with the State to meet the water demands.

**FW-OB-04:** To conserve, restore, or enhance aquatic and terrestrial species diversity and distribution within the national forest, develop and share at least one product annually that informs the public on how to prevent the spread of invasive species; and annually treat at least 10 acres of high priority infestations.

**FW-OB-05:** Use appropriate fuels treatments, including prescribed fire and mechanical methods, to improve 800 acres of wildlife habitat and reduce 400 acres of hazardous fuels annually near communities.

## Partnerships and Collaboration

**FW-OB-06:** During the first decade of forest plan implementation, develop at least one collaborative partnership for the wilderness study area to expand public awareness, understanding, and promote responsible behaviors.

**FW-OB-07:** During the first decade of forest plan implementation, collaborate with at least two partners and Alaska Native Corporations or tribes to create opportunities to connect people, including youth, with nature across the national forest to attract and strengthen the connection between surrounding communities and the national forest.

## Land Ownership

**FW-OB-08:** Survey and map a minimum of five miles of the boundaries of adjoining lands with the greatest likelihood of development annually.

**FW-OB-09:** During the first decade of forest plan implementation, identify and prioritize up to 50 opportunities to unify split estate National Forest System lands.

**FW-OB-10:** During the first decade of forest plan implementation, provide adequate public access to National Forest System lands by securing at least one easement, right-of-way, or fee simple title.

**FW-OB-11:** During the first decade of forest plan implementation, pursue at least four land ownership adjustments through purchase, donation, exchange, or other authority to consolidate lands, produce management efficiency, and to support resource management objectives.

**FW-OB-12:** During the first decade of forest plan implementation, pursue the exchange or acquisition of at least one land ownership interest from willing sellers to fulfill the intents and purposes of EVOS restoration objectives.

## Sustainable Recreation

**FW-OB-13:** During the first decade of forest plan implementation, identify and develop 17 proposals for mineral withdrawal for recreation areas currently not withdrawn.

**FW-OB-14:** During the first five years of forest plan implementation, create one effective visitor use tool educating the public on appropriate behaviors while visiting the Russian River Complex.

**FW-OB-15:** Connect youth to the outdoors on the national forest by providing up to five opportunities annually.

**FW-OB-16:** During the first decade of forest plan implementation, develop, support, and implement up to five environmental education opportunities involving the Chugach National Forest (e.g., iTREC).

## Sustainable Infrastructure

**FW-OB-17:** During the first decade of plan implementation, establish trail connectivity from Seward to the northern national forest boundary by completing 7 to 15 trail segments or bridges along the approved Iditarod National Historic Trail route.

**FW-OB-18:** During the first decade of plan implementation, identify, review, and inspect up to 10 infrastructure assets that may be impacted by climate change to inform management direction.

**FW-OB-19:** Reduce deferred maintenance on up to five priority assets annually.

**FW-OB-20:** Decommission at least one low priority, financially unsustainable asset annually.

**FW-OB-21:** During the first decade of plan implementation, develop at least one strategy with Alaska Department of Transportation and Public Facilities for managing the public use facilities along all State highway corridors within national forest boundaries.

## Research, Education, and Interpretation

**FW-OB-22:** Provide education and outreach opportunities annually to local communities and visiting public about fire prevention, the role of fire, and its short term impacts through a minimum of 30 public contacts per fire season.

**FW-OB-23:** Through outreach and interpretation, provide information to the public about the physical and biological attributes, citizen science opportunities, and visitor safety issues of the Chugach National Forest by developing, supporting, and implementing up to 10 events or presentations annually.

**FW-OB-24:** During the first decade of plan implementation, support science-based land management by identifying and coordinating at least two research proposals with Forest Service Research Stations and others to help inform actions about focal species and species of conservation concern, management activities and potential climate change impacts to habitat productivity and resiliency, public use patterns, and infrastructure assets within the national forest.

## Standards and Guidelines

Standards and guidelines provide sideboards for project and activity decisionmaking. They are established to help maintain a desired condition or conditions, to avoid or mitigate undesirable affects, or to meet applicable legal requirements. A standard is a mandatory constraint with no allowance of departure from its terms. A guideline is also a constraint but allows for departure from its terms so long as the purpose of the guideline is met.

Standards and guidelines by design do not restate existing law or policy. They also do not include statements that recommend an analysis, inventory, or monitoring. Management direction not included in this forest plan is found in numerous laws, regulations, executive orders, Forest Service policies, and additional guidance documents.

The standards and guidelines in this section apply to all parts of the Chugach National Forest. Additionally in Part 3—Management Area Management Direction, there are management area standards and guidelines that apply specifically to the individual management areas.

## Standards and Guidelines for Goal 1: Provide for Ecological Sustainability

### Air

**Guideline FW-G1-GL-01:** During project development, coordination should occur with federal, state, tribal, and local air quality partners to minimize the cumulative impact on air quality from Forest Service management activities, such as the generation of smoke from prescribed fires.

### Soil

**Standard FW-G1-ST-01:** Proposed ground disturbing activities shall be designed to avoid areas with high potential for the occurrence of landslides (generally slopes greater than 56 percent).

**Guideline FW-G1-GL-02:** On fine textured soils of lacustrine origin, projects larger than one-half acre should be evaluated for soil stability and soil mass wasting effects prior to ground disturbing activities.

**Guideline FW-G1-GL-03:** Projects should be designed to limit activities resulting in long term impacts to

soils, including: loss of ground cover, severely burned soils, detrimental soil displacement, erosion, or compaction.

## **Water and watersheds**

**Standard FW-G1-ST-02:** Best Management Practices shall be applied to all activities that may affect water quality.

## **Aquatic and riparian habitats**

**Standard FW-G1-ST-03:** A riparian management zone width of approximately 100 feet from all perennial lakes and streams shall be applied unless replaced by a site specific delineation of the riparian area.

**Standard FW-G1-ST-04:** All riparian management activities shall be designed to meet the Stream Process Group objectives and desired conditions contained within the Aquatic Ecosystem Management Handbook.

**Standard FW-G1-ST-05:** New campgrounds, cabins, or hardened dispersed campsites shall be located outside of the riparian management zone.

**Standard FW-G1-ST-06:** Management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that adversely affect water conditions or fish habitat shall be avoided within the riparian management zone.

**Guideline FW-G1-GL-04:** To maintain stream channel stability and aquatic habitat, large woody debris should not be cut and/or removed from stream channels unless it is a safety issue or threatens navigable waters for boating or critical infrastructure.

**Guideline FW-G1-GL-05:** Adverse impacts to stream channel features (e.g., streambanks and obligate riparian vegetation) should be minimized by modifying management actions. Examples of modification include: adjusting timing and season of heavy equipment use or avoiding placing trails or other recreation structures where recreation use could negatively affect stream channel features.

**Guideline FW-G1-GL-06:** Infrastructure or facilities that contribute to erosion or other negative impacts to riparian systems should be mitigated or corrected. If no permanent correction is possible, they should be relocated outside of riparian management zones as opportunities arise.

## **Terrestrial habitats**

**Standard FW-G1-ST-07:** All open top vertical pipes with an inside diameter greater than one inch shall incorporate design features to prevent animal entrapments. Examples include pipe used for fences, survey markers, building plumbing vents, or signs.

**Guideline FW-G1-ST-07:** Vegetation clearing activities should not be authorized or approved to occur during the core migratory bird nesting period from May 1 through July 15, unless the project area has been surveyed and nest non-occupancy has been verified.

**Guideline FW-G1-GL-08:** To avoid the adverse impact of human disturbance on brown bears, management actions should be designed to minimize long term human activities near locations of important seasonal brown bear concentrations.

**Guideline FW-G1-GL-09:** When building or improving recreational campsites or overnight sites, planning should include separating food and garbage storage from campsites by at least 100 yards when practicable. Bear resistant food and waste containers should be provided for public use.

**Guideline FW-G1-GL-10:** To avoid adverse impacts of human disturbance on mountain goats and Dall sheep, authorized uses and projects should be designed to avoid or minimize human activities near important wintering, kidding, and lambing habitat.

**Guideline FW-G1-GL-11:** To minimize harassment to wildlife, special use permits for authorized Forest Service aircraft flights (fixed wing and helicopter) should include stipulations requiring:

- Maintaining a minimum landing distance of one-half mile from all observed mountain goats or Dall sheep
- Maintaining a 1,500-foot minimum vertical distance from all observed mountain goats or Dall sheep

**Guideline FW-G1-GL-12:** Design features and or mitigation measures should be incorporated in all Forest Service projects and authorized uses, as needed, to protect active nesting sites for bird species of conservation concern. The extent of protection will depend on the species and their tolerance to the proposed disturbance.

**Guideline FW-G1-GL-13:** Projects should be designed to minimize long term impacts to wildlife in or adjacent to animal movement corridors. Administrative activities and special use permits should include timing restrictions when needed to meet wildlife habitat objectives or to reduce wildlife-human interactions in important habitat areas or movement corridors.

**Guideline FW-G1-GL-14:** To reduce disturbance to bats, timing or access restrictions should be used for projects and activities where known bat use and concentration of bats occurs.

**Guideline FW-G1-GL-15:** Water developments or open impoundments, such as those for minerals operations, should be designed to prevent animal entrapments or to assist animals in their escape.

## **Vegetation**

**Guideline FW-G1-GL-16:** Authorized projects and activities should use natural revegetation where seed source and site conditions are favorable toward achieving revegetation objectives.

**Guideline FW-G1-GL-17:** Silvicultural prescriptions developed for timber harvest or other vegetation manipulation activities should include the following project design features:

- The amount, size(s), and distribution of snags and down logs to be left on site should be identified, as well as identification of green replacement trees for future snags. Table 1 provides the minimum requirements for snag and woody debris retention and continuing recruitment on forested sites following timber harvest, by forest type.
- Treatment units should be designed to maximize edge effect by creating irregular unit boundaries while considering reducing the effects of windthrow disturbance in layout design.
- Tree retention areas should measure at least 15 percent of the unit area in units greater than 20 acres. Retention areas should be sized, configured, and oriented for specific wildlife needs to reduce potential windthrow effects, mitigate recreational impact, and to provide increased visual diversity both within and from outside the treatment area.
- Prescriptions should be developed based on the desired conditions for the landscape as a whole and the forest stands being considered for treatment. Table 2 displays the appropriate silvicultural systems by forest type.

**Table 1.** Minimum requirements for snag and woody debris (where available) retention and continuing recruitment on forested sites following timber harvest or other vegetation manipulation<sup>1</sup>

| Forest Type              | Snags                     |                       |                                     | Down Logs                 |                                   |
|--------------------------|---------------------------|-----------------------|-------------------------------------|---------------------------|-----------------------------------|
|                          | Minimum Diameter (inches) | Minimum Height (feet) | Retention Density (number per acre) | Minimum Diameter (inches) | Retention Density (tons per acre) |
| White/Lutz spruce        | 15                        | 15                    | 4                                   | 15                        | 7                                 |
| Sitka spruce             | 20                        | 15                    | 4                                   | 20                        | 10                                |
| Western/mountain hemlock | 11                        | 15                    | 4                                   | 11                        | 20                                |
| Mixed conifer            | 11                        | 15                    | 4                                   | 11                        | 15                                |
| Aspen                    | 10                        | 15                    | 4                                   | 10                        | 5                                 |
| Paper birch              | 10                        | 15                    | 4                                   | 10                        | 11                                |
| Cottonwood/balsam poplar | 10                        | 15                    | 4                                   | 10                        | 15                                |

<sup>1</sup>These amounts are to be calculated as per-acre averages over a project area. The appropriate distribution of snags and down logs will be described during project development. Snags smaller than 10 inches diameter at breast height (dbh) or less than 10 feet tall are not considered. Retained trees should have reasonable assurance of wind firmness. Consider adding smaller trees or younger trees for future structure recruitment and to add wind firmness where needed.

**Table 2.** Appropriate silviculture systems by forest type

| Forest Type                               | Even-aged   | Two-aged  | Uneven-aged                              |
|---|---|---|--|
| White/Lutz spruce                         | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, Seed-tree and clearcut with and without reserves | Group selection<br>Single-tree selection |
| Sitka spruce                              | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, seed-tree and clearcut with and without reserves | Group selection<br>Single-tree selection |
| Western/mountain hemlock                  | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, seed-tree and clearcut with and without reserves | Group selection<br>Single-tree selection |
| Mixed conifer and mixed conifer deciduous | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, seed-tree and clearcut with and without reserves | Group selection<br>Single-tree selection |
| Aspen                                     | Coppice <sup>1</sup>  | Coppice with standards <sup>2</sup>                           | Group selection                          |
| Paper birch                               | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, seed-tree and clearcut with and without reserves | Group Selection<br>Single-tree selection |
| Cottonwood/balsam poplar                  | Shelterwood, clearcut<br>Seed-tree with and without leave trees | Shelterwood, seed-tree and clearcut with and without reserves | Group selection<br>Single-tree selection |

<sup>1</sup>Coppice is a vegetative reproduction method by which all trees are removed in a given area, like clearcutting, which stimulates regeneration from sprouts and root suckers.

<sup>2</sup>Standards are selected overstory trees reserved for a longer rotation and for purposes other than regeneration at the time each crop of coppice material is cut.

## Species diversity

**Standard FW-G1-ST-08:** Disposal or removal of garbage from all Forest Service permitted or approved activities shall be required to prevent habituation of wildlife to human food. Food and garbage shall be stored in bear-resistant containers or by a method that makes it unavailable to bears or other wildlife.

**Guideline FW-G1-GL-18:** To help maintain species diversity, authorized vegetation clearing activities should avoid populations of plants and lichen identified as rare by the Alaska Natural Heritage Program (AKNHP). Reference the AKNHP rare species database prior to project implementation to determine which, if any, rare species potentially occur in the project area.

**Guideline FW-G1-GL-19:** Existing natural aquatic features, such as waterfalls and rapids, that act as total or partial barriers to upstream fish passage should be maintained in their natural state to conserve genetic and ecological diversity. Alterations to these natural barriers should only be approved when evidence exists that the genetic and ecological diversity within the project area are not negatively impacted.

**Guideline FW-G1-GL-20:** To avoid disturbance, human activities on land should be prohibited within 100 yards of any occurrence of a hauled-out sea lion or seal.

**Guideline FW-G1-GL-21:** For projects involving clearing or ground disturbing activities greater than one acre, specialized habitat components, such as caves, standing dead trees, seeps, and springs, that may harbor species unique to these less common habitats should be preserved.

## **Invasive species**

**Guideline FW-G1-GL-22:** To prevent the introduction and spread of terrestrial invasive species, vehicles and equipment used during ground disturbing activities or in remote areas by agency personnel, permittees, and contractors should be cleaned and inspected prior to operation and prior to moving between worksites. Vehicles and equipment are considered clean if visually free of soil, seeds, plant parts, insects, and animal tissue and parts.

**Guideline FW-G1-GL-23:** To prevent the spread of aquatic invasive species, agency personnel, permittees, and contractors should remove visible plants and debris from equipment, aircraft wheels, floatplane floats, watercraft, vehicles, and trailers and should drain water from watercraft before leaving the water access areas. Just after takeoff, float plane rudders should be raised and lowered to free plant fragments.

**Guideline FW-G1-GL-24:** To prevent the introduction and spread of aquatic and terrestrial invasive species, personnel should ensure regular cleaning, and sanitization if necessary, of hiking boots, waders, snorkel gear, other field gear, motor vehicles, and non-motorized field transportation, including tires and axles, and any other equipment used outdoors to ensure the removal of soil, seeds, plant parts, insects, and animal tissue and parts.

**Guideline FW-G1-GL-25:** To minimize the potential for providing favorable seed beds, ground disturbing activities should not be authorized or approved during periods when invasive plant species have developed mature seeds.

**Guideline FW-G1-GL-26:** In areas where proposed projects overlap with existing invasive plant infestations, invasive plants should be treated prior to any ground disturbing activity to prevent spread. Species with an Alaska Exotic Plants Information Clearinghouse (AKEPIC) invasiveness rank equal to or greater than 70 should be the highest priority for treatment.

**Guideline FW-G1-GL-27:** All hay, straw, mulch, forage, construction material, and fill used in the national forest by agency personnel, permittees, and contractors should be free of invasive species and propagules. State certified weed free materials should be used if available.

**Guideline FW-G1-GL-28:** When natural revegetation conditions are not favorable for achieving revegetation objectives, plants native to the area should be used for revegetation/restoration projects.

**Guideline FW-G1-GL-29:** Guidelines for invasive species prevention should be incorporated in special use permits, and plans of operation for minerals, roads, and utility corridors.

## Standards and Guidelines for Goal 2: Contribute to Social and Economic Sustainability

### Cultural resources

**Guideline FW-G2-GL-01:** To protect sites listed or eligible for listing on the National Register of Historic Places, development, access, signage, and interpretation should be minimized unless it is determined the site and the public would benefit from interpretation and visitation, in which case, development, access, signage, and interpretation are encouraged.

### Minerals

**Guideline FW-G2-GL-02:** Surface disturbance for mineral exploration and mineral extraction should be minimized. With the initiation of allowed mineral activities, there should be reasonable regulation of surface occupancy and use in order for the mineral activities to be compatible with forestwide and management area desired conditions as much as practicable.

**Guideline FW-G2-GL-03:** Required reclamation activities in sites where previous mineral activities exceeded scenery integrity objectives during operations should be designed such that the affected area will meet the scenery integrity objectives within 10 years of the completion of the reclamation work.

### Recreation

**Standard FW-G2-ST-01:** Only those visitors possessing the cabin permit shall be authorized to camp within 300 feet of a recreation cabin site.

**Standard FW-G2-ST-02:** Management activities shall be consistent with the Recreation Opportunity Spectrum (ROS) class as mapped (see Map 5 Recreation Opportunity Spectrum in the map package). Levels of use and development shall be consistent with the Recreation Opportunity Spectrum class characteristics (see tables 3 and 4).

### Human-bear interactions

**Guideline FW-G2-GL-04:** Seasonal operating limitations should be considered for authorized and approved Forest Service activities to prevent or reduce bear-human interactions.

**Guideline FW-G2-GL-05:** New Forest Service cabins should not be constructed in bear habitat unless necessary for the purpose of minimizing bear-human conflicts.

**Guideline FW-G2-GL-06:** During project design, construction of hardened campsites should be considered to direct human occupancy away from sensitive brown bear areas.

**Guideline FW-G2-GL-07:** Construction of campsites should include designs for separating food and garbage from sleeping areas by at least 100 yards when practicable and should include the installation of bear resistant food lockers and garbage receptacles.

**Table 3.** Applicable social Recreation Opportunity Spectrum class characteristics

| ROS Class                    | Solitude                    |                              | Level of Encounters <sup>1</sup>   |   |   |                                   |                              |
|------------------------------|-----------------------------|------------------------------|--|---|---|-----------------------------------|------------------------------|
|                              | On Trails/<br>On Shorelines | Off Trails/<br>On Shorelines | On Trails  | On Shorelines   | Off Trails/<br>Off Shorelines   | Maximum Party Size <sup>2</sup>   | Degree of Risk and Challenge |
| Primitive                    | High                        | Very high                    | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins.   | Low: less than three parties/day. No other parties within sight or sound of campsites or cabins.                                    | Very Low: less than one party/day. No other parties within sight or sound of campsites or cabins.                                   | 15                                | Very high                    |
| Semi-primitive non-motorized | High to moderate            | Very high                    | Moderate: less than 15 parties/day. No more than three other parties within site or sound of campsites or cabins 85 percent of the primary use season. | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins 85 percent of the primary use season. | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins.                                      | 15 in MA 1<br>24 in all other MAs | High to moderate             |
| Semi-primitive motorized     | Moderate                    | High                         | Moderate: less than 15 parties/day. No more than three other parties within site or sound of campsites or cabins 85 percent of the primary use season. | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins 85 percent of the primary use season. | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins.                                      | 30                                | High to moderate             |
| Roaded natural               | Moderate to low             | Moderate to low              | High: greater than 15 parties/day. Six or more other parties may be within sight or sound of campsites or cabins.                                      | Moderate: less than 15 parties/day. Six or more other parties may be within sight or sound of campsites or cabins.                  | Low: less than six parties/day. No other parties within sight or sound of campsites or cabins 85 percent of the primary use season. | NA                                | Moderate to low              |
| Rural                        | Very low                    | Low                          | NA   | NA  | NA  | NA                                | Very low                     |

<sup>1</sup>Level of Encounters may be exceeded for up to 15 percent of the primary use season (approximately 1 day/week average). Applies only to MA 8.

<sup>2</sup>Group Size may be exceeded for up to 15 percent of the primary use season (approximately 1 day/week average). Applies only to MAs 4, 5, 6, 7, and 8.

**Table 4.** Applicable managerial Recreation Opportunity Spectrum class characteristics

| ROS Class                    | Access <sup>1</sup>  |                                      | Facilities and On-Site Controls   |                                |   | Trails  |                               |
|------------------------------|--|--------------------------------------|---|--------------------------------|---|---|-------------------------------|
|                              | Surface Access   | Air/Water Access                     | On-site Development   | Development Scale <sup>2</sup> | On-site Controls  | Trail Maintenance   | Management Class <sup>3</sup> |
| Primitive                    | Non-motorized, primitive trails, foot                                  | Kayaks, canoes, motorboats, aircraft | None except for recreation cabins<br>Minimum: designed for the protection of the site | 1                              | None  | Infrequent, minimal only to maintain route                                    | 1 to 2                        |
| Semi-primitive non-motorized | Non-motorized, primitive trails, foot                                  | Kayaks, canoes, motorboats, aircraft | Recreation cabins, primitive campgrounds, no synthetic materials                      | 23                             | Few, native materials only  | Annual to bi-annual to maintain route and tread                               | 3                             |
| Semi-primitive motorized     | Motorized, snowmachines, OHVs, developed trails, foot                  | Kayaks, canoes, motorboats, aircraft | Recreation cabins, primitive campgrounds, no synthetic materials                      | 2                              | Few, native materials only  | Annual to bi-annual to maintain route and tread                               | 3                             |
| Roaded natural               | Motorized, snowmachines, OHVs, developed trails, foot, bicycles, roads | Kayaks, canoes, motorboats, aircraft | Recreation cabins, improved trails, rustic style day-use facilities and lodges        | 3                              | Obvious rustic style, constructed parking areas, trails           | Annual or as needed to maintain route and tread and minimize resource impacts | 3 to 4                        |
| Rural                        | All types  | All types                            | Facilities for user comfort and convenience   | 4                              | Numerous and obvious barriers, parking areas, pedestrian controls | As needed to insure public safety   | 4 to 5                        |

<sup>1</sup>See travel management maps for information on recreational access.

<sup>2</sup>From FSM 2330.

<sup>3</sup>From FSH 2309.18.

## Scenery

**Guideline FW-G2-GL-08:** Management activities should be consistent with scenic integrity objectives (SIO) for the area as mapped (see Map 6 Scenic Integrity Objectives in the map package); small areas of non-conformance may be allowed based on management area direction.

## Forest products

**Standard FW-G2-ST-03:** Commercial harvest of forest products shall not be authorized except by use of official permits.

**Guideline FW-G2-GL-09:** To address concerns about maintaining sustainable quantities, no more than five commercial permits for forest products (excluding firewood) should be issued per 6th level watershed during a five-year period.

**Guideline FW-G2-GL-10:** If conflict or limited availability of forest products (excluding firewood) occurs, permitted use should be prioritized as follows:

1. Subsistence use (for cultural and subsistence gathering)
2. Personal use and free use permits
3. Noncommercial research and educational purposes
4. Commercial interests

## Recreational gold recovery (on lands withdrawn from mineral entry)

**Standard FW-G2-ST-04:** Recreational gold recovery activities, such as panning, sluicing, metal detecting, and the use of suction dredges four inches or less measured at the intake, are suitable only within active stream channels or on non-vegetated gravel bars.

**Standard FW-G2-ST-05:** The modification, cutting, or removal of vegetation or stream banks associated with recreational gold recovery is not suitable.

## Fire and fuels

**Standard FW-G2-ST-06:** The Alaska Interagency Wildland Fire Management Plan (AIWFMP) shall be used to identify the responsibilities and jurisdictions of protection agencies during wildland fire incidents.

**Standard FW-G2-ST-07:** Maps showing water sources to be avoided because of the concern for the presence of invasive aquatic species shall be made available to pilots responding to wildland fire incidents.

**Guideline FW-G2-GL-11:** The following AIWFMP designations should be used by wildland fire incident personnel to identify the appropriate actions to be taken within landscape-scale management option areas: Critical, Full, Avoid, and Non-sensitive sites. These site designations give specific guidance for structures, cultural and paleontological sites, small areas of high resource value, nesting areas for threatened and endangered species, and other site specific areas. These may be shown as wildland fire incident requirements and documented in the Wildland Fire Decision Support System (WFDSS) decision.

**Guideline FW-G2-GL-12:** Employees should not apply or authorize the application of aerial fire retardant within 300 feet of lakes, wetlands, streams, rivers, and sources of human water consumption or areas adjacent to water sources to avoid contamination of surface water with retardant. Aerial fire retardant use should be documented for each wildland fire incident.

**Guideline FW-G2-GL-13:** In burned areas that have a high potential for soil erosion or sedimentation, methods other than natural revegetation should be used to accelerate revegetation (mulching, erosion blankets, seeding of native species, etc.). Care should be taken to use weed free propagules.

## Prescribed fire

**Standard FW-G2-ST-08:** Every prescribed fire must have a prescribed fire plan developed using the Interagency Prescribed Fire Planning and Implementation Procedures Guide (NWCG PMS 484).

**Guideline FW-G2-GL-14:** To minimize the spread of invasive species, stage fire equipment in areas not infested with invasive species; and ensure clothing and equipment are free of invasive species before entering the staging area.

## Fuels treatment

**Guideline FW-G2-GL-15:** Activity fuels created as a result of vegetation management activities adjacent to roads and trails should be treated as follows:

- Slash piles that are scheduled for burning should be located outside meadows or riparian areas. A buffer distance designed to keep sediment, ash, and activity fuels out of stream channels should be used.
- For Federal, State, and Forest Service developed roads classified as arterials or collectors and all National Forest System trails, 70 to 90 percent of the activity fuels visible from the road or trail edge up to a maximum distance of 300 feet should be removed or treated. Debris should be treated within three years of vegetation treatment completion.

## Special uses (recreation)

**Standard FW-G2-ST-09:** To maintain the Federal subsistence priority of fish and game for qualified rural residents, outfitting and guiding special use permits for fishing and hunting in the western portion of the Copper River Delta (Game Management Unit 6C) shall not be authorized.

**Guideline FW-G2-GL-16:** Prior to authorizing new recreation events, the potential cumulative impacts of new and existing events to local users from the events and pre-event training should be considered.

**Guideline FW-G2-GL-17:** New recreation events should not be authorized if the event proposed occurs in important brown bear habitat or movement corridors.

## Special uses (non-recreation)

**Standard FW-G2-ST-10:** When temporary camps are authorized, the following stipulations shall be included in the special use permit:

- For multi-year permits, all platforms shall be constructed so that any structure above the platform shall be taken apart and laid flat on top of or beneath the tent platform at the end of seasonal occupation.
- Year-round occupancy of temporary camps shall not be allowed.
- Camp shall be kept clean and safe and shall reflect Leave No Trace practices. For camps to be used for multiple years, unneeded and discarded materials or equipment that cannot be stored beneath the tent platform must be removed from the site each year. At the end of the field project, camps shall be removed and the sites restored.
- Sleeping areas shall be separate from food areas by at least 100 yards where practicable and bear resistant containers for food, trash, and other attractants shall be used.
- Temporary camps shall include site hardening (such as boardwalks), as necessary, to minimize site disturbance.
- Camps shall be located at least one-quarter mile from known recreation camping sites or human use areas.

- Camps shall be located so they are at least 200 feet from fresh water and are not visible from major travel routes, including trails.

**Standard FW-G2-ST-11:** A special use permit shall be required for commercial fixed wing aircraft operations, except air taxis, flying point to point.

**Guideline FW-G2-GL-18:** New energy delivery systems should be confined to existing corridors, or if impractical, the minimum land area consistent with an efficient, safe facility should be used for their development and they should be designed with consideration for the existing form, line, color, and texture of the characteristic landscape. To reduce adverse effects to scenery, when uses are compatible, new powerlines and pipelines inside existing corridors should be co-located on the existing poles or buried if practical, and new powerlines and pipelines outside of existing corridors should be buried.

## Land ownership

**Guideline FW-G2-GL-19:** To achieve a land ownership pattern that facilitates accomplishing resource management objectives or reducing administrative costs, the acquisition of lands and interests in lands through willing parties should emphasize lands that:

- Are in or adjacent to specially designated areas, such as the wilderness study area; wild, scenic, or recreational rivers; national recreation trails; and research natural areas
- Are isolated inholdings surrounded by National Forest System lands
- Consolidate split estates
- Support environmental education in communities or provide the opportunity for interagency administrative sites in communities
- Provide public access to National Forest System lands
- Support management of the natural resources of the national forest
- Fulfill the intents and purposes of the EVOS restoration objectives

**Guideline FW-G2-GL-20:** To achieve a land ownership pattern that facilitates accomplishing resource management objectives or reducing administrative costs, land exchanges or limited special authorities to dispose of National Forest System lands or interest in lands should be used for:

- Isolated or inaccessible parcels surrounded by other ownership that are expensive to manage and do not significantly contribute to the goals and objectives of the forest plan
- Lands inside or adjacent to communities or intensively developed private land that support community needs and are more appropriate for community purposes
- Adjusting boundaries to support more logical and efficient management and reduce encroachment
- Exchanging lands not critical for national forest management for lands that are more desirable for Forest Service purposes

## Forest Service administrative field camps

**Standard FW-G2-ST-12:** When temporary administrative field camps associated with extended field projects are required, the following minimum conditions shall apply:

- Structures above tent platforms shall be taken apart and laid flat on top of or beneath the tent platform at the end of seasonal occupation.
- Only one outhouse or privy pit shall be allowed.
- Sleeping areas shall be separated from food by at least 100 yards, and bear resistant containers for food, trash, and other attractants are used.
- Year-round occupancy of temporary administrative field camps shall not be allowed.

- Camp shall be kept clean. For camps to be used for multiple years, unneeded and discarded materials or equipment that cannot be stored beneath the tent platform shall be removed from the site each year. At the termination of the authorization period, camps shall be removed and the sites restored.
- Camps shall be at least one-quarter mile from known recreation campsites or human use areas.
- Camps shall not be visible from major travel routes including trails.

**Guideline FW-G2-GL-21:** Temporary administrative facilities or camps should be in place no more than two seasons within an 18-month period.

### **Seward Highway All-American Road**

**Standard FW-G2-ST-13:** Activities within the Seward Highway Corridor shall be consistent with the Seward Highway Corridor Partnership Plan (SHCPP), which provides the conceptual framework for managing the highway corridor across all land ownership. Nodal Development Areas shall not be allowed on National Forest System lands.

**Guideline FW-G2-GL-22:** To accommodate needs for scenic views, trailheads, interpretive sites, and campsites within the Seward Highway corridor, areas should be developed consistent with the SHCPP.

### **Iditarod National Historic Trail**

**Guideline FW-G2-GL-23:** Activities within the 1,000-foot trail corridor for the Iditarod National Historic Trail should be consistent with the Iditarod National Historic Trail Comprehensive Plan (BLM 1986).



# Part 3—Management Area Management Direction

## Introduction

Management areas (MAs) are areas of the national forest that have similar management intent and a common management strategy. Suitable uses and activities by management area are provided in this part of the forest plan followed by descriptions of the management intent and associated plan components for each management area. This direction does not substitute for, or repeat, forestwide direction. Management area direction in this chapter should be used in conjunction with the forestwide direction described in part 2. Where management area direction conflicts with forestwide direction, the more stringent or restrictive direction prevails.

Eight management areas have been identified for the Chugach National Forest and are displayed in table 6. Four of the management areas are designated areas or recommended designated areas: MA 1 Wilderness Study Area; MA 2 Wild, Scenic, and Recreation Rivers; MA 3 Research Natural Areas; and MA 5 ANILCA 501(b) Areas. Map 4 Management Areas is available in Forest Plan Map Package.

**Table 5.** Surface area of designated management areas by geographic area (in acres)

| Management Area                            | Kenai Peninsula  | Prince William Sound | Copper River Delta | Totals           |
|--|------------------|----------------------|--------------------|------------------|
| MA 1 Wilderness Study Area                 | 1,900            | 1,907,019            | 0                  | 1,908,919        |
| MA 2 Wild, Scenic, and Recreational Rivers | 28,512           | 0                    | 0                  | 28,512           |
| MA 3 Research Natural Areas                | 5,849            | 16,241               | 1,520              | 23,610           |
| MA 4 Backcountry Area                      | 940,235          | 581,256              | 104,648            | 1,626,139        |
| MA 5 ANILCA 501(b) Areas                   | 0                | 94                   | 1,520,959          | 1,521,053        |
| MA 6 EVOS Acquired Lands                   | 0                | 84,617               | 16,209             | 100,826          |
| MA 7 Municipal Watershed                   | 0                | 0                    | 439                | 439              |
| MA 8 Front Country                         | 169,542          | 5,425                | 52                 | 175,019          |
| <b>Totals</b>                              | <b>1,146,038</b> | <b>2,594,652</b>     | <b>1,643,827</b>   | <b>5,384,517</b> |

## Suitability of Areas

An area may be identified as generally suitable for uses or activities that are compatible with desired conditions and objectives for that area. An area may be identified as generally unsuitable for uses or activities that are not compatible with desired conditions and objectives for that area. Identification of an area as generally suitable or generally unsuitable for a use or activity is guidance for project and activity decisionmaking and not a commitment nor a final decision approving projects and activities. Uses of specific areas are approved through project and activity decisionmaking.

Management areas are used in this forest plan to help further refine suitable uses and activities and guide management.

For ease of reference, general suitability determinations for management areas are displayed in the following table.

**Table 6.** General suitability determinations for management areas

| Use or Activity                          | MA 1 Wilderness Study Area | MA 2 Wild, Scenic, and Recreational Rivers | MA 3 Research Natural Areas | MA 4 Backcountry Area | MA 5 501(b) Areas | MA 6 EVOS Acquired Lands | MA 7 Municipal Watershed | MA 8 Front Country |
|--|----------------------------|--|-----------------------------|-----------------------|-------------------|--------------------------|--------------------------|--------------------|
| Soil/watershed projects                  | S                          | S  | U                           | S                     | S                 | S                        | S                        | S                  |
| Wildlife habitat projects                | S                          | U  | U                           | S                     | S                 | S                        | S                        | S                  |
| Fish habitat projects                    | S                          | S  | S                           | S                     | S                 | S                        | S                        | S                  |
| Timber production                        | U                          | U  | U                           | U                     | U                 | U                        | U                        | U                  |
| Commercial forest products               | U                          | U  | U                           | S                     | S                 | S                        | U                        | S                  |
| Personal use timber harvest              | S                          | U  | U                           | S                     | S                 | S                        | U                        | S                  |
| Personal use forest products             | S                          | S  | U                           | S                     | S                 | S                        | S                        | S                  |
| Saleable minerals                        | U                          | U  | U                           | S                     | S                 | NA                       | U                        | S                  |
| Day use facilities                       | U                          | U  | U                           | S                     | S                 | S                        | S                        | S                  |
| Electronic Sites                         | U                          | S  | U                           | S                     | S                 | S                        | S                        | S                  |
| Energy related infrastructure/ utilities | U                          | U  | U                           | S                     | U                 | S                        | S                        | S                  |
| Forest Service recreational cabins       | S                          | S  | U                           | S                     | S                 | S                        | U                        | S                  |
| Campgrounds                              | U                          | U  | U                           | S                     | S                 | U                        | U                        | S                  |
| Emergency motor vehicle access           | S                          | S  | S                           | S                     | S                 | S                        | S                        | S                  |
| Fixed wing aircraft                      | S                          | S  | S                           | S                     | S                 | S                        | S                        | S                  |
| Commercial helicopter landings           | U                          | S  | S                           | S                     | S                 | S                        | S                        | S                  |
| Recreation events                        | U                          | S  | U                           | S                     | S                 | U                        | U                        | S                  |
| Outfitter/Guide assigned sites           | U                          | S  | U                           | S                     | S                 | S                        | S                        | S                  |

S designates use or activity as generally suitable.

U designates use or activity as generally unsuitable.

Refer to standards and guidelines for each management area and/or use or activity for specific guidance.

## Descriptions of use or activity

**Soil/watershed projects** include stream bank restoration, stream channel restructuring to restore to natural conditions, vegetation establishment or improvement, erosion prevention and control, and other activities.

**Wildlife habitat projects** include vegetation or other habitat modifications, installation and maintenance of nesting structures, installation of monitoring devices, and other activities.

**Fish habitat projects** may include restoration or enhancement of instream or lake habitat, stream fencing to protect riparian habitat from damage, and installation of road culverts or bridges to restore fish passage.

**Timber production** refers to the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use.

**Commercial forest products** are ferns, mushrooms, wildflowers, seedlings, Christmas trees, burls, berries, cones, conks, and others that are harvested for commercial resale.

**Personal use timber harvest** includes saw timber, pulpwood, and non-saw log material removed in log form, cull logs, small roundwood, house logs, telephone poles, and derrick poles that are harvested for personal use.

**Personal use forest products** includes ferns, mushrooms, wildflowers, seedlings, Christmas trees, burls, berries, cones, and conks that are harvested for personal use.

**Saleable minerals** include sand, gravel, cinders, and roadbed material (mineral commodities).

**Day use facilities** include restrooms and picnic areas developed for public day use.

**Electronic sites** include electronic transmitters, receivers, and resource monitoring equipment used for communication systems.

**Energy related infrastructure/utilities** include hydroelectric dams, transmission towers, and electrical corridors.

**Forest Service recreational cabins** are structures built and maintained by the Forest Service for public use.

**Campgrounds** are hardened sites developed for overnight use for the public and may include facilities and amenities, such as potable water and garbage receptacles.

**Emergency motor vehicle access** via boat, helicopter, fixed-wing aircraft, or other modes for health and safety purposes is allowed throughout the national forest regardless of management area direction.

**Fixed-wing aircraft** are allowed to land on all suitable lakes, beaches, and ice fields without permit (unless the activity requires a permit for another reason) and unless closed for health, safety, or resource protection reasons by Forest Order.

**Commercial helicopter landings** are authorized by permit only.

**Outfitter/guide assigned site** is a location that is authorized for use and occupancy by an outfitting and guiding permit and for which a fee is paid.

# Management Areas

## MA 1 Wilderness Study Area

### Management intent

The Nellie Juan-College Fiord WSA is managed to preserve currently existing wilderness character and potential for inclusion in the National Wilderness Preservation System. The WSA is not a Conservation System Unit under ANILCA. Management of the WSA will follow the direction provided by ANILCA to the extent consistent with law until Congress determines otherwise.

### Desired conditions

**MA 1-DC-01:** The WSA is a defining feature of western Prince William Sound where visitors find opportunities for solitude, remoteness, closeness to nature, and self-reliance in a natural environment of coastal rainforests and tidewater glaciers. The WSA supports subsistence uses, a robust recreation and tourism economy, and a commercial fishing industry while maintaining its wilderness character.

### Standards and guidelines

#### Administrative activities and facilities

**Standard MA 1-ST-01:** No new permanent administrative facilities shall be constructed, except as consistent with ANILCA (Sections 1303, 1306, 1310 and 1315).

**Guideline MA 1-GL-01:** To help maintain wilderness character, the Minimum Requirement Decision Guide (MRDG) or similar minimum-tool analysis should be used when considering special use or administrative activity proposals within the WSA.

**Guideline MA 1-GL-02:** Administrative activities should be performed in a manner that minimizes impacts on wilderness character. Administrative activities include authorized use and resource-related work being done by other agencies and cooperators.

**Guideline MA 1-GL-03:** Fire management actions should use Minimum Impacts Suppression Tactics (MIST).

**Guideline MA 1-GL-04:** Trails and facilities should blend with the natural environment and promote primitive recreation opportunities.

**Guideline MA 1-GL-05:** Signs should only be installed when essential for public safety or resource protection.

**Guideline MA 1-GL-06:** To lessen impacts to wilderness character, the same conditions listed for temporary camps under Forestwide administrative field camps should apply, as well as the following:

- Camp conditions should reflect Leave No Trace or other low impact practices.
- Permanent foundations or anchors should be avoided.
- Only minimal clearing of vegetation should occur.
- Tent platforms and boardwalk construction should be used instead of gravel pads or gravel trails.

#### Special uses (non-recreation)

**Guideline MA 1-GL-07:** New land uses should not be authorized when reasonable alternative locations for the use exist outside the WSA.

**Standard MA 1-GL-02:** Shore ties, shore caches, waterlines, or other onshore facilities associated with floating residential and commercial facilities shall not be authorized or permitted.

**Special uses (recreation)**

**Standard MA 1-ST-03:** Recreation or competitive events shall not be authorized.

## MA 2 Wild, Scenic, and Recreational Rivers

### Management intent

The purpose of the National Wild and Scenic Rivers System (NWSRS) is to maintain and protect the free-flowing character of certain river corridors that exhibit outstanding natural, cultural, and recreational values for the benefit of present and future generations. Outstandingly remarkable values are those unique, rare, or exemplary features that are significant when compared with similar values from other rivers at a regional or national scale. Categories of outstandingly remarkable values include scenery, river recreation, geology, fish and wildlife species, and historic and cultural features.

Designated river segments are classified and administered according to definitions in the Wild and Scenic Rivers Act (1968):

**Wild rivers:** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

**Scenic rivers:** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines undeveloped but accessible in places by roads.

**Recreational rivers:** Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Congress has not acted on the 2002 recommendations for the wild, scenic, or recreational river segments within the Chugach National Forest. Until a decision is made, the recommended rivers will be managed under the direction described here for this management area and consistent with NWSRS designation classes. The list of recommended rivers is displayed in table 7.

**Table 7.** List of river segments within the Chugach National Forest deemed suitable and recommended for inclusion in the NWSRS

| River Segment           | Miles | Classification | Outstanding Features                      |
|-------------------------|-------|----------------|---|
| Twentymile River        | 14.1  | Scenic         | Scenery, recreation, fish and wildlife    |
| Portage Creek           | 6.2   | Recreational   | Recreation and scenery                    |
| Sixmile Creek           | 5.7   | Recreational   | Recreation and scenery                    |
| East Fork Sixmile Creek | 5.6   | Recreational   | Recreation and scenery                    |
| Lower Russian River     | 4.9   | Recreational   | Fish and wildlife, historic, and cultural |
| Upper Russian River     | 12.4  | Wild           | Fish and wildlife, historic, and cultural |
| Lower Snow River        | 9.1   | Scenic         | Scenery and visual features               |
| Upper Snow River        | 12.4  | Wild           | Scenery and visual features               |
| Nellie Juan River       | 9.6   | Wild           | Recreation and scenery                    |
| Childs Glacier          | 3.0*  | Scenic         | Recreation, scenery, and geological       |

\*Approximate mileage

### Desired conditions

**MA 2-DC-01:** The special character of rivers recommended for inclusion in the NWSRS is safeguarded, with recognition of their potential for appropriate but limited use and development. Where river management crosses political boundaries, goals for river protection are developed collaboratively as a result of stakeholder and public participation.

**MA 2-DC-02:** The hydrologic and biological character of stream segments and associated riparian areas having a recommended or designated Wild River status remain in their natural state without evidence of alteration by human activities.

**MA 2-DC-03:** The hydrologic and biological character of stream segments with a recommended or designated Scenic River status remains in a largely natural condition with some human-related alteration and impact of existing habitat.

**MA 2-DC-04:** The ecological function and processes of designated or recommended Recreational River stream segments are not significantly impaired as a result of human related activities and management.

**MA 2-DC-05:** Designated or recommended Wild River areas provide opportunities for solitude characterized by few encounters with other users.

**MA 2-DC-06:** Roads, camping areas, and trailheads provide the necessary and consistent level of access and use opportunity for designated or recommended Scenic and Recreational River stream segments.

**MA 2-DC-07:** Management of designated and recommended Recreational River areas is designed to accommodate a high level of public and recreational use where frequent encounters among users are expected.

## **Standards and guidelines**

### **General**

**Standard MA 2-ST-01:** For designated or recommended Wild and Scenic River areas, vegetation, fish, and wildlife habitat projects shall be restricted to those with a primary purpose of protection and restoration of resources. Projects where the focus is enhancement of naturally occurring and properly functioning habitats shall not be approved.

**Standard MA 2-ST-02:** For designated or recommended Wild, Scenic, and Recreational River areas, vegetation, fish, and wildlife habitat projects, upon completion, shall visually blend with the surrounding natural setting.

**Standard MA 2-ST-03:** For designated or recommended Wild River areas, applications for competitive group events shall not be approved.

**Standard MA 2-ST-04:** For designated or recommended Wild and Scenic River areas, the development of hydroelectric facilities and water and flood control dams that create impoundments shall not be authorized.

**Standard MA 2-ST-05:** For designated or recommended Wild River areas, construction of new Forest Service cabins shall not be authorized unless necessary to ensure public health and safety.

**Guideline MA 2-GL-01:** For designated or recommended Scenic and Recreational River areas, Forest Service recreational cabins, campgrounds, boat docks, ramps, lodges, and other facilities should be compatible with desired conditions for scenic and recreation river corridors.

**Guideline MA 2-GL-02:** For the purpose of developing an access point to a Wild, Scenic, or Recreation River segment, small areas of non-conformance with the mapped Scenic Integrity Objective, not to exceed two acres, should be allowed.

**Guideline MA 2-GL-03:** To protect the free-flowing character or other outstandingly remarkable values of river segments, fire management actions should use MIST.

## MA 3 Research Natural Areas

### Management intent

Research natural areas (RNAs) are permanently established to maintain representative areas of natural ecosystems and areas of special ecological significance. RNAs emphasize non-manipulative research, monitoring, education, and the maintenance of natural diversity by allowing natural physical and biological processes to prevail without human intervention. Because RNAs are managed in a natural state, they can function as a control when evaluating long term effects and ecological change on similar more intensively managed areas. Each RNA has its own establishment record, which includes detailed location maps, information on distinguishing features, and the purpose for the establishment of the RNA (see table 8).

**Table 8.** Designated research natural areas within the Chugach National Forest

| RNA                       | Size (acres) | Resource Focus  |
|---------------------------|--------------|---|
| Kenai Lake-Black Mountain | 5,850        | Sitka spruce- white spruce-Lutz spruce forest and a diversity of vegetation types   |
| Wolverine Glacier         | 6,861        | One of four USGS benchmark glaciers in North America and a diversity of tundra plant communities within the Nellie Juan-College Fiord Wilderness Study Area   |
| Green Island              | 2,558        | Old growth forests, beaches uplifted by the 1964 earthquake, haul out sites for harbor seals and Steller sea lions, sea otter refugia, marine and shorebird bird colonies, and linkages between terrestrial and highly productive marine environments |
| Olsen Bay Creek           | 6,821        | Non-manipulative anadromous fisheries research and a wide diversity of lower and upper elevation vegetation types and landforms   |
| Copper Sands              | 1,520        | Shifting barrier islands with breakwater sandbars and active vegetation succession on sand dunes  |

Management for recreation uses, habitat improvement, or restoration and resource development are not emphasized. Recreation uses that interfere with the purpose of the RNA may be restricted. RNAs provide outstanding opportunities for research, study, observation, monitoring and those educational activities that maintain unmodified conditions. While maintaining a natural condition is the goal of the selection of RNAs, there may be some evidence of past human use, such as primitive trails or historic structures.

### Desired conditions

**MA 3-DC-01:** RNAs retain their unique and natural conditions for which they were designated and provide opportunities for non-manipulative research, monitoring, and education.

### Standards and guidelines

#### Watershed, fisheries, and wildlife

**Guideline MA 3-GL-01:** Soil and watershed restoration projects and wildlife and fish habitat manipulation should only be allowed for the protection of threatened or endangered species and species of conservation concern, or where it is necessary to perpetuate or restore natural conditions for which the RNA was established.

**Guideline MA 3-GL-02:** To lessen impacts to ecosystem conditions, fire management actions should use Minimum Impacts Suppression Tactics (MIST) within individual research natural areas.

#### Cultural resources

**Standard MA 3-ST-01:** Cultural resources shall be maintained in an undisturbed state with no on-site interpretation. Recording of data shall be the preferred method to mitigate the loss of cultural resources.

## **Minerals**

**Guideline MA 3-GL-03:** RNAs may be withdrawn from mineral entry for locatable minerals.

## **Recreation**

**Guideline MA 3-GL-04:** Signs or fences should only be installed when essential for public safety or resource protection.

**Guideline MA 3-GL-05:** New trails should not be constructed unless they contribute to the objectives or to the protection of the RNA.

**Guideline MA 3-GL-06:** Trails should be decommissioned if they are not consistent with the purpose of the RNA.

**Guideline MA 3-GL-07:** Administrative and non-recreational motor vehicle access (e.g., helicopter landings) should be allowed only if such activities do not interfere with the objectives for which the RNA was established.

**Guideline MA 3-GL-08:** Reasonable access should be provided to private lands only if no other access exists.

## **Special uses (non-recreation)**

**Standard MA-3-ST-02:** Shore ties, shore caches, waterlines, or other onshore facilities associated with floating residential and commercial facilities shall not be authorized or permitted.

## **Special uses (recreation)**

**Standard MA 3-ST-03:** Special use permits for competitive group events shall not be approved.

## **Administrative facilities**

**Standard MA 3-ST-04:** Construction of permanent administrative facilities shall not be permitted. Temporary facilities shall be permitted only to support approved research projects.

## **MA 4 Backcountry**

### **Management intent**

MA 4 Backcountry is managed to emphasize a variety of recreational opportunities in primarily backcountry settings in natural appearing landscapes. The conservation of fish and wildlife habitats are also emphasized, and ecological processes, largely unaffected by human activity, dominate these areas.

### **Desired conditions**

**MA 4-DC-01:** Backcountry provides opportunities for solitude and isolation when traveling cross-country and supports subsistence and tourism-based economic opportunities.

**MA 4-DC-02:** Scenery is natural in appearance and exemplifies southcentral Alaskan rugged beauty.

### **Standards and guidelines**

#### **General**

**Standard MA 4-ST-01:** Motor vehicle access for administrative and permitted use on routes closed to public motor vehicle access shall be authorized only by the responsible line officer.

**Standard MA 4-ST-02:** In the Power Creek drainage north of Cordova, existing fish and wildlife structures/improvements shall be allowed to remain and be maintained. No new improvements or structures shall be authorized.

**Standard MA 4-ST-03:** In the Power Creek drainage north of Cordova, existing public use cabins and viewing sites may be maintained and replaced. No new cabins or viewing sites shall be constructed.

**Guideline MA 4-GL-01:** Small mineral materials sites should be developed only to support trail or facility development. All sites should be completely rehabilitated upon completion of projects.

**Guideline MA 4-GL-02:** Administrative or permitted activities should be seasonally restricted to meet wildlife habitat objectives or to reduce wildlife-human interactions in sensitive habitat areas or movement corridors.

**Guideline MA 4-GL-03:** For the purpose of developing small mineral material sites for trail development and maintenance and recreation infrastructure (hardened campsites, public use cabins, and Eagle Glacier permitted facilities), small areas of non-conformance with the mapped Scenic Integrity Objective, not to exceed one acre, should be allowed. These areas should not occur within the viewshed of any area of scenic integrity non-conformance.

#### **Special uses (non-recreation)**

**Standard MA 4-ST-04:** Shore ties, shore caches, waterlines, or other onshore facilities associated with floating residential and commercial facilities shall not be authorized or permitted.

## MA 5 ANILCA 501(b) Areas

### Management intent

This area is managed to meet the direction of ANILCA Section 501(b), which states that the primary purpose for the management of the Copper/Rude River and Copper River-Bering River sections of the national forest should be for the “conservation of fish and wildlife and their habitat.” It also clarified that the taking of fish and wildlife would be permitted, pursuant to other applicable laws, and that multiple use activities would be permitted “in a manner consistent with the conservation of fish and wildlife and their habitat.” The intent of this management area is to provide management direction to meet the purposes set forth in ANILCA while providing opportunities for multiple use activities in a natural appearing landscape.

### Desired conditions

**MA 5-DC-01:** Ecological processes, largely unaffected by human activity, dominate ANILCA 501(b) areas. Fish and wildlife habitats are maintained to conserve native species and provide subsistence resources for locals.

### Standards and guidelines

#### Watershed, fisheries, wildlife, and vegetation

**Guideline MA 5-GL-01:** Vegetation management activities should be designed to maintain or enhance fish and wildlife habitat and should simulate natural vegetation patterns and patch size.

**Guideline MA 5-GL-02:** The use of motorized equipment (e.g., backhoes, tracked vehicles, and OHVs) should be minimized but may be used in the construction of fish and wildlife habitat improvement projects.

**Guideline MA 5-GL-03:** The design of fish and wildlife projects should minimize impact on the natural character of the area while maximizing productivity of fish and wildlife habitats.

#### Minerals

**Guideline MA 5-GL-04:** Minerals activities, including oil and gas development and exploration and development of locatable minerals resources, should be limited, modified, or restricted to maintain, to the extent possible, fish and wildlife habitat values and the natural character of the area.

**Guideline MA 5-GL-05:** Road construction should not be authorized for initial prospecting/exploration to determine the existence of mineral or oil and gas deposits.

**Guideline MA 5-GL-06:** Terms and conditions controlling operating methods and times to prevent or mitigate adverse impacts to wildlife and fish should be included for all permitted or authorized minerals activities.

**Guideline MA 5-GL-07:** In Roaded Natural areas identified on Map 5 Recreation Opportunity Spectrum, small salable mineral material sites may be developed to support trail and facility development or road construction. Sites should be located to minimize or mitigate effects on fish and wildlife habitat. All sites should be restored upon completion of projects.

#### Cultural resources

**Guideline MA 5-GL-08:** Cultural resources should remain in an undisturbed state, with recording of data the preferred method to mitigate the loss of cultural resources.

## **Administrative facilities**

**Guideline MA 5-GL-09:** New, permanent administrative facilities should be constructed consistent with fish and wildlife conservation goals and ANILCA (Sections 1303, 1306, 1310 and 1315).

## **Recreation**

**Guideline MA 5-GL-10:** Forest Service recreation cabins should be constructed only if they are consistent with the conservation of fish and wildlife habitat values.

**Guideline MA 5-GL-11:** Special use permitted assigned sites should be authorized only when necessary for effective management of fish and wildlife resources or for health and safety reasons.

**Guideline MA 5-GL-12:** Developments and amenities for larger groups should be concentrated along road corridors, minimizing the effects on the overall management area.

**Guideline MA 5-GL-13:** Fish and wildlife viewing sites should be constructed only if the design is consistent with conservation efforts and the natural character of the area.

## **Scenery**

**Guideline MA 5-GL-14:** Small areas of non-conformance with the mapped Scenic Integrity Objective, not to exceed five acres or the minimum necessary to permit fish or wildlife conservation activities should be allowed.

## **Special uses (non-recreation)**

**Standard MA 5-ST-01:** Shore ties, shore caches, waterlines, or other onshore facilities associated with floating residential and commercial facilities shall not be authorized or permitted.

**Guideline MA 5-GL-15:** Communication sites should be authorized only when necessary for health and safety reasons or when no reasonable alternative exists. Facilities should be designed and located to minimize effects on the natural character of the area.

**Guideline MA 5-GL-16:** Power generation facilities, transmission systems, and utility corridors should be authorized only when no reasonable alternative is available.

**Guideline MA 5-GL-17:** Permanent structures or facilities should be located to minimize effects on habitat for fish and wildlife.

## MA 6 EVOS Acquired Lands

### Management intent

As part of the *Exxon Valdez* oil spill (EVOS) settlement, lands or interests in lands have been purchased with the purpose of conserving fish and wildlife habitats and for restoration of injured resources from EVOS. Lands and interests acquired via the EVOS purchase program and managed by the Forest Service include surface estate lands and easements. The State of Alaska holds conservation easements on surface estate lands purchased by the United States. The Chugach Alaska Corporation owns the subsurface estate beneath most EVOS purchased lands and is entitled to access for exploration and development of subsurface resources. The three primary types of purchased lands or easements include:

**Federal Conveyance Lands:** These are lands where the surface estate has been purchased in fee with the primary goal of maintaining the land in perpetuity for conservation and restoration purposes. Development activities are only allowed when necessary for conveying information to the public, to protect public safety or natural resources, or for the research or management of the area for conservation or wilderness purposes.

**Native Village Corporation Timber Conservation Easements:** On these lands, the Native village corporations generally retain all rights of surface ownership, except for the right to harvest timber.

**Native Village Corporation Conservation Easements:** The purpose of these conservation easements is to ensure that the conservation values of the property will be maintained by the Native Corporation and to prevent any use of the property that will materially impair or interfere with its conservation values. Most of these easements allow public access; some do not. The Forest Service has the right to enter these lands for the purpose of restoring diminished resources resulting from EVOS.

This management area was developed to specify management direction for lands or interests acquired with EVOS restoration funds. Purchase agreements for the sale and purchase of lands and interests in lands among the Chenega Corporation, Eyak Corporation, Tatitlek Corporation, the United States of America, and the State of Alaska contain specific covenants that apply to the specific protected property. The individual purchase agreements identify detailed management requirements for each of the individual parcels.

### Desired conditions

**MA 6-DC-01:** National Forest System lands and interests in lands, including Native village corporation timber conservation easements and Native village corporation conservation easements acquired following EVOS, are protected against devaluation or loss.

**MA 6-DC-02:** Resources injured from EVOS are restored or enhanced, and intact fish and wildlife habitats are maintained on all EVOS acquired lands.

**MA 6-DC-03:** Ecological processes dominate EVOS acquired lands. In areas where soil, water, and timber resources have been impacted by previous management activities or by natural events, management activities focus on restoring watershed function. Riparian habitats are fully protected.

**MA 6-DC-04:** Land ownership interests are exchanged or acquired from willing sellers to fulfill the intents and purposes of EVOS restoration objectives.

### Standards and guidelines

#### General

**Standard MA 6-ST-01:** Authority for managing Native Village Corporation Conservation Easement lands with public access, sport hunting, fishing, camping, hiking, and other natural resource-based recreation opportunities shall remain with the Native village corporation.

## **Fish, wildlife, and plants**

**Standard MA 6-ST-02:** The removal or destruction of native plants, except for subsistence or medicinal uses, is not suitable on Native Village Corporation Conservation Easement lands and Federal Conveyance Lands.

**Standard MA 6-ST-03:** The introduction of nonindigenous fish, wildlife, or plants is not compatible with management area desired conditions.

## **Forest products**

**Standard MA 6-ST-04:** The removal or harvest of timber, except for subsistence or other uses named in the purchase agreements, or for the purposes of access, exploration, and development of the subsurface estate is not suitable within the management area.

**Standard MA 6-ST-05:** Except for purposes specified in the purchase agreement, manipulating natural water courses, shores, marshes, or other water bodies is not compatible with management area desired conditions.

## **Recreation**

**Guideline MA 6-GL-01:** On lands where the surface estate was acquired in fee, construction or placing buildings, improving campsites and trail overlooks, or installing fences shall be prohibited. Construction should be authorized only if it is determined to be necessary for 1) conveying information to the public to protect public safety or natural resources; 2) research; or 3) management of the lands, consistent with the goal of maintaining the land in perpetuity for conservation and wilderness purposes.

## **Roads and trail access**

**Standard MA 6-ST-06:** The construction of new roads, as well as facilities associated with roads, such as boat docks, log transfer facilities, and parking lots, shall not be authorized unless needed to reasonably develop the subsurface estate.

**Standard MA 6-ST-07:** Helicopter landings shall not be authorized, except when needed to reasonably develop the subsurface estate or when necessary for administrative purposes.

**Standard MA 6-ST-08:** Motor vehicle access shall not be authorized, except where individual purchase agreement covenants allow limited specific motor vehicle access to individual parcels.

**Guideline MA 6-GL-02:** Existing roads should be closed or obliterated, except where they provide necessary access for restoration of injured resources, for scientific or educational purposes, or for reasonable access and exploration to develop subsurface resources.

## **Scenery**

**Guideline MA 6-GL-03:** Areas of non-conformance with the mapped Scenic Integrity Objective may be allowed in order to fulfill management intent of the acquired lands. Following the conclusion of activities that are non-conforming, the area should be reclaimed so that it meets the mapped scenic integrity objective within 10 years.

## **Special uses (recreation)**

**Standard MA 6-ST-09:** Commercially operated flight-seeing landings on Federal Conveyance Lands shall not be authorized. Native village corporations shall retain authority to permit landings on Native Village Corporation Conservation Easement lands.

**Guideline MA 6-GL-04:** Permits should be issued for special uses on Federal Conveyance Lands only when they do not conflict with conservation and restoration values.

### **Special uses (non-recreation)**

**Standard MA 6-ST-10:** The Native village corporation shall retain the authority to control all commercial access on Native Village Corporation Conservation Easement lands. Construction of power generation/transmission lines, communication sites, and utility corridors shall not be authorized unless specifically needed to reasonably develop the subsurface estate or for projects that are specifically authorized in the purchase agreements.

**Standard MA 6-ST-11:** With respect to subsurface estate resources, construction of mining and drilling camps needed for access, exploration, and development will be authorized by permit.

**Guideline MA 6-GL-05:** Permits should be issued for special uses on Federal Conveyance Lands only when they do not conflict with conservation and restoration values.

### **Administrative facilities**

**Guideline MA 6-GL-06:** Whenever practical, administrative facilities should be located outside of EVOS acquired lands. However, they should be allowed when necessary for effective preservation of the conservation and restoration values for which the lands were acquired. Facilities should be designed and located to have negligible effect on conservation and restoration values.

### **Subsistence**

**Standard MA 6-ST-12:** On Native Village Corporation Conservation Easement lands, the taking of fish, wildlife, and other natural resources shall be authorized only for the residents of Chenega Bay, Tatitlek, and the Native Village of Eyak.

## **MA 7 Municipal Watershed**

### **Management intent**

Municipal watersheds are managed to protect the municipal water supply of communities adjacent to the national forest. This management area includes portions of a watershed outside the community of Cordova.

### **Desired conditions**

**MA 7-DC-01:** The watersheds within this management area provide high quality municipal water supply for present and future generations.

### **Standards and guidelines**

#### **General**

**Standard MA 7-ST-01:** Activities or uses that may compromise municipal water supply quality or quantity of water shall not be authorized.

#### **Minerals**

**Guideline MA 7-GL-01** Surface occupancy for the purpose of mineral development should be limited to protect municipal watershed values.

#### **Scenery**

**Guideline MA 7-GL-02:** For the purpose of developing small mineral material sites for trail development and maintenance and recreation infrastructure (hardened campsites, public use cabins), small areas of non-conformance with the mapped Scenic Integrity Objective, not to exceed one acre, should be allowed (see Map 6 Scenic Integrity Objectives in the Forest Plan Map Package). These areas should not be placed within the viewshed of any area of scenic integrity non-conformance.

## **MA 8 Front Country**

### **Management intent**

Front country management areas have a high density of human activities and associated structures, including, roads, utilities and trails, as well as signs of past and ongoing activities designed to actively manage forest vegetation. This management area provides a wide variety of recreation opportunities, both for motor vehicles and non-motorized uses. It also includes most of the acreage identified as tentatively suitable for timber production.

Ecological processes moderately affected by high human activity dominate MA 8 Front Country. This management area emphasizes the restoration of fish habitat, watchable wildlife, fishing, and hunting. In high human use areas, restoring forest cover, riparian zones, important wildlife and habitat areas, and productive forests impacted by insect, disease, severe windstorm, or fire disturbances are a priority.

Front country provides a wide range of recreation opportunities. Facilities, such as campgrounds, viewing sites, visitor or information centers, or interpretive signs, may occur on existing roads or along trails. Opportunities for solitude and quiet may be limited due to frequent contact with other users near the road or trail systems. Historic cabins, trails, and above ground features may be stabilized with limited onsite interpretation. Recreation cabins are present and new cabins may be constructed. Tourism related activities should accommodate large groups.

Roads and trails occur throughout the management area, and new roads may be built for resource management activities or for providing access to trailheads, camping areas, or recreation concentration areas. These roads, however, may be closed either seasonally or year-long to meet wildlife habitat objectives. Viewsheds along the Seward, Sterling and Hope Highways, and Portage Glacier Road are managed to conserve their scenic beauty. Forest products may be harvested to meet forest products and resource objectives. Vegetation will generally be managed in campgrounds to provide a mature forest character and along trails to provide for the safety of trail users. Areas adjacent to private lands should consider WUI objectives. Areas identified for restoration, such as Cooper and Resurrection Creeks, are in this management area.

### **Desired conditions**

**MA 8-DC-01:** Front country management areas provide a wide range of recreation opportunities that are accessible from the road system for variety of national forest users.



## Part 4—Plan Monitoring Program

Monitoring provides feedback during the life of the forest plan by testing assumptions, tracking relevant conditions over time, measuring management effectiveness and evaluating effects of management practices. Monitoring information should enable the Forest Service to determine if a change in plan components or other plan management guidance may be needed, forming a basis for continual improvement and adaptive management.

Direction for the monitoring and evaluation of forest plans is found in the 2012 Planning Rule at 36 CFR 219.12 and in the Forest Service directives at 1909.12 Chapter 30. Within this framework, the responsible official has the discretion to set the scope, scale and priorities for plan monitoring within the financial and technical capabilities of the administrative unit. However, the monitoring strategy is required to include one or more monitoring questions and associated indicators to address eight items that relate to ecosystem integrity and ecosystem services. These required monitoring items are displayed in table 9 along with the associated Chugach National Forest monitoring topic.

**Table 9.** 2012 Planning Rule required monitoring questions and associated monitoring topics for the Chugach National Forest Plan Monitoring Program

| 2012 Planning Rule Required Monitoring Items   | Chugach National Forest Monitoring Topic      |
|--|---|
| The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land.   | Soil productivity                             |
| Status of select watershed conditions.   | Watershed condition                           |
| Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.   | Climate change                                |
| Status of select ecological conditions, including key characteristics of terrestrial and aquatic ecosystems.   | Aquatic ecological conditions                 |
| Status of select ecological conditions, including key characteristics of terrestrial and aquatic ecosystems.   | Terrestrial/riparian ecological conditions    |
| Status of a select set of the ecological conditions required by § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and to maintain a viable population of each species of conservation concern. | Species of conservation concern               |
| Status of focal species to assess the ecological conditions required by § 219.9.   | Focal species                                 |
| Status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.  | Sustainable recreation and visitor use        |
| Progress toward meeting the desired conditions and objectives in the plan, including providing for multiple use opportunities.   | Social, cultural, and economic sustainability |

The plan monitoring program addresses the most critical components for informed management of the national forest’s resources within the financial and technical capability of the agency. Every monitoring question links to one or more desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

This plan monitoring program is not intended to depict all monitoring, inventorying and data gathering activities undertaken for the national forest. Consideration and coordination with broad-scale monitoring strategies, multi-party monitoring collaboration, and cooperation with State agencies

where practicable will increase efficiencies and help track changing conditions beyond the national forest boundaries to improve the effectiveness of the plan monitoring program. In addition, project and activity monitoring may be used to gather information for the plan monitoring program if it will provide relevant information to inform adaptive management.

The plan monitoring program establishes the plan monitoring questions and associated indicators and monitoring topics. It includes a monitoring guide (to be developed) and a biennial monitoring and evaluation report. The monitoring guide will provide detailed information about the monitoring questions, indicators, frequency and reliability, priority, data sources and storage, and cost.

The foundation of the Chugach National Forest Plan Monitoring Program is the 12 questions and associated indicators and monitoring topics that are displayed in table 9. All of the required topics described in table 9 are captured by at least one of the monitoring questions displayed in table 10.

**Table 10.** Monitoring questions, indicators, and monitoring topics

| Monitoring Question  | Indicator   | Monitoring Topic                           |
|--|---|--|
| 1. Are the desired conditions for vegetation management, recreation, and public access being met while protecting soil quality and productivity?   | Soil productivity standards   | Soil productivity                          |
| 2. Are the trends in water quantity, water quality, and timing of stream flows that occur in national forest watersheds, including climate change related transition from snow to rain/snow dominant watersheds, consistent with the setting and disturbance regimes that are naturally characteristic of the geographical area? | Stream flow, temperature, DO, pollutants, turbidity, and snowpack vulnerability.  | Watershed conditions and climate change    |
| 3. Does aquatic habitat have the capacity to maintain indigenous populations of aquatic life, including rare species, in a manner that is consistent with the natural setting and disturbance regimes of the geographical area?  | Status of the distribution and abundance of aquatic habitat types and associated aquatic species.                             | Aquatic ecological conditions              |
| 4. Do terrestrial and riparian habitats have the capacity to maintain native plant communities and wildlife populations, including rare species, in a manner that is consistent with the natural setting and disturbance regimes of the geographical area?   | Status of the distribution and abundance of terrestrial and riparian habitat types and associated plant and wildlife species. | Terrestrial/riparian ecological conditions |
| 5. Are habitat conditions necessary to support viable populations of dusky Canada goose being maintained?  | Trends in the viability of the dusky Canada goose as influenced by national forest habitat conditions.                        | Species of conservation concern            |
| 6. What is the distribution trend of invasive aquatic plants represented by <i>Elodea</i> and reed canarygrass that, as a focal species group, poses a potential threat to ecosystem integrity and adaptive capacity?  | Distribution, abundance, and occurrences in new locations.  | Focal species                              |
| 7. What is the distribution trend and ecological status of invasive terrestrial plants, represented by bird vetch, orange hawkweed, and white sweetclover that, as a focal species group, poses a threat to ecosystem integrity and adaptive capacity?   | Distribution, abundance, and occurrences in new locations.  | Focal species                              |
| 8. What changes are occurring in the range and distribution of Dolly Varden char, rainbow trout, cutthroat trout, and the occurrence of rainbow-cutthroat hybrids that, as a focal species group, are indicative of climate change impacts to ecosystem integrity and adaptive capacity?   | Changes in species range and distribution.  | Focal species and climate change           |

| Monitoring Question  | Indicator   | Monitoring Topic                              |
|--|---|---|
| 9. What is the trend for the use of developed recreational facilities, including unmet demand during peak season, and how does it compare to capacity? | Facility occupancy rate, including unmet demand during peak season.   | Sustainable recreation and visitor use        |
| 10. Is the wilderness character of the WSA and areas recommended for wilderness designation, being maintained?   | Level of human impacts on wilderness character as per indicators described in 2011 Chugach National Forest monitoring guide (USDA Forest Service 2011). | Sustainable recreation and visitor use        |
| 11. What are the trends in the economic benefits of fishing and hunting that rely on fish and wildlife that originate from national forest watersheds? | Estimate of economic impact expressed in dollars and jobs created.  | Social, cultural, and economic sustainability |



## References

U.S. Department of the Interior, Bureau of Land Management. 1986. The Iditarod National Historic Trail Seward to Nome Route: A Comprehensive Management Plan. Anchorage, AK.

USDA Forest Service. 2011. Monitoring Guide for the Chugach National Forest Revised Land and Resource Management Plan. R10-MB-733. Anchorage, AK.



# Forest Plan Map Package

The following reference maps are included in this map package:

- Map 1 National Forest with Geographic Areas
- Map 2 Watersheds
- Map 3 Landtype Associations
- Map 4 Management Areas
- Map 5 Recreation Opportunity Spectrum
- Map 6 Scenic Integrity Objectives
- Map 7 Inventoried Roadless Areas