

ALASKA FOREST LEGACY  
PROGRAM  
ASSESSMENT OF NEED



**Final Assessment  
August 23, 2002**



United States Department of Agriculture

Office of the Secretary  
Washington, D.C. 20250

November 1, 2002

The Honorable Tony Knowles  
Governor  
State of Alaska  
Juneau, Alaska 99811-0001

Dear Governor Knowles:

I am pleased to inform you that your request for participation in the Forest Legacy Program (FLP) has been approved pursuant to our authority under Section 7 of the Cooperative Forestry Assistance Act of 1978 (16 USC 2103c), as amended.

One Forest Legacy Area (FLA), containing five sub-areas, meeting eligibility criteria to achieve these goals and having public support was proposed. The area is described and mapped in the Alaska assessment of need. The area is hereby instituted as an approved FLA for the acquisition of private lands. There remains some question regarding the eligibility of University and Mental Health Trust Lands. These lands will not be considered eligible as potential project acquisitions until we have completed our eligibility review.

We appreciate the work of the employees of the Alaska Division of Parks and Outdoor Recreation, under the leadership of Director Jim Stratton, to bring Alaska into the Forest Legacy Program.

Thank you again for your efforts to join the FLP. Please do not hesitate to contact Under Secretary for Natural Resources and Environment Mark Rey if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann M. Veneman".

Ann M. Veneman  
Secretary

Forest Legacy Program  
Assessment of Need for Alaska

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**Alaska's Forest Stewardship Committee**

*Ole Anderesson*

*Steve Bush*

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*Allen Lemen*

*John Mohorcich*

*Steve Gos*

*Mitch Michaud*

*Jimmy LaVoie*

*George Matz*

*Charlie Nash*

*Erica Reith*

*Dr. Bob Wheeler*

*Dick Zobel*

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## **INTRODUCTION TO THE FOREST LEGACY PROGRAM – FEDERAL AND STATE**

### **The Federal Forest Legacy Program**

The Forest Legacy Program (FLP) identifies and protects environmentally important private forestlands threatened by conversion to non-forest uses. The FLP was established under the authority of the Cooperative Forestry Assistance Act (CFAA) of 1978, as amended in the 1990 Farm Bill (Food, Agriculture Improvement and Reform Act, [16 U.S.C.2103c et.seq.]).

As defined by statute, environmentally important forestlands must possess one or more of the following ecological values:

- Opportunities for continuing traditional forest uses
- Fish and wildlife habitat
- Threatened and endangered species
- Riparian areas
- Public recreation opportunities
- Cultural resources
- Scenic resources

The Secretary of Agriculture through the United States Forest Service is authorized to provide financial, technical, educational, and related assistance to state, community, and private forest landowners, and is authorized upon request to make a grant to the state to carry out the intent of the FLP in the state, including the acquisition by the state of lands and interests in lands. The goal of the program is to identify and protect important forest areas and aid in conservation through the purchase of conservation easements or fee interests in forestlands. Up to seventy-five percent of total appraised value may be paid by the Federal government through the FLP. State, local, and private interests must provide matching funds to cover any and all costs not paid by the federal government.

Conservation easements purchased may include a variety of property rights, but most often restrict development and subdivision. Any restrictions placed on the land are attached to the title, and remain in effect in perpetuity, regardless of sale or ownership. Participation by landowners in the FLP is completely voluntary. All parties must follow Federal appraisal standards and acquisition rules for the acquisition of lands or interests in lands.

While conservation easements established under the FLP do not require public access, a landowner may choose to allow public access and recreation on his or her land provided it does not conflict with the FLP goals and management objectives for the property. Conservation easements and the FLP offer alternatives to outright government ownership of land while protecting private forestland from conversion to non-forest uses.

Under FLP, the state with significant input from its residents identifies environmentally important forestlands and uses conservation easements or land purchases to conserve and maintain those lands. Under the State Grant Option, the state or its designated

representative shall transact all Forest Legacy Program acquisitions. When a conservation easement is purchased using FLP funding, the state or its designated local unit of government must hold the easement. When the state acquires full interest in lands under the FLP, the state must retain ownership. FLP funds may be used to support eligible conservation organizations for activities related to donations of conservation easements. When a conservation easement is donated on behalf of the FLP (to receive credit as a match) to an eligible non-governmental conservation organization, that organization may hold the easement.

### **The Forest Legacy Program in Alaska**

In January 2001 Governor Tony Knowles selected the State of Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation to implement the FLP in Alaska. The State of Alaska Legislature approved the Division of Parks and Outdoor Recreation's involvement in the FLP in part as a means to conserve privately owned lands adjacent to and within existing conservation units, recognizing the need and opportunity to maintain the most effective intent of conservation lands. The USDA Forest Service granted funds to complete an Assessment of Need for the FLP in Alaska.

The Assessment of Need evaluates both the biological and social aspects of Alaska's forest resources, identifies threats that are converting forestlands to other land uses in Alaska, and delineates Alaska's Forest Legacy Area (FLA): the important forestlands threatened by conversion to non-forest uses. Federal FLP funds may be used to purchase interests in forest lands that qualify within the FLA. The Forest Legacy Area description and the eligibility criteria used to identify it start on page 47 of this document.

As appropriate, the State of Alaska Division of Parks and Outdoor Recreation, with input from the Forest Stewardship Committee will periodically review and revise this Assessment to meet the future needs for forest resource conservation on behalf of the citizens of Alaska. The Forest Stewardship Program and its coordinator will advise the federal government of the on-going activities during the implementation of the FLP in Alaska.

### **Public Involvement in the Assessment of Need**

The threats converting forestlands to other land uses and Alaska's Forest Legacy Area were identified with significant review by the public and the Alaska Forest Stewardship Committee (FSC). Public meetings were held primarily through the Alaska State Park Advisory Boards, which exist in 13 communities in different regions of the state. Citizens representing different interests from each community or region serve on the State Park Advisory Boards, which provide a forum for public discussion regarding parks related issues. The Advisory Boards meet every month, providing a ready forum for soliciting public involvement in the FLP Assessment of Need. The meetings are noticed to the public. The goals of the meetings included educating about FLP and the assessment process, hearing concerns and views from interested and affected parties, and receiving ideas from communities.



In addition to the public community meetings, the statewide Community Forest Advisory Council and Alaska chapters of the Society of American Foresters and The Wildlife Society were briefed about the FLP in Alaska and asked to provide comments for the AON. A schedule of all the public meetings was posted on the State of Alaska Division of Parks and Outdoor Recreation website. Appendix A contains a list of public community meetings held for the AON and a copy of the information packet distributed at the meetings. Appendix B contains a summary of comments received from Alaskans during, following and outside the public meetings.

### **Alaska Forest Legacy Program Goals**

The goals of the Alaska Forest Legacy Program are to:

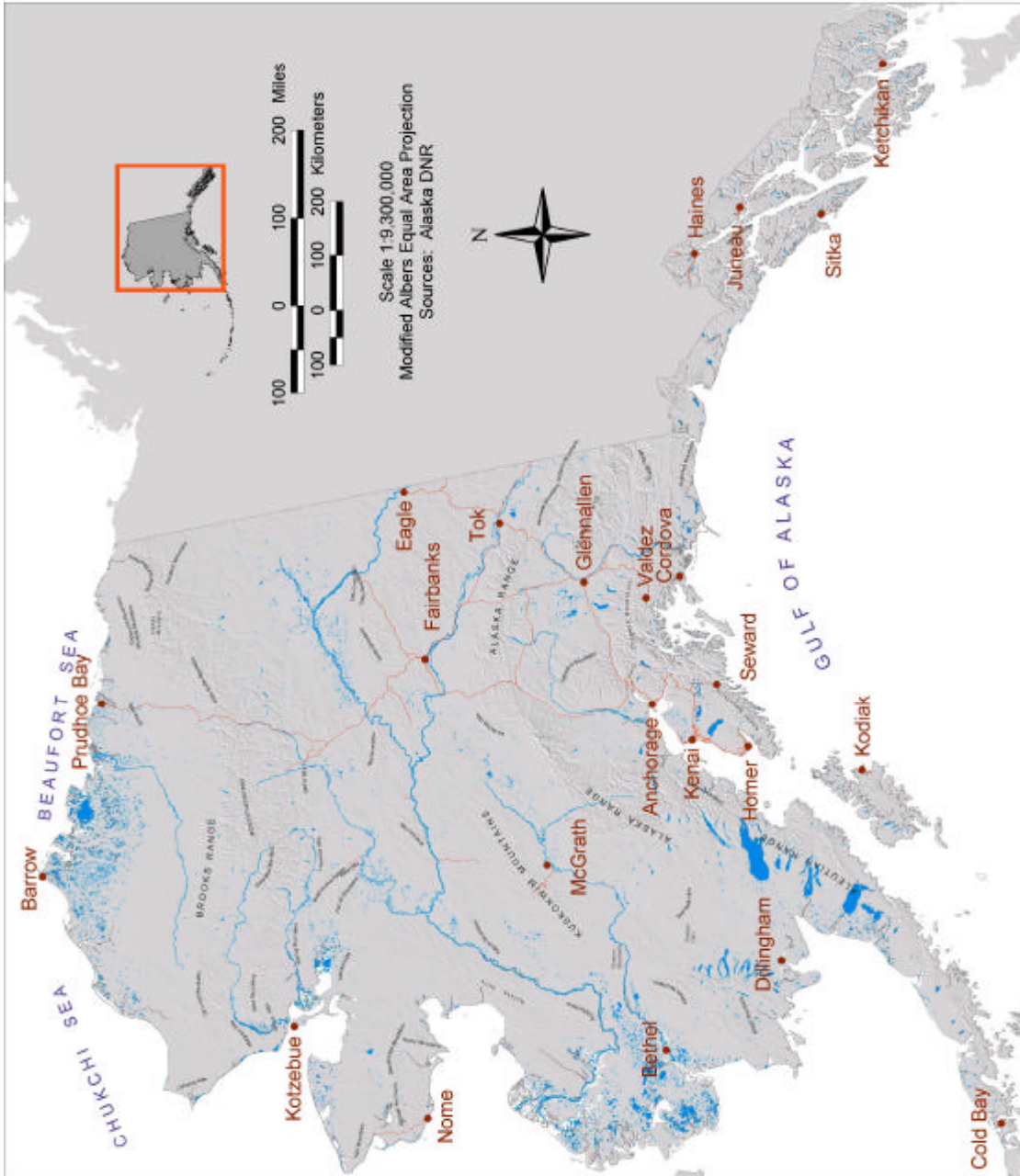
- Protect fish and wildlife habitat and maintain habitat connectivity, habitat diversity and related values needed to ensure biological diversity and healthy fish and wildlife populations;
- Increase opportunities for natural lands recreation, especially near communities and existing roads, and protect existing opportunities at remote sites;
- Buffer, protect and enhance the natural ecosystem functions and natural lands recreation value of lands currently under conservation and forest management;
- Prevent forest fragmentation;
- Protect areas important to Alaska's communities for water supplies, traditional uses and economic reasons;
- Protect river systems, wetlands, coastal areas and their associated hydrologic functions and upland habitats, and;
- Provide and maintain opportunities for traditional forest uses, including the production of wood and non-timber forest products.

### **ALASKA'S FOREST RESOURCE BASE; PHYSICAL ENVIRONMENT**

Alaska spans a large section of the globe, extending more than 20° in latitude from Point Barrow at 71°23' to Amatignak Island in the Aleutians at 51°20'. It spans 42° in longitude, from 130° at the Portland Canal in Southeast to 172° in the western Aleutians (Map 1). This large state boasts many extremes and has diverse climates, topography, and human and biotic communities. Descriptions of Alaska's physical environment, especially as it relates to the state's forests, follow.

#### **Climate**

Large regional variations in climate within the state cause major differences in the composition and growth of forests; indeed, climate is the principal factor limiting forest growth in Alaska. Mean annual temperatures range from -2°C to 2°C along the southern coast, from -6°C to -2°C in the Interior, and from -12°C to -10°C in the Interior mountains and Arctic. The length of the frost-free period varies from more than 200 days

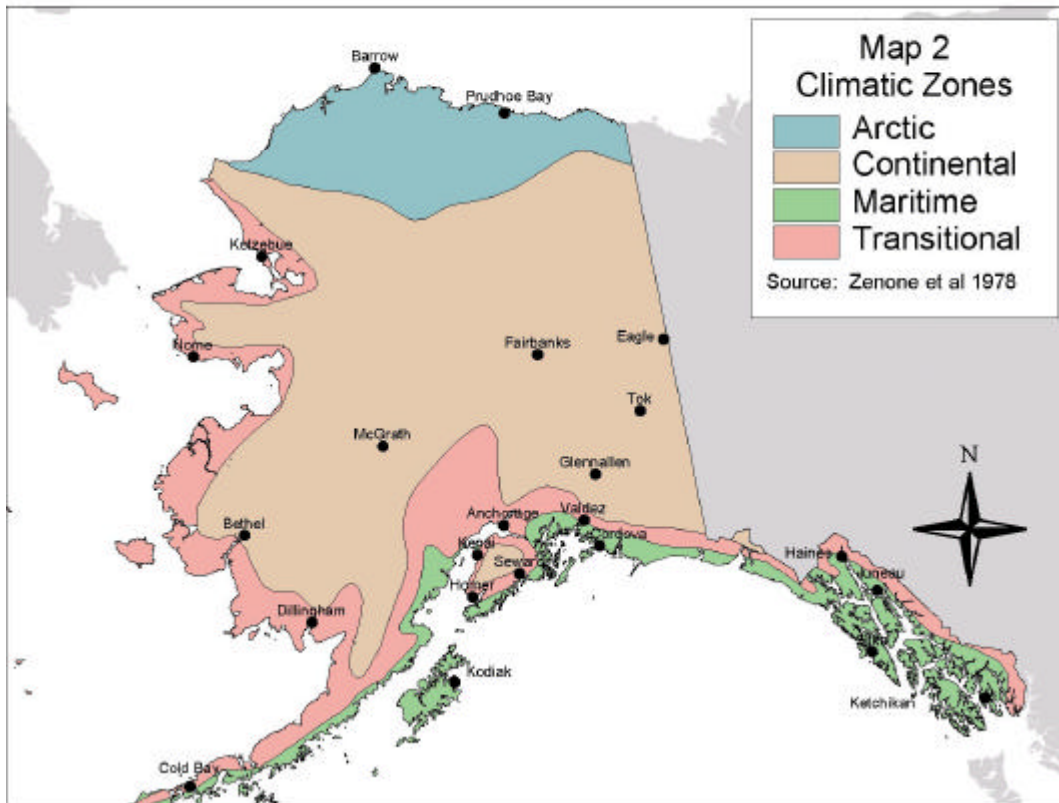


in parts of Southeast Alaska and the Aleutian Islands to 40 days in the Arctic. In summer, the long day length in the Interior and Arctic partially compensate for the short growing season and account for relatively high plant productivity at these high latitudes. Precipitation can exceed 500 centimeters per year in parts of the Alexander Archipelago of Southeast Alaska, but most of the Arctic region receives less than 25 centimeters per year. This small amount of precipitation would result in desert conditions at lower latitudes, but permafrost, present throughout most of the Arctic and northwestern regions, prevents percolation which causes low evaporation rates and provides adequate moisture for plant growth.

Climate is dynamic, and changes in climate are visible in many parts of Alaska. Rising temperatures currently contribute to rising treeline elevations throughout the state and the expansion of forests on Kodiak Island and in western Alaska. Many researchers believe the warming trend has contributed to the severity and longevity of the current spruce bark beetle infestation affecting over 3.1 million acres of forestland. Today, retreating glaciers throughout much of Alaska are revealing bare mineral soil in areas that are likely to support forest vegetation in the coming decades.

### Climatic Zones

Climatologists commonly divide the state in four major climatic zones: maritime, transitional, continental, and arctic. Mean annual air temperature, swings in extreme temperatures during the year, and the amount of precipitation all vary in different zones. Map 2 depicts the boundaries of the climatic zones.



In the maritime region of Southeast and parts of southcentral Alaska, the Pacific Ocean is the key factor influencing climate. Summers are significantly cooler, winters are significantly warmer and it is wetter throughout the year than in areas further inland. The moderating force of the Pacific results in strong similarity in climate, ecosystem structure and dominant plant species throughout the large region. Sea level snow and deep accumulations of heavy, wet snow at elevation are both common along the coast, as are high cloud and fog frequencies. Surface winds tend to be strong and persistent. The distinctly cool, wet and moderate climate is in large part responsible for the lush and diverse forests of these coastal areas.

Just inland from the Pacific in the transitional zone in the area commonly described as the Cook Inlet Basin ecoregion, the climate is influenced both by the coastal environment to the south and the Interior region to the north. Relative to the maritime zone, temperature variations are more pronounced throughout the day and year, it is less cloudy, surface winds are lighter, and precipitation and humidity are lower. Tree growth is slower here than in the maritime zone and broadleaf species are mixed with conifers.

The continental region of Interior Alaska experiences low temperatures, a short growing season, and low cloudiness, humidity and precipitation. It is a region of extremes, with temperatures ranging over 150°F (83°C) throughout the year, and nearly 24 hours of daylight available for plant growth in the summer. Although precipitation is light, evaporation rates are low and permafrost forms an impervious layer making wetlands common. Boreal forests exist throughout the region in a mosaic of closed-canopied, mixed stands on well-drained sites, and open spruce stands on sites underlain by permafrost and at higher elevations and latitude.

In the Arctic zone annual and diurnal temperatures vary less than in the continental region and precipitation is extremely light. Surface winds are strong along the coast, but decrease inland. The maritime environment influences the arctic climate in the summer, but not in the winter when dense sea ice mimics land and creates more continental conditions.

### **Physiography, Geology and Soils**

Encompassing roughly 365 million acres, the physiography and geology of Alaska is complex and its soils are diverse. Alaska is geologically active; glaciers, earthquakes, and volcanoes continue to shape the landscape and influence soil and plant community development. An oceanic plate moving beneath a continental plate creates an active subduction zone along the Alaska Peninsula and Aleutian Islands, produces high magnitude earthquakes, and causes numerous volcanoes to remain active. Earthquakes cause tsunamis, subsidence and rebound, all of which have affected forests in recent history. As a result of the 1964 Good Friday earthquake, coastal areas throughout Southcentral Alaska harbor 'ghost forests' – stands of dead, bleached spruce trees killed by saltwater inundation when the land supporting them subsided. Likewise other areas,

including the Copper River Delta, are rebounding from tectonic activity allowing trees to spread into formally intertidal and supertidal areas.

Alaska's recent geologic history profoundly influenced not only the landscape, but also the diversity and composition of forest communities existing throughout Alaska today. Four major glacial advances during the Quaternary period made glacial landforms and features, including U-shaped valleys, moraines and outwash plains evident throughout much of the state. After the ice sheets melted, species adapted to dispersal over long distances and able to thrive in relatively simple communities were the first to colonize the vast areas of newly exposed bare mineral substrate.

Climatic fluctuations, resultant glacial advances and retreats, and isostatic rebound continue in many areas today, creating a dynamic and rapidly evolving landscape. For example, in 1794 when the Vancouver Expedition traveled through Southeast Alaska, ice sheets were beginning to retreat but still stretched almost to the mouth of what is now Glacier Bay. The final phases of glacial retreat are occurring today. The Gustavus Forelands, which encompass approximately 156,000 acres at the Southeastern part of Glacier Bay, are isostatically rebounding. This uplift is creating a unique, ecologically important wetland and forest complex of extensive intertidal mud flats, willow thickets, sedge dominated wetlands and lodgepole pine open woodlands. This uncommon mixture of plant communities supports one of Southeast Alaska's largest moose populations, as well as providing important sandhill crane and other migratory waterfowl habitat (Streveler 1996).

Although Alaska has diverse geology and soils, climate is the overwhelming factor limiting plant growth; therefore subtle distinctions among rock and soil types are less important in determining plant distribution in Alaska than in more temperate climates.

**Physiographic Regions** (source: Wahrhaftig 1965)

Two of the major physiographic regions of North America extend into Alaska – the Interior Plains and the North American Cordillera. Predominantly sedimentary and metamorphic formations underlie both regions. The Interior Plains continues into Alaska as the Arctic Coastal Plain. Much of the rest of Alaska is considered part of the North American Cordillera, and is commonly described as three major divisions – the Rocky Mountain System, the Intermontane Plateaus, and the Pacific Mountain System - which form three parallel belts stretching from the conterminous United States through Canada to Alaska (Map 3).

The Arctic Coastal Plain is a smooth, treeless plain rising imperceptibly from the Arctic Ocean to a maximum altitude of 600 feet at its southern margin on the north side of the Arctic Foothills. The area is underlain by unconsolidated Quaternary marine sediments resting on Cretaceous and Tertiary sedimentary deposits. Permafrost at least 1,000 feet thick underlies the entire area, which is characterized by associated ice-wedge polygons, elongated thaw lakes and poor drainage.



however large areas of Interior Alaska were ice-free in the Pleistocene and today have significant deposits of loess.

The Pacific Mountain system in Alaska forms an arc of high mountains reaching 10,000 to 20,000 feet bordering the Pacific Ocean. The system consists of two groups of mountain ranges and a belt of intervening lowlands. The northern mountains include the Aleutian, Alaska, and Coast Ranges; the southern mountains consist of the Kodiak, Kenai-Chugach, Baranof, and Princes of Wales Ranges. The northern and southern ranges meet and merge in the St. Elias Mountains. In the southern Gulf of Alaska, the outer coast is made up of the often mountainous barrier islands of the Alexander Archipelago. Inshore lie a complex network of islands and steep-sided mainland fjords. The lowlands of this region all reach sea level and include the Cook Inlet-Susitna Lowland, the Copper River Lowland, and the Kupreanof Lowland.

The geology of the Pacific Mountain region is extremely complex and varied; the Aleutian Islands are an arcuate line of 57 volcanoes of Quaternary age, the Alaska Range consists largely of metamorphosed and highly deformed Paleozoic and Mesozoic volcanic and sedimentary rock, and the Coast Mountains are underlain by massive batholithic granites with belts of schist and phyllite. The lowlands were shaped and scoured by glaciers and are underlain by thick deposits of till, outwash and lake-bed materials. The Wisconsin Glaciation shaped the topography of Southeast Alaska; glacial landforms are common and now dictate the types and distributions of habitats in the region.

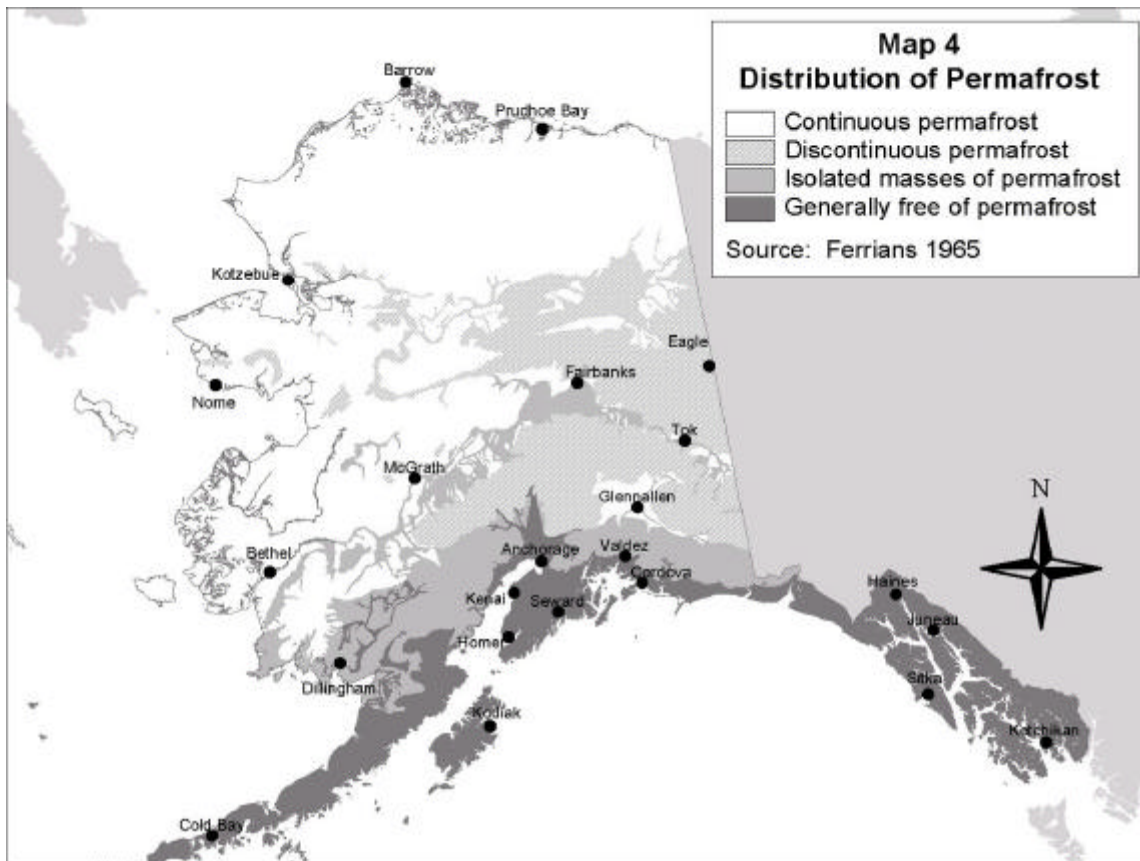
### **Alaska's Forest Soils**

Key factors in soil development in northern and Interior Alaska include low temperatures, poor drainage, thick surface layers of moss and other organic material, low levels of available nutrients, and in some areas, permafrost. Soil texture and permafrost affect drainage, which in turn is a major determinant of forest type. Maps 4 and 5 depict the distribution of permafrost and soil texture in Alaska. Much of the Intermontane Plateau region is underlain by discontinuous permafrost; usually present in peatlands and in old, unburned stands where thick layers of insulating organic material have accumulated. Frequent lightning-ignited wildfires disturb the organic mat and warm soils. The warmed soils significantly lower the permafrost table and thus change soil properties, hydrology and plant community composition. Soils derived from sedimentary deposits dominate much of the cordilleran and lowland areas. Hardwood-conifer mixed stands generally occur on fine-textured soils that are well-drained. Black spruce dominates the poorly drained sites, and stunted, open stands of black spruce, often mixed with tamarack, grow on wet peatlands.

Along the Alaska Peninsula and parts of the Cook Inlet Basin and southwestern Alaska, soils have formed from volcanic ash and cinders, and erode easily in heavy rains. This erosion hinders vegetation development in some areas (Gallant et al. 1995). In other parts of the Cook Inlet Basin, soils are formed from loess from the area's extensive



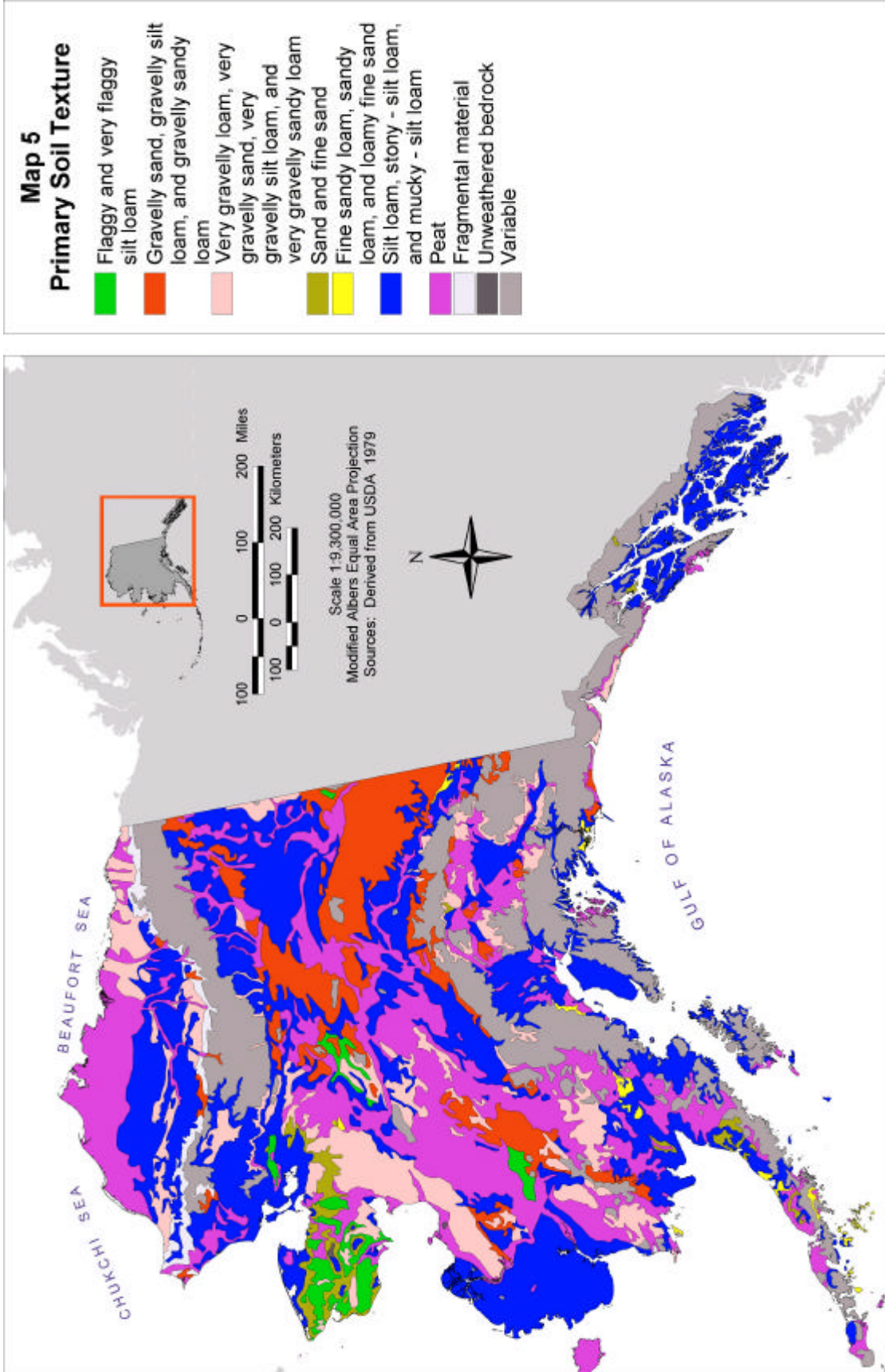
glacial floodplains. This region was extensively glaciated during the Pleistocene, and soils now lie on top of glacial deposits.



Soils from the granitic bedrock in the Pacific Mountain region are more acidic and more poorly developed than soils derived from the sedimentary materials which underlie many of the lowland and island areas of the Southeast coastal region. All soils are young (0-15,000 years) and vary from shallow and poorly developed to deeply weathered (DeMeo, Martin and West 1993). On the exposed outer coast stunted forests and wetland vegetation are common on all soil types, primarily due to high annual precipitation, cool temperatures and often strong winds. In the lowlands of Prince of Wales Island, extensive limestone deposits support highly productive Western redcedar and spruce forests.

Table 1 contains a summary of information about soils in Alaska's forested regions.





**Table 1: Summary of soil types & characteristics by ecological region & forest type**

Ecological region	Forest type(s)	Soil types	Characteristics
Southeast/coastal	<ul style="list-style-type: none"> <li>○ Closed spruce &amp; hemlock/ Coastal temperate rainforest</li> </ul>	Histosols & spodosols (1)	Soils in this region are young (0-15,000 years); vary from shallow & poorly developed to deeply weathered
Alaska Peninsula	<p>In northern section patchy distribution of:</p> <ul style="list-style-type: none"> <li>○ Spruce woodland/ shrub</li> <li>○ Closed spruce</li> <li>○ Closed broadleaf &amp; closed mixed</li> </ul>	Typic Haplocryands & Typic Vitricryands (2)	Soils of volcanic origin; erode easily.
Cook Inlet Basin	<ul style="list-style-type: none"> <li>○ Closed spruce</li> <li>○ Closed mixed</li> <li>○ Closed broadleaf &amp; Closed mixed</li> </ul>	Wide range of fine-textured soil types derived from lacustrine deposits, loess and volcanic deposits.	Soils developed over extensive glacial deposits. Flat to gently-sloping topography and fine-textured parent materials produce wet, organic soils in many parts in the region.
Copper River Basin	<ul style="list-style-type: none"> <li>○ Open &amp; closed spruce</li> <li>○ Spruce woodland/ shrub</li> </ul>	Various cryochrepts, sryaquolls, and crypborolls (3)	Soils poorly drained & shallow to permafrost. Basin is former glacial lake bed; soils developed on fine-textured lacustrine deposits ringed by coarse glacial tills.
Interior Alaska Taiga	<ul style="list-style-type: none"> <li>○ Spruce &amp; broadleaf</li> <li>○ Open spruce/shrub/bog mosaic</li> <li>○ Open &amp; closed spruce</li> </ul>	Wide range of soil types in different environments	Soils are shallow above continuous or discontinuous permafrost, except along rivers.
Brooks Range	<ul style="list-style-type: none"> <li>○ Open spruce/shrub/ bog mosaic</li> <li>○ Spruce woodland/ shrub</li> </ul>	Pergelic cryaquepts, pegelic cyumbrepts, lithic cryorthents (3)	Soil development & accumulation is low due to glaciation, frost action and erosion on steep, unstable slopes.

References:

- (1) McNab & Bailey 1994
- (2) Gallant et al. 1995
- (3) Ricketts et al. 1999

## **FOREST COVER, COMPOSITION & ECOSYSTEMS**

### **Forest vegetation and types**

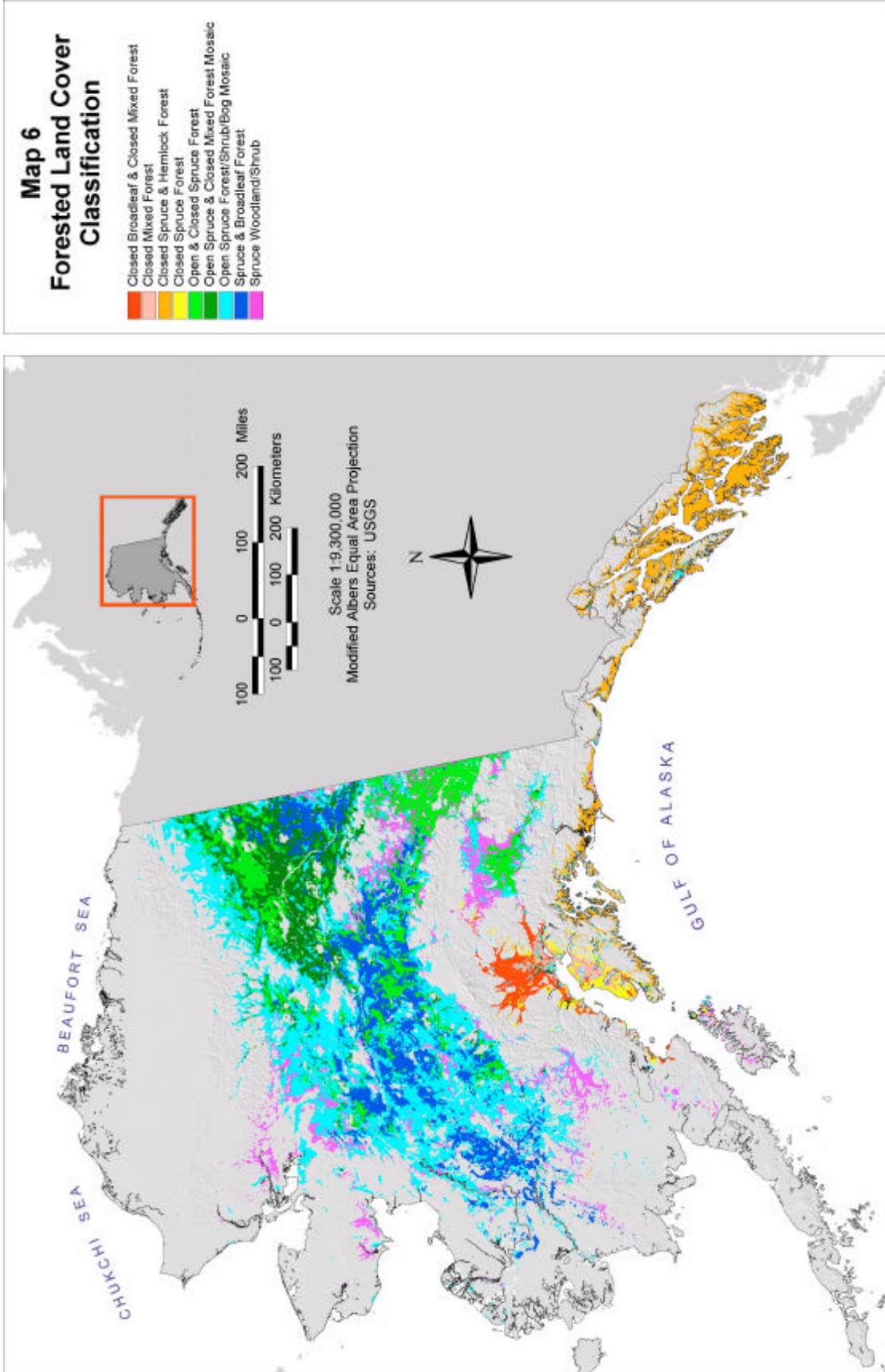
Of Alaska's 365.5 million acres (146 million hectares), 129 million acres (52 million hectares) are forested. Alaska's forests harbor 33 species of trees belonging to 17 genera in eight plant families. The largest genera are: willow (*Salix*), eight tree species, and spruce (*Picea*), poplar (*Populus*) and alder (*Alnus*), three each. Of the 33 tree species native to Alaska, 20 are confined to the south coastal region, and several to its most southern end. The other 13 grow in the Interior, but 11 of these also extend south toward the Pacific coast.

Several classifications and maps of Alaska's forest types exist. All are in basic agreement regarding the composition and distribution of forest types, but each approach the task at a different scale and level of detail. Comprehensive, detailed and mapped vegetation data is lacking for the state of Alaska. To cover the entire state in a standard manner for this assessment, we chose to use Advanced Very High Resolution Radiometry (AVHRR) data collected by the USGS in 1991 at one kilometer resolution (Map 6). This classification describes and maps nine forested land covers; however detailed descriptions of the types have not been completed to date. Viereck and Little's (1972) descriptions of forest types are still widely accepted and used, and are easy to correlate with the forested land covers depicted on Map 6. The ecoregional profiles (below) provide more detailed descriptions of the vegetation, wildlife and defining characteristics of Alaska's forested areas.

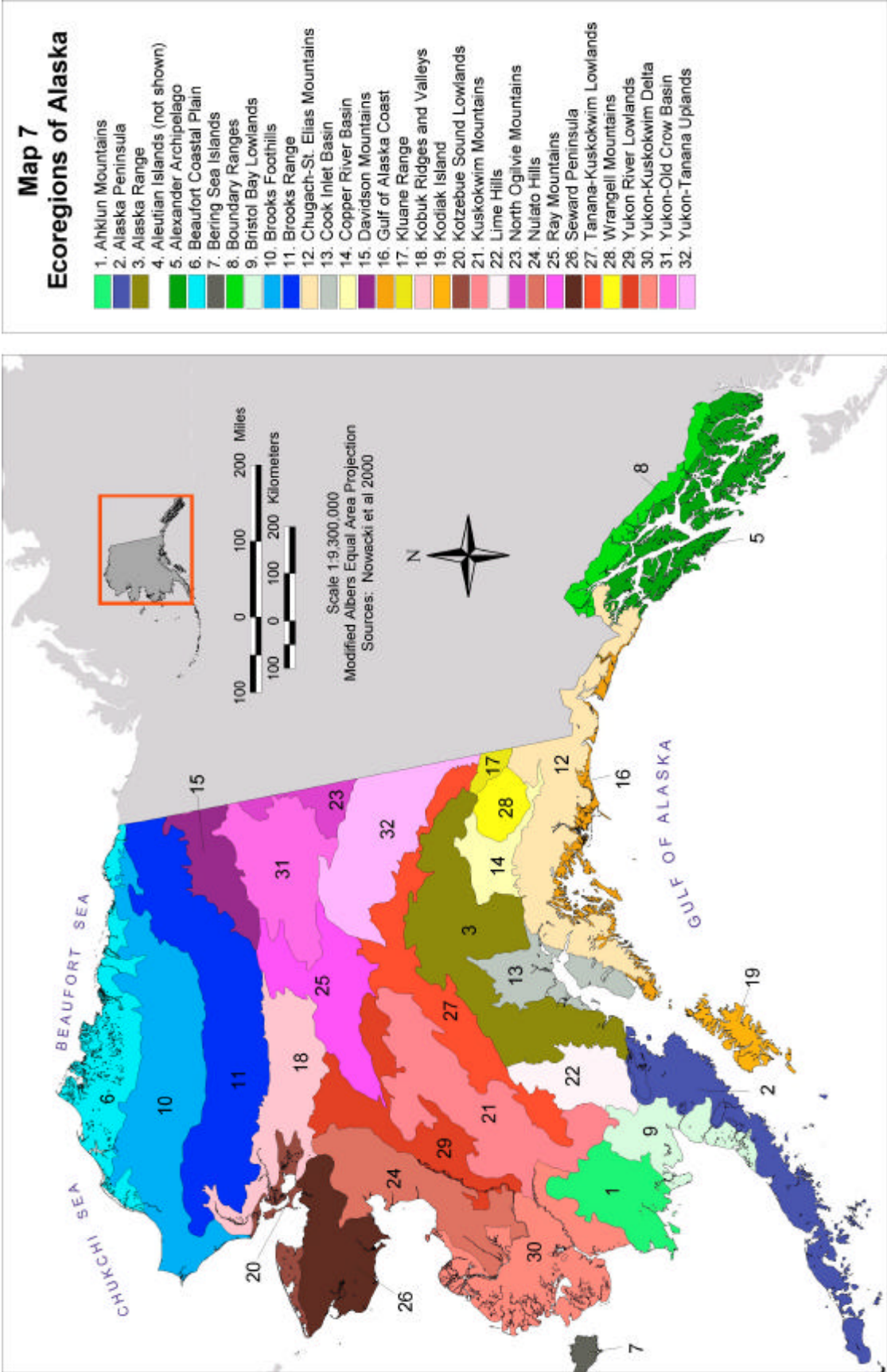
### **Ecoregions; vegetation, wildlife & defining characteristics of forested areas**

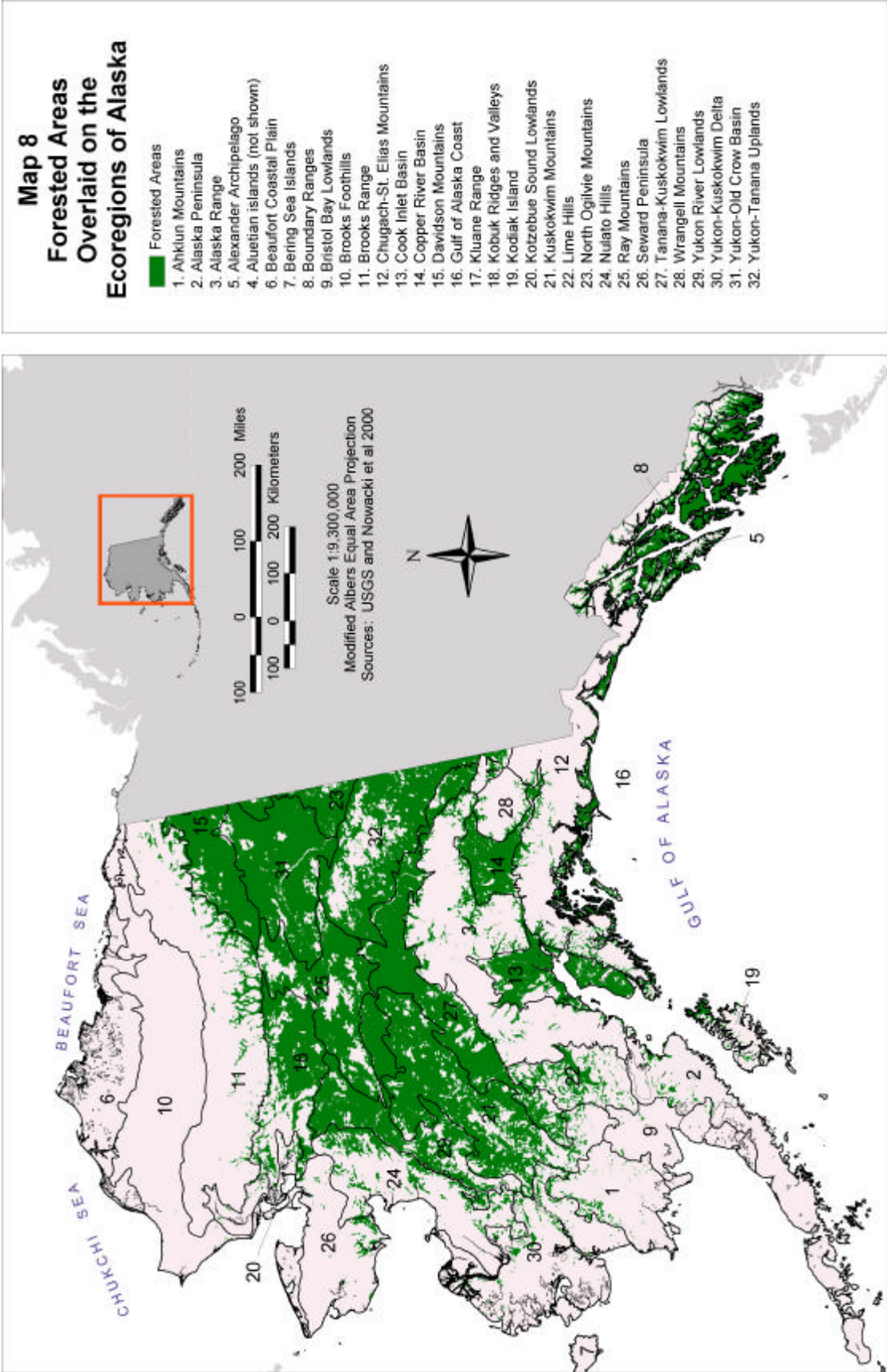
Alaska's vast size and diverse climate and physiography produce equally diverse ecological regions, or ecoregions. Ecoregions are relatively coarse biogeographic divisions of a landscape; they delineate relatively large areas that share broadly similar environmental conditions and natural communities. Ecoregions provide a biologically meaningful geographic framework for biodiversity conservation and management at a broad scale (Bailey 1996). Ecologists have completed ecoregion analyses for all of North America, providing a broad context for assessing Alaska's forest resources.

In 2000, the staff from the U.S. Forest Service, National Park Service, U.S. Geological Service, and The Nature Conservancy of Alaska cooperatively delineated, mapped and described 31 ecoregions within Alaska (Map 7) (Nowacki et al. 2000). Below, the defining characteristics of Alaska's forested areas, including vegetation, important ecological processes and wildlife habitat are described within an ecoregional context. Map 8 shows the ecoregion boundaries overlaid on the forested area of the state. The ecoregion names and numbers in the headings of this section correspond to the ecoregions described by Nowacki et al. and shown on Map 7.









***Pacific Coastal*** (includes: Alexander Archipelago (5), Gulf of Alaska Coast (16) & Kodiak Island (19))

Alaska's temperate coastal rainforests occupy a narrow (about 160 km wide) swath of land stretching from the southern Alexander Archipelago through Prince William Sound to Kodiak Island. These ecoregions contains more than one-fourth of the world's coastal temperate rainforests and are among the most unaltered and largest temperate rain forest and shoreline ecosystems in the world (Alaback and Juday 1989; Ecotrust 1995). The high mountains capture moisture from the oceanic air; annual precipitation is heavy throughout the region but is highly variable locally due to differences in terrain. Throughout the region glacially-carved fjords create an extremely irregular coastline. Thousands of small islands, long river valleys and their estuaries, tidal flats, and outburst floodplains add to the intricacy of the coastline. Several large islands are also present, including Kodiak and Prince of Wales, which are two of the largest islands in North America. The extensive coastline of the ecoregion coupled with the numerous islands, streams, estuaries, and forests make this one of the most productive in terms of marine and terrestrial biomass in North America (Ricketts, et al 1999).

*Pacific Coastal: Forest vegetation & characteristics*

Complex interactions between climate, geomorphology, history and species interaction cause great variation in plant species diversity across the region (Alaback 1993). The US Forest Service identified twenty one ecological provinces in Southeast Alaska (USDA Forest Service 1991), and others described seven vegetation series and forty-one plant associations in the area (DeMeo, Martin and West 1993). The predominant forest type in the southern coastal forests is Sitka spruce (*Picea Sitchensis*)-hemlock (*Tsuga* spp.) (Viereck and Little 1972; Bailey 1995). Spruce-hemlock forests contain both western (*Abies heterophylla*) and mountain hemlock (*A. mertensiana*), as well as western redcedar (*Thuja plicata*) and Alaska cedar (*Chamaecypris nootkatensis*); they grow in lush, moss-covered stands on well-drained sites. Poorly drained, low elevation sites in the southern forests support open muskegs of shrubs, sedges, grasses and mosses with scattered and stunted lodgepole (or shore) pine (*Pinus contorta*), western hemlock, mountain hemlock, Alaska-cedar, and Sitka spruce (Viereck and Little 1972).

Species richness declines with increasing latitude; in the northern and western sections of the coast, western redcedar and Alaska-cedar do not grow, and western hemlock becomes less important (Viereck and Little 1972). Sitka Spruce is the dominant conifer of the northern and western coast, and black cottonwood becomes more prevalent along the extensive glacial outwash rivers and alluvial terraces. The understory of the coastal forests can be rich in various shrubs and herbaceous species including grasses, forbs, and large ferns. Lichens and mosses are important on the forest floor and as epiphytes (Alaback 1982).

On the Kodiak Island complex the flora is still recovering from the Pleistocene glaciation, which enveloped the islands so completely that no relict vegetation survived. Only recently have Sitka spruce and black cottonwood (*Populus trichocarpa*) colonized the

area in significant numbers (Nowacki et al. 2000). Sitka spruce continues to spread into the islands dominant forb/grass meadows.

Old growth forests of the region have unique structural attributes including multi-layered canopies, diverse forb and shrub layers, coarse woody debris and large-diameter trees, which are usually present when a forest reaches 150 years of age (although this age varies with plant association; see Capp et al.1992). These unique attributes make old-growth forests critically important fish and wildlife habitat. In particular, high-volume old-growth forests are most important because they are relatively species rich, provide important winter refugia for birds and mammals, and support superabundant anadromous fish runs (Ecotrust 1995). These old-growth forests also store globally-significant amounts of carbon, an ecological service which affects both regional and global climates (Waring and Franklin, 1979; Alaback, 1991 in Ricketts, et al, 1999).

Riparian forests, which consist primarily of cottonwood (*Populus trichocarpa*), Alaska paper birch (*Betula papyrifera*) and alder, are often considered the keystone ecosystem in this region due to the large number of specialized species occurring there, and the important linkages between physical and biotic processes that occur in these areas (Schoonmaker et al. 1997). Marine-derived nutrients introduced into the freshwater and terrestrial systems by migrating salmon make these forests biologically very productive. The region's rivers and streams support Dolly Varden and steelhead trout, and all five species of Pacific salmon. Brown and black bears, bald eagles, and other mammals and birds feast on returning salmon from late spring to early fall, and remaining spawned-out fish carcasses add nutrients to stream bank soils. On Kodiak Island these fish runs support the population of world's largest terrestrial carnivore – the Kodiak brown bear. Unique microclimates found along streams and the natural migration corridors they provide support the distribution and growth of distinctive tree and shrub species, including subalpine fir (*Abies lasiocarpa*) and Prince's pine (*Chimaphila umbellata*) which are primarily found along mainland rivers in the southern part of the ecoregion (Schoonmaker et al. 1997). Deciduous trees add an important element to the biological diversity of the region because of the high density and diversity of insect communities associated with them (Schoonmaker et al 1997).

An unusual and prominent feature of Prince of Wales Island and the Ketchikan area is karst topography (DeMeo, Martin and West 1993). Chemical weathering of limestone and marble bedrock form the karst areas and associated sinkholes, caves, underground streams and fractured bedrock. The intensity, diversity, and biological, recreational and paleontological values of the karst areas render them internationally significant (Baichtal and Swanson 1996). These well-drained, nutrient rich areas support exceptionally dense stands of large diameter Sitka spruce-hemlock forests at low elevations. The highly dissected nature of the bedrock provides surface area for tree roots to hold fast and become more windfirm than trees growing in adjacent areas (Baichtal and Swanson 1996). Karst caves in the area are used as natal den sites by river otter, and as resting and denning sites by Sitka black-tailed deer, bear, wolf, and small fur bearers (Baichtal and Swanson 1996). These cave systems also provide critical roosting and hibernating



habitat for bats and important habitat for many invertebrates (Baichtal and Swanson 1996).

Coastal temperate rainforests rarely burn due to the extremely wet climate. The only large scale natural disturbances are rare blowdowns affecting whole stands. Instead, natural disturbances in these forests are usually small-scale events including wind-throws of individual or small groups of trees, landslides, avalanches and floods. As a result stand regeneration is a gradual and patchy process, and forests are populated with trees of differing ages, as well as many standing dead and dying trees. This diversity of tree ages and sizes, combined with tree fall gaps permitting light to penetrate to the forest floor, creates a wide variety of microhabitats for understory plant communities and wildlife.

*Pacific Coastal: Forest-dwelling wildlife*

The distribution and movement of mammals into and within the Alexander Archipelago are more complex than in the rest of Alaska; a function of the region's isolation between mountains, ice-fields and ocean, and its many islands. More than 30 mammal taxa are endemic to the region, and more than 10 additional taxa are largely confined here (MacDonald and Cook 1994). In the Alexander Archipelago, Sitka black-tailed deer are present on all the larger islands, whereas their primary predator, the gray wolf, occurs only on the islands south of Frederick Sound. Bears are also uniquely distributed in the Archipelago: brown bears occur solely on the northern Islands (Admiralty, Baranof, and Chichagof), whereas black bears only occur on the southern portion of the island complex, which is also occupied by gray wolves. The distribution of small mammals also varies widely among the islands, with species richness declining and endemism increasing from the mainland to the outermost islands (MacDonald and Cook 1994).

The coastal temperate rain forest and the Coast Range region encompasses the major migration route of Pacific Flyway birds during their seasonal transits between nesting areas in Alaska and adjacent Siberia and their southern wintering areas. The region also supports a rich diversity of nesting migratory species, and the number of resident species is greater in the coastal region than in the other biogeographic regions of Alaska. The coastal temperate rain forest and mountains also support abundant populations of resident and migrant passerines and forest-dwelling grouse, but few data are available on the population trends of these species (Klein et al. on USGS/BRD website). Extensive clear-cutting of old-growth forests throughout the region is causing major habitat alteration for many of these species (Schoen et al. 1988); however, specific details of their habitat requirements are not well understood.

Like the region's globally significant salmon runs, several bird species, including marbled murrelets and common murres, spend part of their lives at sea and nest in old-growth forests. Marbled murrelets nest on moss platforms on the upper branches of old-growth trees. During the day they feed at sea on capelin, smelt, and small shellfish; at nightfall they return to their nests on shore. Common murres and other boreal-nesting alcids return from their home ranges on the open ocean to sizable nesting colonies on the edge of the forests each summer.

***Cook Inlet Basin (13)***

This ecoregion wraps around the upper reaches of Cook Inlet and includes the western half of the Kenai Peninsula, the Cook Inlet Lowlands and the Susitna Lowlands. It lies in the transitional zone between the Gulf of Alaska and the Interior, and its relatively warm and dry climate, gentle and low topography, and proximity to the Pacific have made it an inviting place for human settlement; indeed, it is the most populated and fastest growing region of the state.

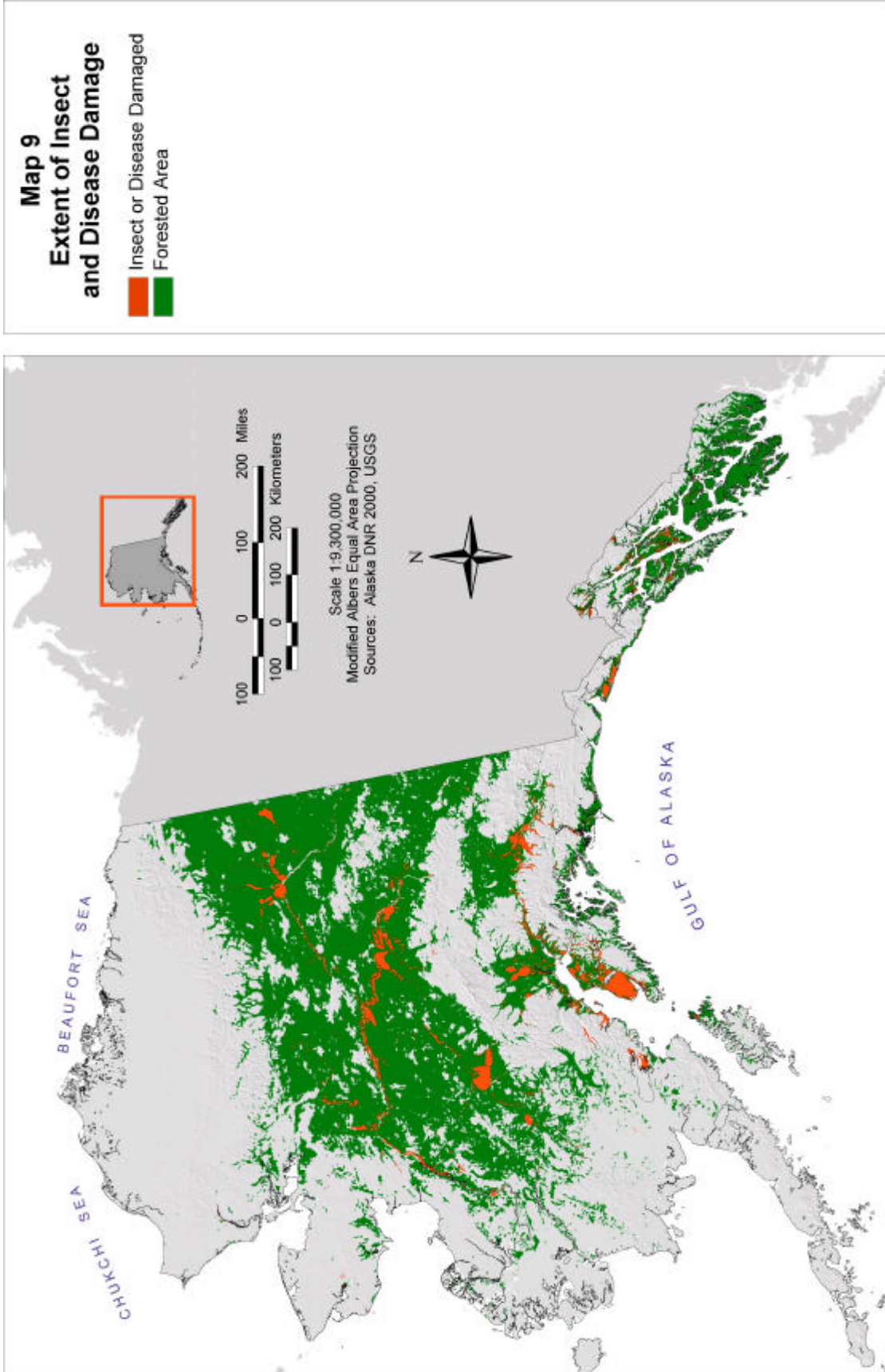
*Cook Inlet Basin: Forest vegetation & characteristics*

The transitional climate and geographic position of the Cook Inlet Basin also make it a vegetative transition zone between the coastal temperate rainforests to the south and Interior taiga and boreal forests to the north. It therefore contains a wide variety of plant communities by Alaska standards. Forest types include coniferous and mixed coniferous and broadleaf. Depending on site characteristics, these forests are dominated in differing proportions by white spruce (*Picea glauca*), black spruce, Sitka spruce, Quaking aspen (*Populus tremuloides*), balsam poplar, black cottonwood, and Alaska paper birch (*Betula papyrifera*). Black spruce forests and woodlands occur on wet, organic soils. Mixed forests of white and Sitka spruce, aspen and birch grow on better-drained sites and grade into tall shrub communities of willow and alder at higher elevations. Other important communities include low shrub, ericaceous low shrub bog, mesic graminoid, graminoid herbaceous, and wet forb herbaceous (Gallant et al 1995). Many lakes and depression bogs occur in areas of stagnant ice topography and on ground moraines, and wetlands occupy over 25% of the area (McNab and Avers, 1994).

The spruce bark beetle may be the most important agent of stand renewal in the area; the current infestation has spread throughout the ecoregion and is killing up to 80% of the mature spruce stands (Ricketts et al. 1999). The current beetle infestation has affected approximately three million acres of Southcentral and Interior forests over the past decade (Map 9), and has hit the Kenai Peninsula especially hard. Human-caused wildfire disturbance is moderate to high, especially in dry years, and managers expect the incidence of fire to increase over the next decade due to the density of beetle-killed trees.

*Cook Inlet Basin: Forest dwelling wildlife*

The region still supports all of the top-level terrestrial predators, including brown bear, black bear, wolf, wolverine, lynx and coyote, within or close to their natural ranges of variation (Ricketts et al. 1999). All 5 species of salmon spawn in Cook Inlet Basin freshwater streams, including the Kenai River, which also supports a unique stock of the world's largest king salmon. The Kenai River also provides habitat for brown bears and the second-highest concentration of over-wintering American bald eagles in the state. The mouth of the Kenai River and Trading Bay (on the west side of Cook Inlet) are the migratory staging areas for virtually the entire population of Wrangell Island snow geese. The pygmy shrew and northern water shrew are found here as are muskrats and red fox in the northern part of the lowlands (McNab and Avers, 1994). Woodland caribou were extirpated on the Kenai in 1913, but reintroduced in the 1960's (McNab and Avers, 1994). Salt marshes and coastal flats in the vicinity of Tuxedni Bay on the western shore of Cook Inlet harbor high concentrations of brown bears.



***Copper River Basin(14)***

The Copper River Basin occupies the site of a large Pleistocene-era lake, and is completely surrounded by the St. Elias, Alaska and Coast mountain ranges. The Copper River began to flow when a huge ice dam in the glacial lake broke. The river carried loads of sediment from the basin area and over time formed the Copper River Delta. Today, the river still carries heavy loads of glacial silt, and the area's glacial streams are flanked by dunes developed from floodplain deposits. The climate in the Basin is continental, and a shallow and continuous permafrost table in the region results in poorly drained soils and numerous thaw lakes. Elevation ranges from 420 m. to 900 meters. Several large lakes in the central part of the ecoregion, including Lake Louise, Tyone Lake, and Susitna Lake, serve as the headwaters of the Susitna River.

*Copper River Basin: Forest vegetation & characteristics*

Vegetation in the basin is classic taiga; primarily a mosaic of black spruce forests and woodlands mixed with white spruce dominated communities on south-facing slopes and gravely moraines. The region's broad floodplains harbor communities of black cottonwood and tall shrub willow and alder, while other well-drained sites support communities dominated by quaking aspen and Alaska paper birch. Wetlands are numerous and contain low scrub bog communities dominated by *birch* (*Betula glandulosa* and *B. nana*) and ericaceous shrubs. Other wetlands contain wet graminoid herbaceous communities and sedge-herbaceous communities (Gallant, et al, 1995).

Floods, wildfire and insect infestations are common natural disturbances in the Copper River Basin. Floods range from relatively infrequent catastrophic events, to seasonal shifting of water courses on the region's dynamic glacial outwash rivers. Wildfire is less frequent here than in other regions of Interior Alaska, however burns ranging in size from less than 1 ha to 40 ha can melt the permafrost table and significantly affect soil hydrology and structure (Ricketts et al. 1999). The current spruce bark beetle outbreak is causing significant mortality of mature white spruce in the Basin.

*Copper River Basin: Forest dwelling wildlife*

Top-level predators, including brown and black bear, wolf, wolverine, lynx and coyote are present in the Basin at or close to their natural variations (Ricketts et al. 1999). Relative to other Interior Alaska habitats, the region supports higher densities of brown and black bear and wolverine (McNab and Avers 1994). The Nelchina caribou herd uses the northwestern section of the ecoregion on its annual migration. The many thaw lakes and wetlands provide excellent nesting habitat for a wide variety of migratory bird species, including high numbers of breeding trumpeter swans. Ruffed grouse occur throughout the low elevation, forested habitats. The Copper River and other regional rivers and streams support strong runs of sockeye salmon, and king salmon in smaller numbers. These fish runs introduce important nutrients into the freshwater and terrestrial ecosystems of the region.

**Interior Boreal Forests** includes: **Interior Alaska Taiga** ( *Kuskokwim Mountains* (21), *Tanana-Kuskokwim Lowlands* (27), *Yukon River Lowlands* (29), *Lime Hills* (22) **Yukon Plateau and Flats** ( *Ray Mountains* (25), *Yukon-Tanana Uplands* (32), *Yukon-Old Crow Basin* (31), and *North Ogilvie Mountains* (23)) and **Brooks Range Foothills** (includes: *southern fringe of Brooks Range* (11), *Davidson Mountains* (15), and *Kobuk Ridges and Valleys* (18).

Interior Alaska is sheltered from coastal regions by high mountains creating a continental climate with cold and long winters and short and warm summers. Altitude strongly influences plant growth, the presence and composition of forests, and the presence and extent of permafrost. Permafrost is mostly continuous in the northern portion of this region, except in riverbeds, beneath lakes, and on steep, south-facing bluffs. In the central and southern portions of the region, permafrost is discontinuous, absent on most southern exposures, and irregularly present adjacent to rivers and lakes. In the lowlands of the broad Interior valleys, permafrost restricts drainage and accounts for the presence of extensive wetlands that form a complex of marshes, shrub thickets, small ponds, and forested islands. The region was not glaciated during the Pleistocene, and the terrain consists of rolling hills and lowlands with nearly flat bottomlands along major rivers. Elevations range from sea level to approximately 600 meters, and slope gradients are usually less than five degrees (Ricketts et al. 1999). Extensive deposits of loess and sand dunes were formed over some present-day Interior boreal forest areas in the late glacial time. Many of these deposits were stabilized by forest cover, but others are exposed along river banks and deltas.

*Interior Boreal Forests: Forest vegetation & characteristics*

The vegetation of the Interior boreal forest is a complex array of plant communities shaped by fire, soil temperature, drainage, aspect and exposure. Throughout Interior Alaska coniferous and deciduous forests are dissected by broad, flat river floodplains and a diversity of wetlands. Well-drained floodplains, uplands, and south-facing slopes support white spruce ranging in size from 30 meters on fire-protected floodplain islands to younger trees 12-15 meters tall in floodplains and on uplands. Forest understory varies greatly with stand density and the amount of moisture on the forest floor. Common tall shrubs found in various mixtures in white spruce forests are green alder and Bebb willow; low shrubs include Labrador tea, alpine blueberry, and especially lingonberry. In mixed stands on floodplains, horsetails carpet the forest floor, with feathermosses and foliose lichens prominent in the moist habitats.

Black spruce grows in muskegs, lowlands and on north-facing slopes where the annual thaw is shallow and permafrost is close to the surface. The largest black spruce trees reach diameters of 18 centimeters at breast height and heights of 17 meters, but many are no larger than 10 centimeters in diameter at breast height and 9 meters tall. Black spruce stands are the most widespread of all stand types in the Interior, and some stands contain tamarack (*Larix laricina*) and Alaska paper birch. The black spruce trees in muskegs are scattered and stunted, and grow in an understory rich in mosses, sedges (including the

tussock-forming cottongrass), ericaceous shrubs, and herbs such as roundleaf sundew. Treeless bogs, fens, and other wetlands are also common in this region.

River meanders support a continuous succession of colonizing willow and alder, followed by balsam poplar and quaking aspen, which are replaced by spruce. A broad leaved deciduous forest of quaking aspen, balsam poplar, and Alaska paper birch is prominent on well-drained uplands, especially in the central and western portion of the region. Mats of bunchberry, twinflower, and wintergreen are important shrubs, especially in mixed stands of paper birch and quaking aspen; in aspen stands in especially warm and dry settings, large patches of kinnikinnick develop. Recently disturbed sites, areas near timberline, north-facing slopes, and wetter areas support scrub communities dominated by willow, alder, and dwarf birch. Scrub-graminoid communities, including willow, dwarf birch, Labrador-tea and bush cinquefoil occupy bottomland bogs and other extremely wet areas.

Lightning-caused fire and insects are the major disturbance agents of the Interior boreal forest ecoregion. Wildfire keeps a continuous mosaic of successional communities, scrub communities, and broadleaf, coniferous, and mixed forests (Bailey et al. 1994). Natural wildfires occur about every 50-70 years; stands older than 170 years are rare (Van Cleve et al. 1983 in Klein et al. USGS/BRD website). Fires are frequent, continually returning the landscape to early seral stages. Fires tend to remove white spruce, which is first replaced by paper birch and quaking aspen; eventually white spruce return to these stands. While black spruce is more fire-adapted than white spruce, black spruce is usually the last species to return to areas that sustained hot, stand killing fires.

#### *Interior Boreal Forests: Forest dwelling wildlife*

The Interior Boreal Forest ecoregion has retained intact ecosystems, with healthy populations of all natural top predators (Ricketts et al. 1999), including black bear, wolves, and lynx. The Interior boreal forest is interrupted by several mountain complexes that support typical montane mammal species, some of which (for example, the caribou, grizzly bear, and wolverine) occupy the adjacent forest ecoregion during part of each year. The Porcupine, Central Arctic, and Western Arctic caribou herds migrate across, and winter in, this ecoregion. Major river corridors provide habitat for beaver, moose, caribou, showshoe hare, mink, river otter, marten, and muskrat.

Twenty-two fish species occur in the fresh waters of the Interior boreal forest region. People commonly harvest the chinook, chum, and coho salmon; rainbow trout; sheefish; humpback and round whitefish; least cisco; arctic grayling; lake trout; northern pike; and burbot. Fish in and bound for Interior rivers support significant subsistence, sport and commercial fisheries.

The rivers and wetlands support breeding populations of many birds, including grebes, loons, and goldeneyes. Large numbers of breeding waterfowl summer on wetlands of the Interior boreal forest, and thousands more pass through this region during migration. The number of trumpeter swans has increased since the early 1980's; similarly, tundra swans

have expanded their breeding range into some parts of the boreal forest (Klein et al. USGS/BRD website). The Interior boreal forest region is important for canvasbacks that winter on the Atlantic coast and for greater white-fronted geese that winter in the central United States. Breeding shorebirds such as the common snipe and the yellowlegs nest in forested bogs. The spotted sandpiper nests on gravel bars of large rivers.

Passerine populations in the Interior boreal forest primarily include migrant breeders and a few residents, including Swainson's thrushes, yellow warblers, orange-crowned warblers, and white-crowned sparrows, which appear to be in decline in the Fairbanks area since 1977 (Kessel and Gibson 1994 in Klein et al. USGS/BRD website). Four other species are of special concern because of their declining population trends throughout North America: the olive-sided flycatcher, gray-cheeked thrush, Townsend's warbler, and blackpoll warbler (see below). The common raven, gray jay, boreal chickadee, black-capped chickadee, and redpolls (common and hoary) are the most common species in winter. Grouse and flycatchers breed in the river valley forests.

### **Alaska Species of Special Concern**

Alaska is unique among the states in retaining nearly all of its native animals and plants in their natural diversity and abundance. None of the species listed by the US Fish and Wildlife Service and Alaska Department of Fish and Game (ADF&G) as threatened or endangered in Alaska are forest-dwelling or forest-dependant species. However, several forest-dwelling species are listed as Species of Special Concern by ADF&G. A Species of Special Concern is any species, subspecies or population of fish or wildlife native to Alaska that has entered a long-term decline in abundance or is vulnerable to a significant decline due to low numbers, restricted distribution, dependence on limited habitat resources, or sensitivity to environmental disturbance. Alaska has the almost unique opportunity to prevent species and populations from becoming threatened or endangered.

Alaska Audubon maintains a Watch List of bird species and subspecies faced with a combination of population decline, small population size, limited geographic range, or threats, such as oil spill or habitat loss on their breeding and wintering grounds or along migration routes. The Watch List is an early warning system that focuses attention on at-risk populations before they are in jeopardy of extinction. For this reason, the Watch List does not include species that are listed as threatened or endangered under the Federal Endangered Species Act.

In 1993 an interagency committee evaluated wildlife species associated with old-growth forests in Southeast Alaska and developed a ranking process to determine the species with the greatest viability and/or distribution concerns. The committee identified eight wildlife species of concern. Each species has different habitat requirements, which the committee also described (see Surring et al. 1993).

Table 2 lists of all the forest-dwelling or forest-dependent species and populations described by the old-growth interagency committee and ADF&G as Species of Special Concern and/or named on the Alaska Audubon Watch List. Both lists contain species

that are not directly dependent on forest lands, but that may benefit indirectly from forest land conservation. In addition, several duck and shorebird species not currently of concern but also not commonly thought of as forest-dependent species, including common goldeneye, Barrow's goldeneye, hooded merganser and yellowlegs breed in forest habitats. Map 10 depicts the ecoregions providing habitat for these populations and species, subspecies and populations listed in Table 2.

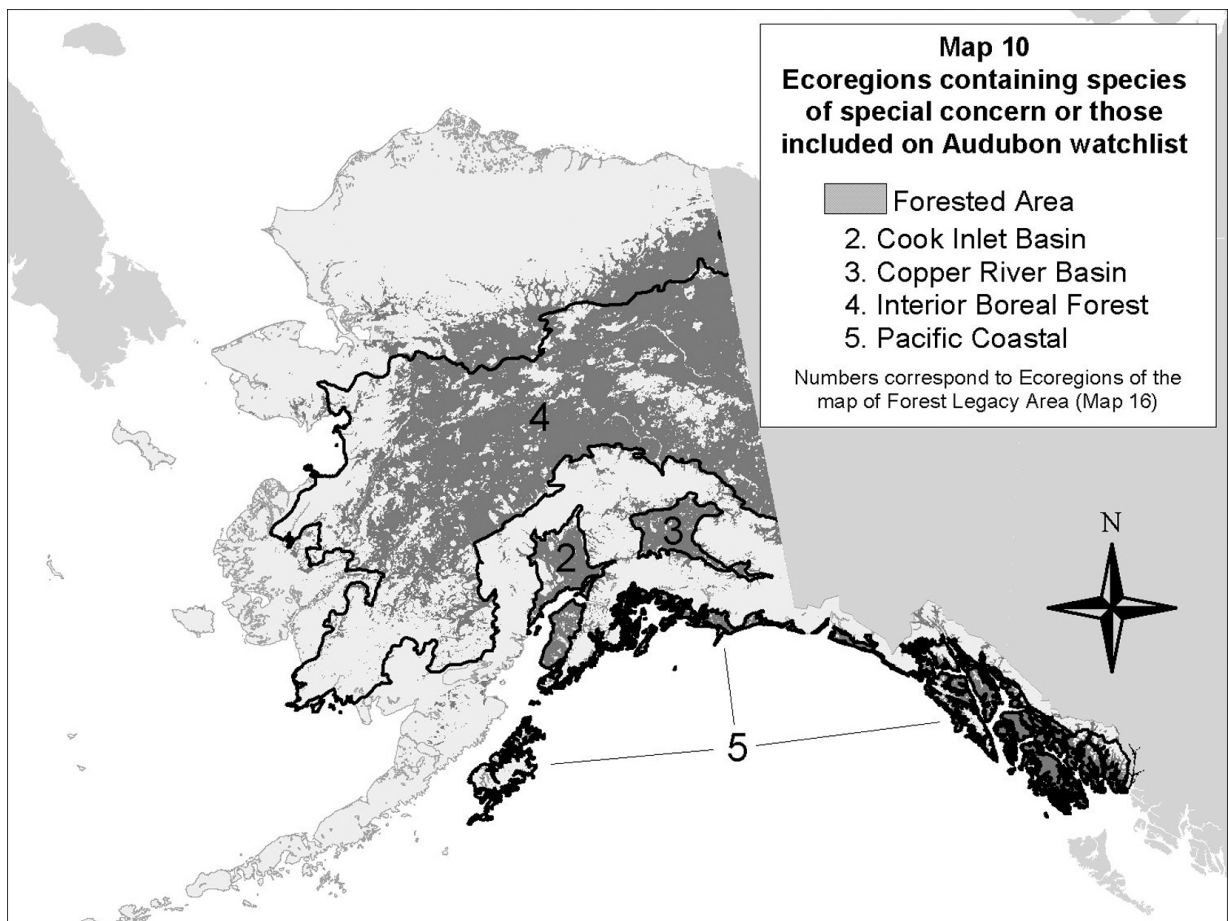
**Table 2: Species, Subspecies or Populations listed as Species of Special Concern or on Audubon Watch List**

<i>Species, Subspecies or Population:</i>	<i>Species of Special Concern (SSC) or Audubon Watch List (AWL):</i>	<i>Concern, Notes</i>	<i>Ecoregion(s) providing habitat</i>
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	SSC, AWL	Recently removed from federal endangered list. Migrant races vulnerable to contaminants outside AK.	All forested areas
Northern goshawk (Southeast population) ( <i>Accipiter gentilis laingi</i> )	SSC, AWL	Subspecies breeds only in SE AK; highly dependent on old-growth forest habitats	All forested areas
Golden Eagle ( <i>Aquila Chrysaetos</i> )	AWL	Small population; concern about loss of winter habitat in Great Plains and Rocky Mountain west.	All forested areas
Great blue heron ( <i>Ardea herodias fanni</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal Ecoregion
Olive-sided flycatcher ( <i>Contopus cooperi</i> )	SSC, AWL	Breeding population declining broadly across North America. Concern about forest management in breeding habitats and loss of Neotropical wintering habitat.	Interior Boreal Forest, Copper River Basin
Grey-cheeked thrush ( <i>Catharus minimus</i> )	SSC	Nests in low spruce woods; population decline linked to concern about loss of winter habitat	All forested areas
Townsend's warbler ( <i>Dendroica townsendi</i> )	SSC	population decline believed due to factors in winter habitat. Mature old-growth coniferous forests – habitat diminished by spruce beetle	Pacific Coastal, Copper River Basin
Blackpoll warbler ( <i>Dendroica striata</i> )	SSC, AWL	Concern about broad decline across North America.	Interior Boreal Forest, Copper River Basin, Cook Inlet Basin
Black swift ( <i>Cypseloides niger borealis</i> )	AWL	Small population breeding in old-growth forest habitats. Evidence of declining numbers outside AK	Pacific Coastal
Brown bear (Kenai Peninsula and Southeast populations) ( <i>Ursus arctos horribilis</i> )	SSC	Isolated population especially vulnerable to habitat loss in rapidly growing area of the state.	Pacific Coastal, Cook Inlet Basin



grey wolf ( <i>Canis lupus ligoni</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal
Marbled Murrelet ( <i>Crachyrampus marmoratus</i> )	AWL	Concern about loss of old-growth fores breeding habitats. Listed as threatened in Pacific Northwest.	Pacific Coastal
marten ( <i>Martes americana</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal
river otter ( <i>Lutra canadensis mira</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal
mountain goat ( <i>Oreamnos americanus columbiae</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal
northern flying squirrel ( <i>Glaucomys sabrinus</i> )	SSC	Species of special concern for Southeast Alaska	Pacific Coastal

(sources: Alaska Audubon WatchList, ADF&G website, Surring et al. 1993)



## **HISTORICAL & SOCIAL CONTEXT FOR ALASKA'S FOREST RESOURCES**

### **Historical Perspective of Forest Use in Alaska**

Traditionally, Alaska Natives of every culture used wood and other forest products. Those living in forested areas used forests for subsistence hunting, fishing and gathering. For the Haida, Tlingit and other peoples of Southeast Alaska, wood and salmon formed the material basis of their cultures. People constructed multi-family houses from enormous long logs and supported them with elaborately carved posts and totem poles. Master boat builders of Southeast cultures burned and adzed long, carefully selected logs to form dugout canoes stretching up to 70 feet in length. These people also carved wood to manufacture fish hooks, storage boxes, and elegantly designed and decorated ceremonial objects, including masks, rattles, hats and drums. Berries from understory shrubs were, and still are an important subsistence food for Southeast peoples. The Chilkat wove their still-famous blankets from a warp of cedar bark fibers and mountain goat wool.

Eskimo and Aleut peoples of treeless western and northern Alaska valued, used and depended on driftwood brought to them on river and ocean currents. Wood supplemented whale bone in *umiak* and *bidarka* (boat) frames, supported the walls of *barabaras* (partially underground dwellings), and was carved to create wooden bowls, tools, masks, grave markers and other objects. On Interior Alaska rivers Eskimos and Indians constructed elaborate fish traps from willow and split spruce. They also manufactured sleds and snowshoes from various woods and make birch bark canoes.

Vitus Bering's arrival on Southeast Alaska shores in 1741 marked the beginning of 126 years of Imperial Russia's involvement in Alaska. While their primary interest in Alaska was fur, the Russian-American Company, which held a trading monopoly in the colony, needed ships for their operations. Shipyards were established at Pavlovsk Harbor (on Kodiak Island), Slavorossiya (Yakutat) and New Archangel (Sitka). Workers there crafted ships with hemlock bodies, Alaska-cedar ribs and spruce decks. The Russians also provided wood to their Aleut hunters for the construction of paddle-propelled *bidarkas*. By the mid 1800s the colony at New Archangel had grown and the Russians hired Tlingits to supply firewood used to heat homes. The settlement burned 789,000 cubic feet of firewood in 1861 (Alaska Geographic 1985).

The Russians established sawmills at Kodiak, Kenai, New Archangel and Redoubt Lake (near Sitka). While they exported a limited amount of timber, most of the lumber supplied demand within the colony. As the fur trade declined in the 1860s, the Russians searched for other commodity markets, but the logistics and expense of logging and stiff competition from Pacific Northwest suppliers prevented the establishment of a strong timber industry in the colony. In 1867 Imperial Russia liquidated the holdings of the Russian-American Company and sold Alaska to the United States.

Early American explorers arriving in the new territory recognized the value of its timber resources, but for the remainder of the 19<sup>th</sup> century the federal government prohibited any export of timber from the colony. The federal government also prohibited timber

harvesting on public domain lands, however people often ignored the prohibition, harvesting timber to support the growing mining and fishing industries. In the Interior, steam-driven locomotives hauled ore, and miners cut house logs, timbers for mine shafts, and firewood to thaw the permafrost. Sternwheeler riverboats on Interior rivers used 30 to 50 cords of wood a day to travel upriver. Along the coast, canneries and salteries illegally cut some timber for pilings, boat construction, fish boxes and barrels, but they imported most of the wood they needed – almost seven million board feet in 1890 alone – from Washington and Oregon.

Timber interests in the Northwest valued their market in Alaska and successfully lobbied congress to maintain the prohibitions on timber harvests until the early 1900s when Theodore Roosevelt established “forest reserves” – the precursors to the national forests – on federal lands in the Southeast and Southcentral parts of the territory. In 1900, prior to the creation of the reserves, 14 sawmills cut 8.5 million board feet. In 1917, about 50 sawmills and shingle mills cut 40 million board feet annually. During the 1920s, the government sold 420 million board feet in 4,000 different sales from the Chugach and Tongass National Forests.

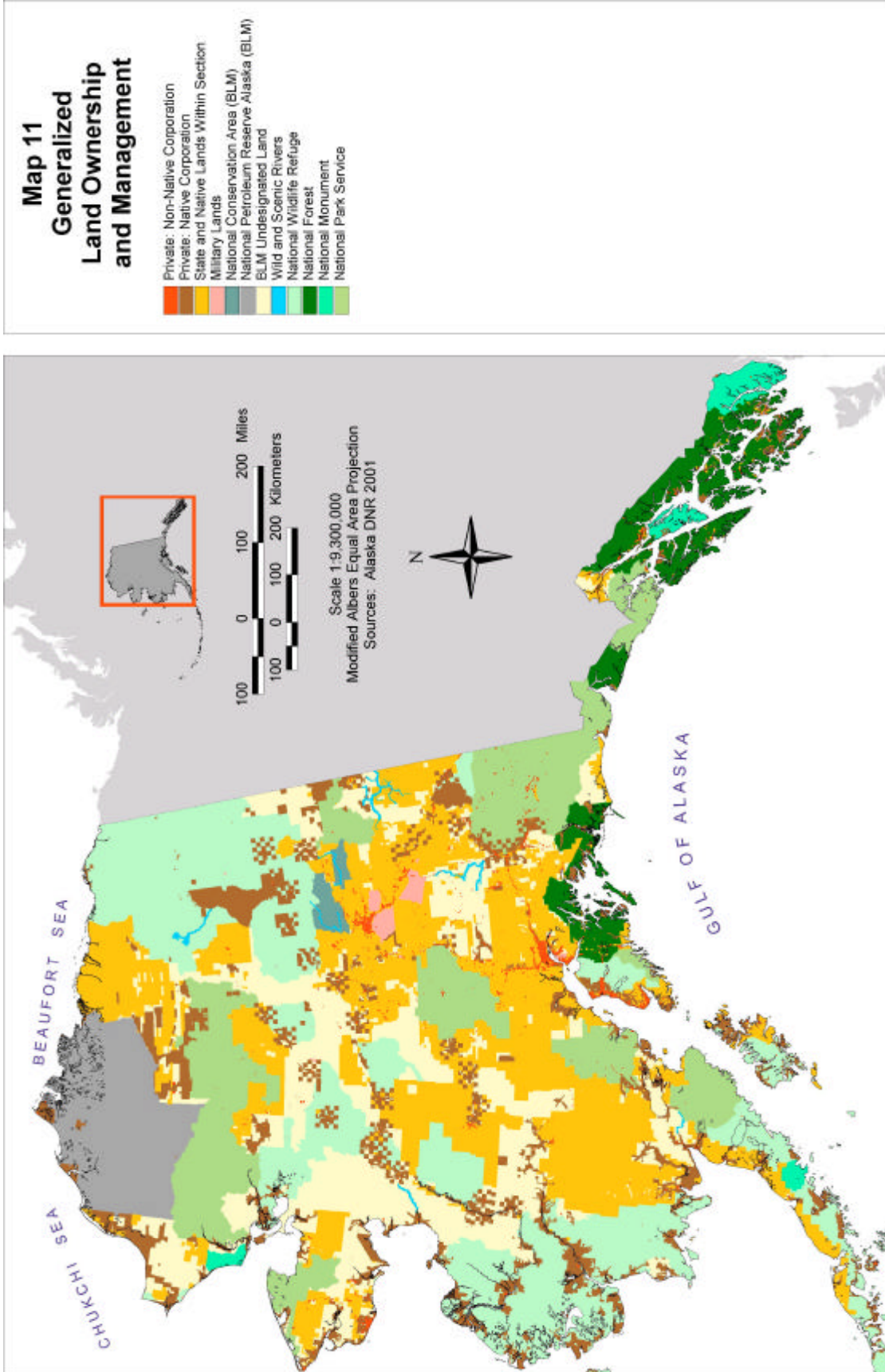
Despite the growing timber industry, Alaskans in the Interior were still importing most of their lumber. Douglas fir timbers from the Northwest were less expensive to import and stronger and better suited for many purposes than were spruce and hemlock from Southeast Alaska. Reconnaissance of coastal forests in the 1920s confirmed that the quality of Alaska’s timber was not as high as that in the Pacific Northwest, and managers concluded the resources were better suited to supporting a pulp industry than a large lumber industry. Thus began a long effort to establish a pulp industry in Alaska.

The effort was unsuccessful until 1947, when, in a post-war attempt to encourage permanent settlement in Alaska, Congress passed the Tongass Timber Act. The Act enabled the Forest Service to issue long-term timber contracts in spite of Native claims to parts of the forest. The Forest Service awarded two successful 50-year contracts in the 1950s. As those contracts neared completion in the 1980s and 1990s both Native land selections and environmental concerns were changing the landscape for the timber industry in Alaska.

### **Land Ownership**

Land ownership in Alaska is complex and in transition (Map 11). Under the terms of the 1959 Alaska Statehood Act, the State of Alaska is authorized to receive over 103 million acres from the federal government. To date, the State has received about 89 million acres of its entitlement. The Statehood Act also granted Alaska about 65 million acres of tidelands, submerged lands, and lands under inland navigable waters.

The Alaska Native Claims Settlement Act (ANSCA) of 1971 won a unique settlement from the United States for Alaska’s Native people. The act extinguished aboriginal land claims, established 13 regional, four urban, and 200 village Native corporations, and



transferred 44 million acres of land from federal to Native corporation ownership. Native corporation land boundaries are shown relative to borough boundaries on Map 12.

Signed into law in 1906, the Native Allotment Act allowed Alaska Native adults to gain title to land where they lived, hunted, fished or that they otherwise used. The application period ended with ANSCA in 1971. Just before the allotment law expired, Native advocacy groups mounted an education campaign, resulting in thousands of new applications, many of which have not yet been processed. Native allotments exist throughout the state (Map 13); they range in size from five to 160 acres, but most are between 80 and 160 acres. Because they are traditional hunting and fishing areas, Native allotments tend to be sited on key, biologically rich locations; near estuaries and shorelines, at the confluences of rivers and on productive salmon streams. In addition to being excellent hunting and fishing sites, they also contain prime wildlife habitat (e.g., bear feeding areas, migratory waterfowl staging areas, etc.)

Table 3 presents summary data regarding Native allotment conveyances. The totals listed may change in the near future due to a bill introduced in 2002 by Alaska Representative Don Young which would give Vietnam-era Alaska Native veterans the opportunity to select allotments. That legislation is currently in committee.

State, ANSCA, and Native Allotment conveyances are not complete. The Bureau of Land Management has yet to convey approximately 9 million acres to Native corporations and approximately 16 million acres to the State. Many of the remaining claims are disputed and will likely take many years to resolve. Various land selections cannot be conveyed until land surveys are completed; a task that will also delay the process for many more years.

**Table 3: Summary Data Regarding Native Allotment Conveyances**

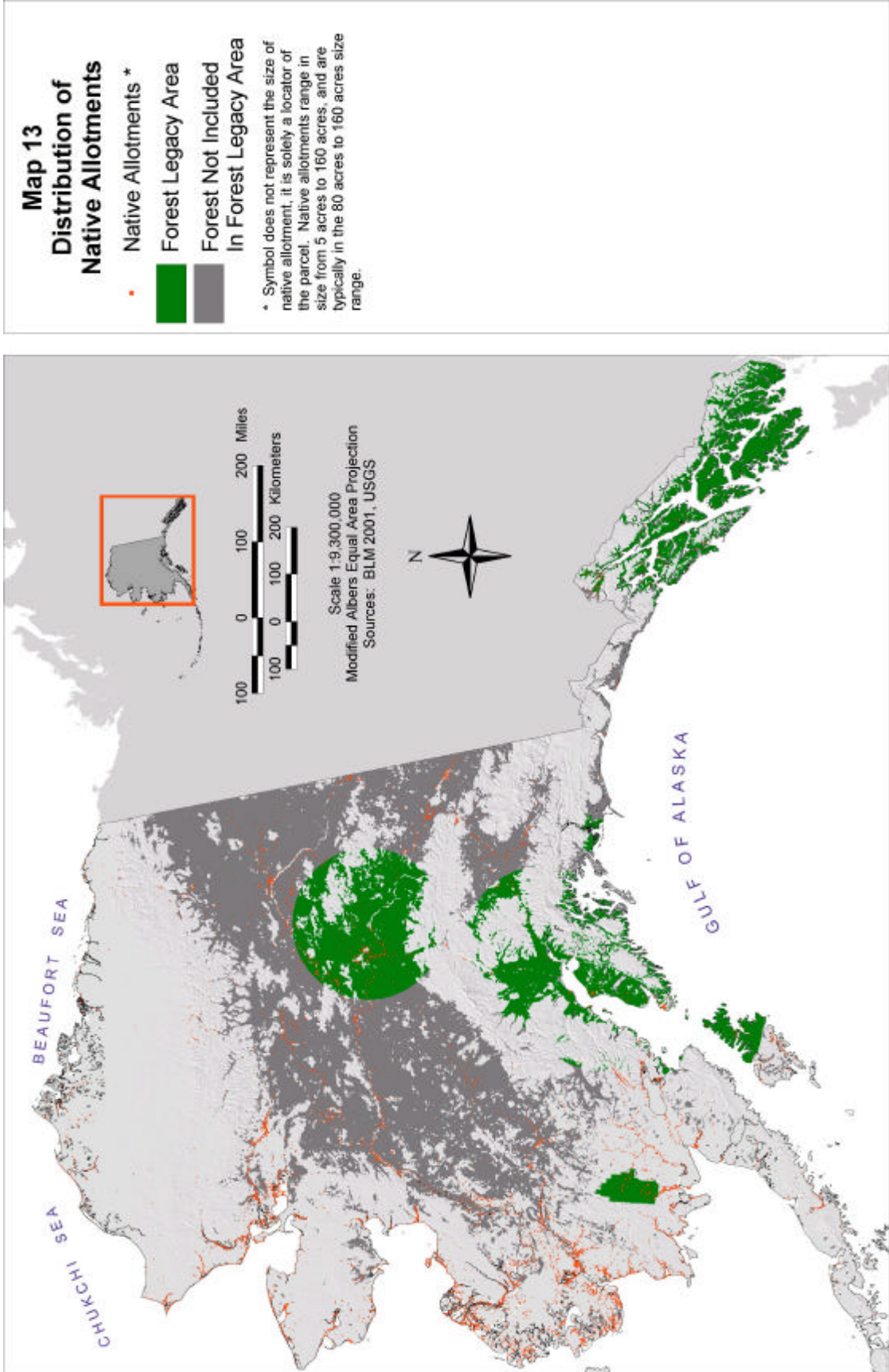
<i>Total Allotments:</i>	<i>Number of Parcels</i>	<i>Acres</i>
Conveyed	10,084	897,293
Currently in adjudication	3,380	Not available
Pending approval	1,502	275,777
Approved, not transferred	1,878	Not available
Total # parcel requests rejected	2,514	256,821
Total # applications received	9,300	Not available

(source: BLM/BIA internal data, October 15, 2001)

When the conveyances are complete, the federal government will remain the largest landowner in the state with approximately 220 million acres or 60 percent of Alaska. The State will own 28 percent, Native corporations (private) 11 percent, private (non-Native) about one percent, and municipalities less than one percent. Table 4 presents current and entitlement acres owned by landowner category.







**Table 4: Landownership in Alaska**

<i>Type of Ownership</i>	<i>Current Percentage of Total</i>	<i>Current Acres</i>	<i>Entitlement Acres</i>
Native	10%	38 million	44 million
Federal	64%	236 million	n/a
State	25%	90 million	105 million
Borough/Local Government	<1%	0.6 million	1.4 million
Private, Non-Native	1%	1.4 million	n/a

(source: Western Governors Association Cadastral Conference State Profile Outline, 2001: [www.asgdc.state.ak.us/cadastral/WGA\\_out.pdf](http://www.asgdc.state.ak.us/cadastral/WGA_out.pdf))

The largest private landholders in Alaska are Alaska Native corporations, the Alaska Railroad, the Mental Health Land Trust (MHT), and the University of Alaska Land Trust (UA). Through the state land selection process the MHT and the UA Trust strategically chose high value forestlands for maximum economic benefit through the conversion of forestlands to other land uses. Many MHT and UA Trust owned parcels are located close to and within communities and have high ecological, subsistence and recreational values. These parcels are often the focus of local and statewide conservation efforts because they are subject to the same threats as privately owned forestlands. Both Trusts have aggressive land disposal programs and exercise their authority to sell their lands and forest resources for their maximum economic return, without regard to the best interest of the state, affected communities or resources.

Appendix C contains a discussion of the Mental Health Land Trust and the University of Alaska Land Trust lands as they relate to the Forest Legacy Program in Alaska. A determination about the inclusion of MHT and UA Trust lands in Alaska’s FLP will be made by the USFS Office of General Counsel.

**Alaska’s Population and People**

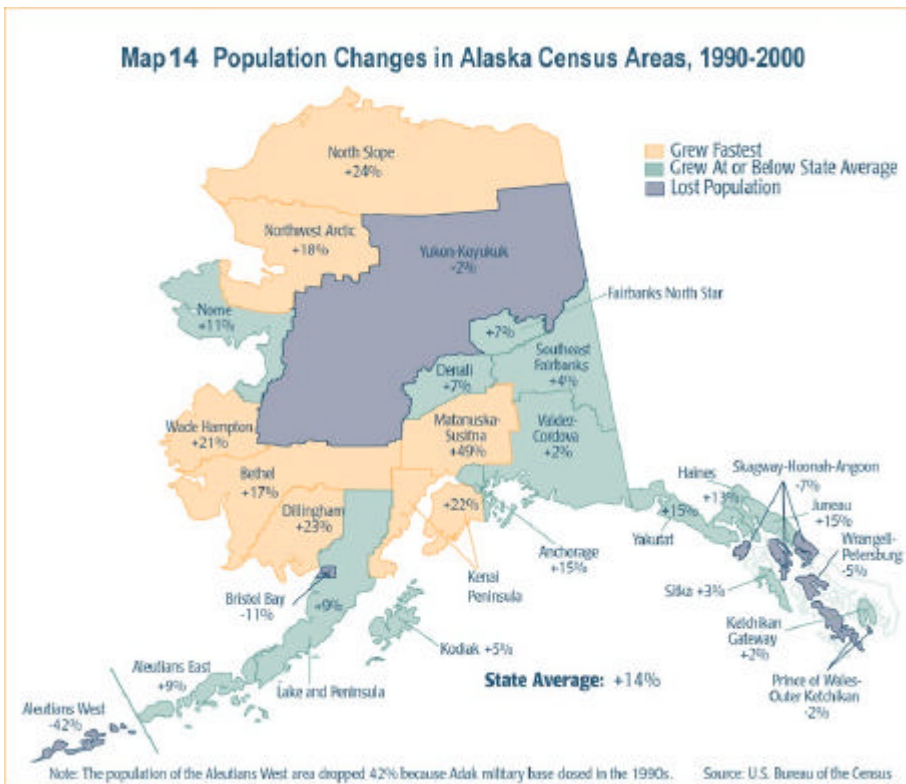
The first humans in the Western Hemisphere are believed to have traveled across the Bering Land Bridge into Alaska 12,000 to 15,000 years ago. They were the Paleo-Indians who spread throughout North and South America and from whom most Native American cultures derived, including the Haida and Tlingit peoples of the Southeastern coast of Alaska (Greenberg 1987 in Klein et al. USGS/BRD website). Later movements of people are believed to have been responsible for the Athabaskan cultures that are present throughout Interior and south- central Alaska and in parts of northwestern Canada. The marine-oriented Eskimos of arctic, western, and southwestern Alaska (represented today by the Inupiat, Yupik, and Koniak cultures) arrived much later, apparently by boat across the Bering Strait. The Aleut culture of the Aleutian Islands and adjacent Alaska Peninsula has its closest affinity with early Eskimo cultures.

Between 1890 and 1900, the gold rush brought the first great influx of non-Natives to Alaska. In those 10 years, the total population doubled, with a sevenfold increase in non-Native peoples. Today, Alaska Native cultures dominate in the northern and



southwestern regions of the state, and particularly in the Yukon-Koyukuk region, where Alaska Natives comprise 69 percent of the population. About one in six Alaskans is Alaska Native – a larger percentage of Native Americans than in any other state. In addition to Alaska Natives, the state’s residents represent widely varied ethnic, cultural, and geographic diversity.

According to the 2000 US census, Alaska has approximately 627,000 residents, or 1.1 persons per square mile. Nearly three in four residents lived in and around Anchorage, Fairbanks and Juneau in 2000. While Alaska’s population is increasingly concentrated in the more urban areas, people live in 349 separate communities distributed throughout the rural areas of the state (Map 14 and Table 5).



**Table 5: Sizes of Alaska’s Communities**

<i>Community size category</i>	<i>Number of communities in category</i>
100 or fewer residents	97 villages
101-1000 residents	197 villages
1,001 – 10,000 residents	51 towns and cities
> 10,000 residents	4 cities

(Source: ISER 2000)

As Alaska's economy and infrastructure has matured, population swings in and out of the state have become more moderate, and today births account for much of our growth. Alaska has a greater percentage of children than the national average (33.2 percent vs. 28.6 percent in 2000) partly due to the state's overall younger population and a higher Native birth rate (45 percent higher than all other Alaska women). During the 1990s the Matanuska-Susitna Borough grew the fastest (Map 14). Southwest and northern regions, with largely Native populations also grew faster than the state average. Southeast Alaska, hurt by declines in the timber industry, declined in population. The Kenai Peninsula, with its moderate climate, easy road accessibility from Anchorage, and growing tourism industry also experienced rapid population growth during the 1990s. Alaska's population grew only about a third as fast in the 1990s as in the previous three decades, and our population is projected to grow at 1.4 percent annually between 2000 and 2020 (ISER 2000).

### **Natural Resource-Based Economy**

Alaska's economy is largely natural resource-based. In order of economic importance, the primary industries are: oil and gas, tourism, fisheries, mining and forest products. Below are details about the forest products, tourism and salmon industries, all of which are forest-dependant to varying degrees.

### **Forest Products Industry**

Timber species targeted for commercial harvest in Alaska include Sitka spruce and western hemlock from the coastal rainforests of Southeast and Southcentral Alaska. Southeast harvests also include western red cedar and Alaska-cedar. Smaller scale commercial operations in the Interior harvest white spruce, paper birch and balsam poplar, but Alaska's boreal forests have not experienced the same degree of commercial use as its coastal forests.

Since the 1950s Alaska's forest products industry has been based on processing lower quality logs in two dissolving pulp plants and exporting higher quality round logs and cants to the Pacific Rim, primarily Japan. The Asian economic crisis, the closure of Southeast Alaska's two pulp mills, and reductions in the annual allowable harvest for the Tongass National Forest have combined to drive harvest, employment and profit levels to dramatic lows over the last decade.

Approximately one hundred commercial sawmills and secondary manufacturers operate across the state. These range from five to ten mills that produce more than one million board feet of product annually, to mobile dimensional mills sawing personal-use wood from national and state forests for individual clients. The Alaska forest products industry directly employed an annual average of 1,500 people in 2000; a twelve percent decrease from the annual average of 1,700 in 1999.

Alaska forest products exports totaled \$209.5 million in 2000; a nearly a six percent decrease from the \$222 million exported in 1999. Softwood log exports totaled \$184

million, and lumber and cants returned \$18 million. Alaskan-based companies also exported \$5.4 million worth of wood chips. With the softening of the Asian market continuing into the new decade, emphasis has shifted to domestic markets, particularly with lower grades of logs. Alaska lumber and logs are increasingly sold to manufacturers in the lower 48 and to local Alaska markets. According to the Alaska State Chamber of Commerce, the biggest challenge presently facing the Alaska forest products industry is the strategic, long-term transition to an integrated, value-added industry.

### **Tourism**

Tourism is Alaska's second largest private-sector employer, accounting for one in eight private sector jobs. It is also Alaska's fastest-growing industry. During the summer of 1999 over 1.2 million visitors traveled to Alaska, and an additional 20,000 people visited during the rest of that year.

Visitors spend over \$1 billion annually in Alaska, or about \$725 per visitor. Visitors and tourism businesses inject about \$124 million directly into state and local treasuries in the form of taxes, fees, and other assessments. Winter tourism is also growing in many areas of the state, in particular in the Interior where aurora-watching has become a popular attraction. The visitor industry is mainly composed of small businesses and has a 78 percent resident hire rate, the highest of all industries.

Visitors come to Alaska in the summer by air (50 percent), by cruise ship (38 percent), by highway (nine percent), by the Alaska Marine Highway (two percent), and other ways (one percent).

### **Salmon Fishery**

The fisheries industry is Alaska's largest private sector employer, accounting for over 33,000 full-time jobs. Forty-seven percent of Alaska's private employment is related to seafood, and the industry is the second largest provider of state revenue, paying over \$80 million annually in taxes and cash benefits to the state and its communities. Almost every coastal community in Alaska is heavily reliant on the seafood industry. Over 90% of Southeast Alaska's private industry income is derived from the seafood industry. Anchorage is Alaska's largest fishing community; with 768 permit holders, 36 fish processors and over 20,000 crewmembers residing in the area. Alaskans own approximately 78% of commercial salmon permits.

In 2000 the ex-vessel value for combined fisheries totaled \$896 million with \$288 million from salmon. Nearly 95% of all commercially caught salmon in the US is harvested in Alaska. The commercial salmon fishery is vital to the state and its coastal communities. Many factors contribute to maintaining healthy salmon stocks; maintaining forests and stream bank habitat is one important factor, especially in Southeast and Southcentral Alaska.

### **Subsistence**

Subsistence hunting and fishing are culturally and economically important for many families and communities throughout Alaska. Indeed, in the minds of many Alaskans,

their most important use of forests is for subsistence hunting, gathering and fishing. The subsistence tradition and the strength of its economic and cultural importance today are among the factors that make Alaska unique in the United States.

Rural and village economies in Alaska are a mixture of subsistence and cash economies, in which families and communities live by combining wild resource harvests with commercial wage employment. Jobs are scarce and unstable in rural Alaska and cash incomes are low. An estimated 21.5 percent of Alaska Native families have incomes below the officially established poverty line income (\$12,674 for a family of four) in contrast to 6.8 percent of all Alaskan families. With low salaries and a jobless rate approaching 70-80 percent in some areas, store-bought food (if one has access to a store) is prohibitively expensive. The most reliable sector of the rural/village economy is subsistence hunting and fishing.

Generally speaking, the farther one is from an urban center, and the smaller the community, the greater the dependence on hunting, fishing and gathering. The current subsistence harvest is an average of about 354 pounds of food per person in rural Alaska compared to about 19 pounds for residents in Anchorage, 16 pounds for Fairbanks, and 35 pounds in Juneau. Table 6 provides statistics on the annual subsistence harvest per person and its monetary value by region.

**Table 6: Annual Subsistence Harvest Per Person, and What It Would Cost To Purchase That Food**

<i>Region of Alaska</i>	<i>Harvest Per Person</i>	<i>Est. Cost to Purchase at \$4/lb.</i>
Northern/Western/Interior	516-664 lbs	\$2,064-\$2,656
Southwest/Aleutians	373 lbs.	\$1,492
Rural Southcentral/ Southeast/Kodiak	153-178 lbs.	\$612-\$712
Kenai Peninsula/Mat-Su	27-40 lbs.	\$108-\$160
Anchorage/Fairbanks/Juneau	16-35 lbs.	\$64-\$140

Est. Annual Harvest: 53 million lbs. Est. Value at \$3-\$5/lb: \$16 million - \$267 million

(Source: Robert Wolfe, Alaska Department of Fish & Game, Subsistence Division, 2000 in ISER 2000)

For Alaska Natives, subsistence is more than an economic necessity; it is a customary and traditional practice that has sustained Native people for thousands of years. It is a rich pattern of living that provides Alaska Native people with productive labor, strong family and community relationships, a cultural foundation, and personal self-esteem. Native people freely share fish and game to support relatives and neighbors who cannot harvest for themselves because of age, disability, or other circumstances. These exchanges, together with other traditions that govern who can hunt what species and where, and the way people prepare and preserve fish and game, are integral threads in the

fabric of Native cultures throughout Alaska. Despite the importance of subsistence activities in Alaska, subsistence harvests of fish and wildlife represent a small portion of the total harvest in the state annually. Table 7 compares the volume of subsistence harvests to sport and commercial harvests.

**Table 7: Volume of Fish and Wildlife Harvested in Alaska by Harvest Category**

<i>Harvest category</i>	<i>Percent of total</i>	<i>Annual harvest</i>
Subsistence	2.5%	53.5 million lbs. (est. useable weight)
Sport	< 1%	18 million lbs.
Commercial fisheries	96.5%	1.95 billion lbs. (est. based on 1994 harvest all spp. Except pollock)

(source: Robert Wolfe, ADF&G Subsistence Division, 2000 in ISER 2000)

**Forest Based Recreation**

Most Alaskans highly value recreation opportunities, and many Alaskans depend on recreation and tourism for their livelihood. Alaska’s 322 million acres of public land available for recreation include about 168 million acres of managed wildlands, and over 30,000 acres of dedicated community recreation lands, and many private sector opportunities. However, many recreation opportunities and facilities are overcrowded, in short supply, or difficult to access (DNR 1999). Alaska State Parks, the largest state park system in the U.S., is among the state’s largest provider of public wildland recreation facilities.

A statewide survey (DNR 1999) revealed that:

- 92% of all Alaskans consider the availability of high quality outdoor recreation opportunities important to their lifestyle.
- 85% drove for sightseeing/pleasure at least once in the past year; other popular activities include sport fishing (86%), picnicking (76%), bird watching/wildlife viewing (74%), and walking for fitness (72%).
- Favorite activities (in order of preference) are sport fishing, walking for fitness, sport hunting, day hiking, and snowmobiling.
- Since the last survey in 1992, there has been an increase in the number of people dissatisfied with their park experiences due significantly increased crowding.

**Watersheds**

Alaska has a tremendous diversity of water resources, including 365,000 miles of rivers and streams, approximately 170 million acres of wetlands, 44,226 miles of coastal shoreline, and 136 major watersheds (ACWA 2001, ISER 2000). Healthy watersheds are essential for maintaining salmon spawning streams and community water supplies throughout the state. Most of Alaska’s watersheds and waters are in a healthy condition; however in 1998 the State of Alaska identified 58 water bodies with localized pollution

problems (ACWA 2001). Table 8 lists the pollutant sources in Alaska’s waters based on the 1998 polluted water list.

**Table 8: Pollutant Sources in Alaska Waters (based on State of Alaska 1998 polluted water list)**

Source	Percent
Community Runoff	38%
Log Transfer Facilities	16%
Mining	11%
Other, Mixed Industrial	9%
Military, Historic Contamination	8%
Community Landfills	5%
Log Storage	5%
Upland Timber Harvesting	3%
Fuel Storage, Non-military	3%
Seafood Processing	2%

(Source: ACWA 2001)

Community runoff, accounting for 38% of the pollutant source in Alaska waters, includes storm water runoff, runoff and erosion from pavement, parking lots and ditches, commercial and residential construction, and septic systems. Growing communities in Alaska often experience a loss of water quality and fisheries habitat. These challenges are faced not only by urban communities, by also by rural villages with pressure for expansion along waterways that support fish and wildlife (ACWA 2001).

### **Threats to Alaska’s Forests**

In every community where we held public meetings for this Assessment (see list in Appendix A), Alaskan’s said they value the forest lands accessible from their communities. They value these forests for myriad reasons, ranging from recreation, to subsistence, to wildlife habitat. Alaskan’s also value forestlands that help maintain our local, regional and state economy through salmon fisheries, tourism and traditional forest uses. Appendix B contains a summary of comments received during and following the public meetings held for the Assessment of Need. Appendix A contains a copy of the information packet provided at the meetings and posted on the Alaska State Parks webpage. Below is a summary of factors that currently threaten to convert Alaska’s forests to other land uses:

Suburban development is encroaching on forestlands in the most populated parts of the state; in particular in the Matanuska and Susitna Valleys north of Anchorage, on the Kenai Peninsula and in the Fairbanks and Anchorage areas. These developments diminish fish and wildlife habitat and often impact recreation resources and small recreation and wilderness oriented tourism businesses.

Remote vacation homes and subdivisions are becoming increasingly prevalent on forested lands near Southeast communities, in the Kennicott and McCarthy area of the

Copper River Basin, and in the outlying areas of the Matanuska and Susitna Valleys. These developments, though often relatively isolated, tend to have a large ecological impact reaching beyond the footprint of the subdivision. In Southeast Alaska access to safe anchorages for increasing numbers of recreational and subsistence users is increasingly precluded by development on privately owned parcels. Conservation of key parcels in many cases could protect recreational and subsistence access as well as important fish and wildlife habitat. In many cases those key parcels are Native Allotments.

Native allotments were granted to Native Alaskans through the Native Allotment Act of 1906 which allowed Alaska Native adults to gain title to land where they lived, hunted, fished or that they otherwise used (see pages 29-31 for more information regarding Native Allotments). Alaska Natives hold approximately 10,000 allotments which are up to 160 acres in size and, because they are the sites of traditional hunting and fishing camps established to support Native subsistence practices, tend to be located in some of the most biologically productive sites of every region of the state. For example, many allotments are sited at the confluences of rivers, at river mouths and along the most productive salmon streams, and also are key bear feeding areas and migratory bird staging areas.

Today, some allotments are being sold and developed for remote subdivisions, private cabins and lodges. Transfer of allotments out of Native ownership is currently an increasingly common occurrence in Southwest and parts of Interior Alaska where salmon runs in local rivers have been very weak over the last four to five years. The combination of weak runs and low prices paid for salmon has impacted the local economy (both cash and subsistence) so significantly that Governor Tony Knowles has declared an economic disaster in the region. The economic hardship has left some families little choice other than to sell their allotments.

Small scale, dispersed development on keystone parcels (i.e., at confluences of rivers) in rural and wilderness areas tends to have a large ecological and sometimes economic and social footprint; when allotments are transferred out of Native ownership and into other private hands, the culturally and economically important subsistence harvests of extended families and often whole rural communities are often negatively impacted. At present there is a particularly strong market for allotments along salmon streams in southwest Alaska in the vicinity of Wood-Tikchik State Park, and on Kodiak Island. The FLP presents an important opportunity for interested Native families to sell conservation easements on their allotments, thus protecting both ecologically important sites and key subsistence resources while also generating much needed income in return for their commitment to conservation.

The spruce bark beetle infestation currently affecting much of Southcentral and parts of Interior Alaska, has prompted many landowners to clear their lands of dead and dying spruce trees. Some landowners are re-foresting; however others are choosing to develop their lands, even though they had not planned to remove the forests prior to the spruce bark beetle infestation.

Lack of timber markets, particularly in Interior and Southcentral Alaska, makes managing land for timber increasingly difficult to financially justify for private forestland owners.

## **Existing Measures to Conserve Alaska's Forests**

### *Forest Resources and Practices Act*

The Division of Forestry administers the Forest Resources and Practices Act (FRPA) in Alaska by reviewing notifications of timber harvests, conducting forest inspections, encouraging compliance, and taking enforcement action when necessary. The Act is designed to ensure reforestation of harvested land, and protect fish habitat and water quality. It applies to commercial forest operations on state, municipal, and private land.

### *Land and Water Conservation Fund*

The Land and Water Conservation Fund is a federal grant program administered by the National Park Service through the State of Alaska, Division of Parks and Outdoor Recreation, Grants and Administration Section. This program provides up to 50% matching funds (less State administrative fee) to state agencies and local communities for the acquisition and/or development of outdoor recreation facilities.

### *Exxon Valdez Oil Spill purchases*

The legal settlement following the Exxon Valdez oil spill in 1989 resulted a greater than \$400 million fund for protecting the habitat of resources and services injured by the spill. The *Exxon Valdez* Oil Spill Trustee Council funds the acquisition of land to protect habitat. Since 1993, the Council has committed over \$363 million to protect 643,635 acres of land. Most of the land is in large tracts (generally over 1,000 acres) that protect ecosystems and watersheds, but some is in smaller tracts (generally under 1,000 acres) with unique habitat or strategic value. This program is limited to areas of the state affected by the Exxon Valdez oil spill and addresses resources and services injured by the spill, which in some cases includes forest habitats.

### *Southeast Alaska Sustainable Salmon Fund*

The Southeast Sustainable Salmon Fund (SSSF) furthers the Alaska Department of Fish and Game's sustainable salmon policy through supporting projects in the following categories: research and monitoring, habitat and waterways, economic development, cooperative projects, and public involvement for salmon stocks east of Cape Suckling. The program is funded by congress to recover and assist salmon stocks in the Pacific Salmon Treaty region. This program is not designed to protect forests, but does protect certain important aspects of forest ecosystems.

### *Forestry Incentives Program (FIP)*

Cost-share payments are provided for reforestation under the guidance of the Natural Resources Conservation Service (NRCS) and state forestry agencies. To participate in the FIP program, landowners must have a minimum of seven acres that must be capable



of producing at least 50 cubic feet of wood per acre per year. Owners with fewer than seven acres can pool with adjacent owners to meet the seven acre minimum. Participants can be individuals, groups, associations, or corporations whose stock is not publicly traded. Approved practices include tree planting, direct seeding, timber stand improvement, or site preparation. Alaska has averaged \$5,000 in FIP funding for many years. With 2002 federal appropriation, Alaska was allocated \$500,000 in FIP funding to help with wildfire fuels reduction and replanting on spruce beetle affected lands. With this appropriation, the minimum wood productivity requirement was dropped for Alaska, and private lands are eligible without regard to wood productivity. FIP was repealed in the 2002 Farm Bill, however, previously appropriated funding will remain available.

*The Forest Stewardship Program*

The Forest Stewardship Program is a comprehensive federal program designed to promote integrated management of all resources on non-industrial private forest (NIPF). Forest Stewardship is voluntary. Private ownerships receive total resource planning and management advice based on their objectives. The Forest Stewardship Program provides technical assistance to promote management recommendations that benefit non-timber resources while improving forest health and producing goods and services of value to people. The Stewardship Incentives Program (SIP) was a sister program to FSP that provided financial assistance and financial incentives to implement various aspects of Forest Stewardship plans. SIP was repealed in 2002 Farm Bill. The replacement cost-share program for FIP and SIP is Forest Land Enhancement Program (FLEP). Objectives for FLEP include forest health, timber production, wildlife habitat, and aesthetic quality. FLEP guidelines have not been released, but the Congressional legislation says approved activities will include wildfire hazard reduction, invasive species control, and carbon sequestration. Unlike predecessors, Alaska Native Corporations may be eligible for FLEP.

*Land Trusts in Alaska*

Alaska has five regional land trusts and two national conservation trusts with statewide programs. Table 9 lists the land trusts and the regions of the state they serve. The regional trusts all have relatively broad missions to conserve land and resources important to the environment and communities within their regions. The Conservation Fund’s mission is similarly broad, seeking to conserve “America’s legacy of wildlife habitat, working landscapes and community open-space”. The Nature Conservancy of Alaska’s mission is to conserve the plants, animals and natural communities that represent the diversity of life on earth by protecting the lands and waters they need to survive.

**Table 9: Land Trusts in Alaska**

<i>Land Trust</i>	<i>Area of Operation</i>
The Nature Conservancy of Alaska	Statewide
The Conservation Fund	Statewide
Kachemak Heritage Land Trust	Kenai Peninsula

Southeast Alaska Land Trust	Southeast
Great Land Trust	Anchorage Bowl and Matanuska and Susitna Valleys
Interior Alaska Land Trust	Interior
Nushagak-Mulchatna Wood-Tikchik Land Trust	Nushagak Bay watersheds, including Wood- Tikchik State Park and the Togiak National Wildlife Refuge

## ALASKA’S FOREST LEGACY PROGRAM

### Environmentally Important Forests in Alaska

The national Forest Legacy Program requires that as part of the Assessment of Need, each state define the term “environmentally important forest”. Alaska’s definition stems directly from our goals for the Alaska Forest Legacy Program, which are stated in the introduction of this document. In Alaska, environmentally important forest lands are those that protect fish and wildlife habitat, provide opportunities for natural lands recreation and traditional forest uses, buffer, protect and enhance natural ecosystem functions, and protect areas important to Alaska’s communities, river systems, wetlands, and coastal areas.

### Alaska Forest Legacy Program Project Evaluation Criteria

The Alaska FLP may only acquire lands and interests in lands identified within a Forest Legacy Area (see below) on a willing seller/willing buyer basis. Projects proposed for the FLP in Alaska must be threatened by conversion to non-forest uses, and must directly address one or more of the Alaska program goals according to the following criteria:

1. **Goal:** To protect environmentally important forest areas threatened by conversion to nonforest uses.
  - **Rationale:** Various types and degrees of threat to forest lands exist in Alaska, including but not limited to rural and urban fringe housing development, tourism and other commercial and industrial development on isolated parcels within otherwise protected areas, and subdivision into smaller parcels.
  - **Criteria:**
    - The parcel must currently be for sale by a willing seller, in addition:
    - The parcel has a strong likelihood of being converted to a non-forest use within ten years,
    - The parcel may remain forested, but ownership is likely to become fragmented within ten years, or

- The parcel's development would threaten important ecological processes and/or natural lands recreation values of adjacent or nearby land already under conservation or forest management.
2. **Goal:** Protect important fish and wildlife habitat and maintain habitat connectivity, habitat diversity and related values needed to ensure biological diversity and healthy fish and wildlife populations.
- **Rationale:** Fish and wildlife are vital components of Alaska's forested and non-forested ecosystems and are important economically at the individual, community, regional and state levels. Maintaining large and un-fragmented habitat areas helps maintain healthy fish and wildlife populations, which in turn helps maintain healthy forests. Contiguous habitat areas are critical for some species, including top level predators and some migratory species.
  - **Criteria:**
    - Parcel contains significant habitat for native species, special emphasis will be placed on habitat:
      - Supporting species requiring large, specialized and/or diverse habitat areas to maintain healthy populations;
      - Critical to important stages in wildlife and fish life cycles (e.g., denning, migration, hibernation, calving, etc.);
      - Supporting rare, threatened and endangered species;
      - Supporting species that have economic importance to Alaska communities, and/or;
    - Parcel contains a diversity of habitats, corridors that link habitats or areas that reduce biological isolation.
    - Parcel buffers or enhances areas of high biological significance.
    - Parcel contains areas used by migratory species for resting and feeding.
3. **Goal:** Protect and enhance existing natural lands recreation opportunities throughout the Forest Legacy Areas and create new opportunities for natural lands recreation, especially near communities and existing roads.
- **Rationale:** Alaska's forests provide residents with myriad natural lands recreation opportunities, including but not limited to hunting, fishing, hiking, skiing, boating, birding, horseback riding, and wildlife observation. While Alaska is large and contains many wild areas, existing lands easily accessible and open to recreation near the state's most populated areas are increasingly under pressure from crowding and over-use.
  - **Criteria:**
    - Parcel protects an area currently used for natural lands recreation from fragmentation, incompatible adjacent uses or loss of access.
    - Parcel enhances an existing natural lands recreation area by providing new or improved access or recreational opportunities, or
    - Parcel provides new or enhanced recreational opportunities that are (in order of priority):

- Accessible by existing road.
  - Accessible by boat.
  - Accessible by plane.
4. **Goal:** Buffer, protect and enhance the natural ecosystem functions and natural lands recreation value of lands currently in conservation system units.
- **Rationale:** Many of Alaska's state and national parks and forests, wildlife refuges and other designated conservation lands contain in-holdings or are adjacent to lands that are privately owned. Protection of the surrounding or adjacent parcels may remove risks to the ecological functions and recreational values of the existing conservation lands.
  - **Criterion:**
    - Parcel is isolated within, is adjacent to or compliments an existing conservation unit, and its protection would buffer, protect or provide opportunities to enhance the natural ecosystem function or natural land recreation value of that unit.
5. **Goal:** To prevent forest fragmentation.
- **Rationale:** As forests become fragmented their ecological, recreational and traditional forest use values often diminish.
  - **Criteria:**
    - Parcel provides a link between other forested areas, or
    - Parcel contains large, contiguous forested area, and
    - Protection of the parcel would prevent subdivision that would otherwise likely occur within ten years.
6. **Goal:** Protect areas important to Alaska's communities for water supplies, traditional uses and economic purposes.
- **Rationale:** Local forests provide fresh water, natural land recreational opportunities, food, cultural, economic and other natural and social benefits to Alaska's communities.
  - **Criteria:**
    - Protection of the parcel would help protect community water supplies.
    - Community values parcel for traditional uses.
    - Community values parcel for natural lands recreation, scenic or other values.
    - Parcel contains trails, boat landings or other features that help provide a transportation and/or recreational link between communities.
    - Protection of the parcel would economically benefit local, natural land recreation-based businesses.
    - Protection of the parcel would economically benefit a community.
    - Parcel will provide environmental education or research opportunities.
    - Parcel will provide "forested greenspace" near communities or provide landscape linkages, or

- Parcel protects a scenic viewshed in or near a community or significant transportation corridor.
7. **Goal:** Protect river systems, wetlands, coastal areas and their associated hydrologic functions and upland habitats.
- **Rationale:** One of the most important products of a forest is water. Proper management of forest lands can maintain and in some cases increase the quality and quantity of water for the ecosystems and people of Alaska.
  - **Criteria:**
    - Parcel contains or is the upland of a river, stream, wetland or marine shore.
    - Parcel has extensive river, stream or marine shoreline.
    - Parcel contains part of a 100-year floodplain.
    - Parcel contains minimum 50-foot buffer of trees along shorelines as a sediment buffer.
    - Parcel includes or is adjacent to a designated scenic river, stream or wetland.
    - Parcel contains or is adjacent to ecologically significant wetlands such as isolated bays, estuaries, bogs, depression meadows and ponds, or
    - Parcel includes the surface watershed or the ground water aquifer of a public or community water supply.

**Factors affecting acquisition:** Even if a forested parcel is threatened with conversion to non-forest use and meets one or more of the above criteria, protecting it under the Forest Legacy Program can only occur if the owner is a willing seller, and if the property is available at or below fair market value. In addition, protecting a property under the FLP may be best accomplished if the property or area is specifically identified as containing important conservation values in a city, borough, state, federal or land trust priority listing.

#### **Forest Legacy Area Eligibility Criteria**

The Alaska FLP Goals and Criteria (see above) served as the basis for identifying Alaska's Forest Legacy Area (FLA). To develop a Draft FLA to solicit comments from the public, we identified a comprehensive area based on the Goals and Criteria (see Appendix A for a copy of the Draft FLA map. The area initially qualifying as Draft FLA includes a ten mile buffer around communities, transportation corridors (roads, major rivers and marine highway routes), and the following existing conservation units (see Map 15):

- State Designated Areas (Alaska State Parks, Preserves and Recreation Areas,; ADF&G Critical Habitat Areas, Refuges, Range Areas, and Sanctuaries; State Forests)
- EVOS Parcels (Pending or Final, 1996 and 1999)
- Wild and Scenic Rivers
- National Wilderness Areas
- Proposed Wilderness Areas

## Map 15 Conservation Units in Alaska

**US Fish and Wildlife Service**  
 Bureau of Land Management  
 National Park Service  
 National Forest Service  
 State of Alaska

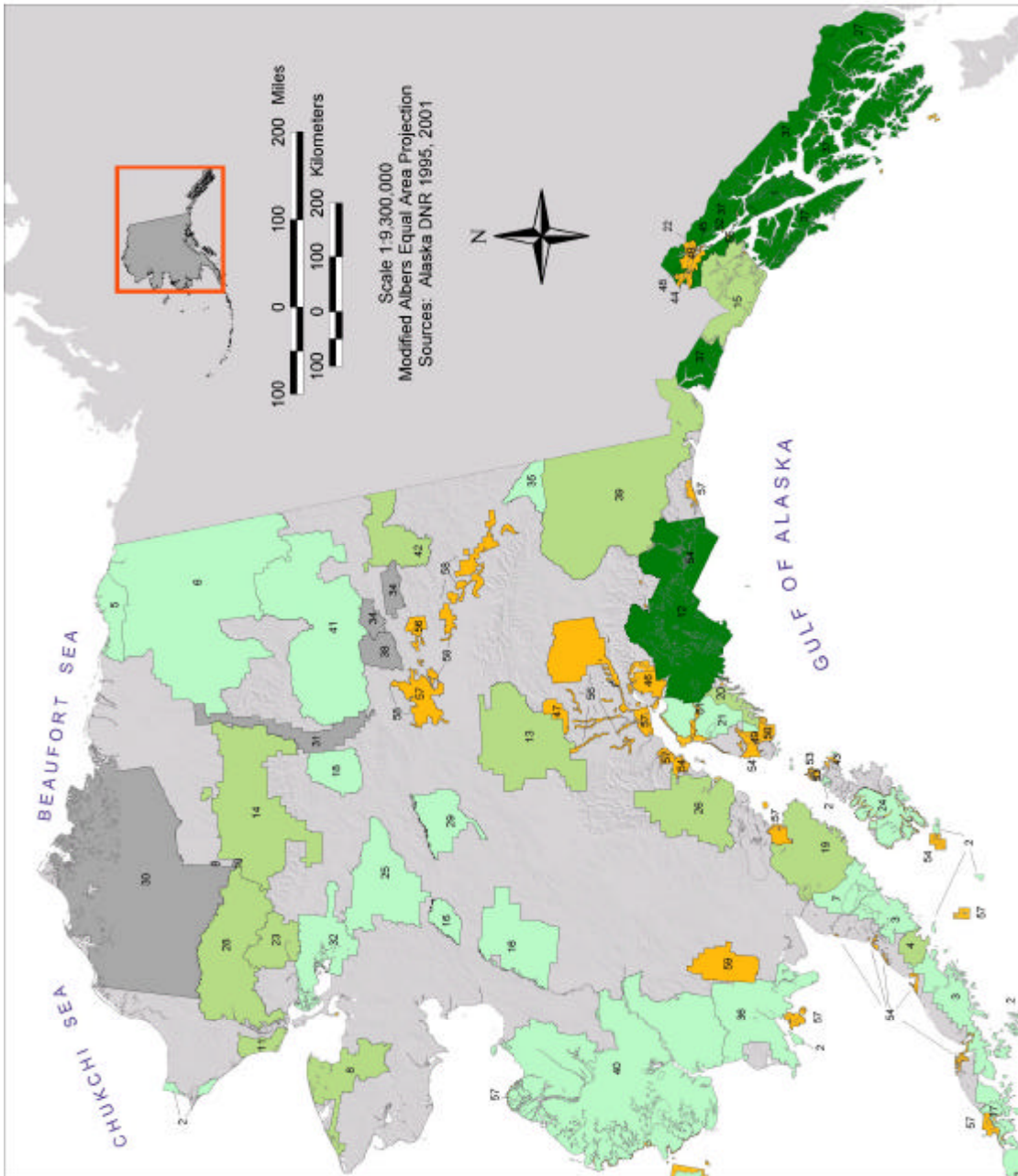
**Federal Conservation Units**

1. Adirondack NM
2. Alaska Maritime NWR
3. Alaska Peninsula NWR
4. Aniakchak NM&P
5. ANWR 1002
6. Arctic NWR
7. Becharof NWR
8. Bering Land Bridge NP
9. BLM Isotak
10. BLM Nigu River
11. Cape Krusenstern NM
12. Chugach NP
13. Denali NP&P
14. Gates of the Arctic NP&P
15. Glacier Bay NP&P
16. Inuvik NWR
17. Izembek NWR
18. Kenai NWR
19. Katmai NP&P
20. Kenai Fjords NP
21. Kenai NWR
22. Klondike NHP
23. Kobuk Valley NP
24. Kodiak NWR
25. Koyukuk NWR
26. Lake Clark NP&P
27. Misty Fjords NM
28. Nastak NP
29. Newhna NWR
30. NPRRA
31. Pipeline Corridor
32. Salawik NWR
34. Steese CA
35. Tefin NWR
36. Toklat NWR
37. Tongass NP
38. White Mountains CA
39. Wrangell-St. Elias NP&P
40. Yukon Delta NWR
41. Yukon Flats NWR
42. Yukon-Charley NP

**State Conservation Units**

43. Atkasut Island SP
44. Alaska Chilkat Bald Eagle Preserve
45. Chilkat SP
46. Chugach SP
47. Denali SP
48. Haines State Forest (MA)
49. Kachemak Bay SP
50. Kachemak Bay SWP
51. Kenai River SMA
52. Point Barrow SP
53. Shuyak Island SP
54. State Critical Habitat Area
55. State Marine Park
56. State Recreation and Public Use Areas
57. State Wildlife Refuge, Barge, and Sanctuary
58. Tanana Valley SP
59. Woodlark SP

CA = Conservation Area  
 NF = National Forest  
 NM = National Monument  
 NP = National Park  
 NP&P = National Park and Preserve  
 NPS = National Preserve  
 NPRRA = National Preserve Reserve Area  
 NWR = National Wildlife Refuge  
 SP = State Forest  
 SMA = Special Management Area  
 SWP = State Wilderness Park



#### National Wildlife Refuges

- National Parks, Preserves and Monuments
- USFS National Monuments
- BLM National Recreation Areas and Conservation Areas

Any area smaller than 2,200 square miles (5,698 square km) that did not meet the above criteria, but was surrounded by forest land was included in the Draft FLA. Additionally, any forested area smaller than 38.6 square miles (100 square km) and isolated within other vegetation types was not included in the Draft FLA.

The Draft and final FLAs were identified using the most comprehensive and detailed vegetation data available for Alaska (USGS AVHRR,1991). This data set was mapped at a one kilometer resolution. The coarse scale of the data means that only the dominant land cover within each square kilometer is represented on the map. Some areas that contain both forests and other land covers (e.g., tundra, rock and ice, etc.) may not be shaded as forest on the map. For example, some areas near the extent of forests in the state, such as Southwest Alaska and Kodiak Island contain significant forests but due to the coarse nature of the available data do not register as forested on the map. Any forested area within the FLA meeting the criteria outlined above and below, will be considered part of the FLA when specific projects are considered.

#### **Alaska's Forest Legacy Area**

The final FLA appears as the red shaded area on Map 16. Extensive public comments, an analysis of probable threats of forest land conversion within the next five years, and an analysis of conservation opportunities all determined the boundaries of the FLA. Throughout the state Alaskans indicated they value the lands near their communities, and they identified residential, commercial and second/recreational home development as the primary threats to forest lands. Due to the strong emphasis in the public comments on lands surrounding communities, we increased the buffer around the State's largest communities (see below) to 100 miles for the final FLA. In remote areas of the state Native allotments and other private parcels are being sold and developed, creating increasing pressure on local forest-dependent subsistence and outdoor recreation resources. In both cases, opportunities for partnerships with conservation organizations and local, regional and state government agencies exist, creating strong possibilities for highly leveraged land conservation.

Alaska's Forest Legacy Area includes:

- Lands within or immediately adjacent to existing conservation units where one or more of the values identified by the Alaska FLP Goals and Objectives is threatened and which is within a 100 mile radius of a community located in a forested area with population greater than 4000 people. Those communities include:
  - Anchorage
  - Fairbanks
  - Palmer/Wasilla/Willow area
  - Kenai/Soldotna area





### Map 16 Alaska's Forest Legacy Area

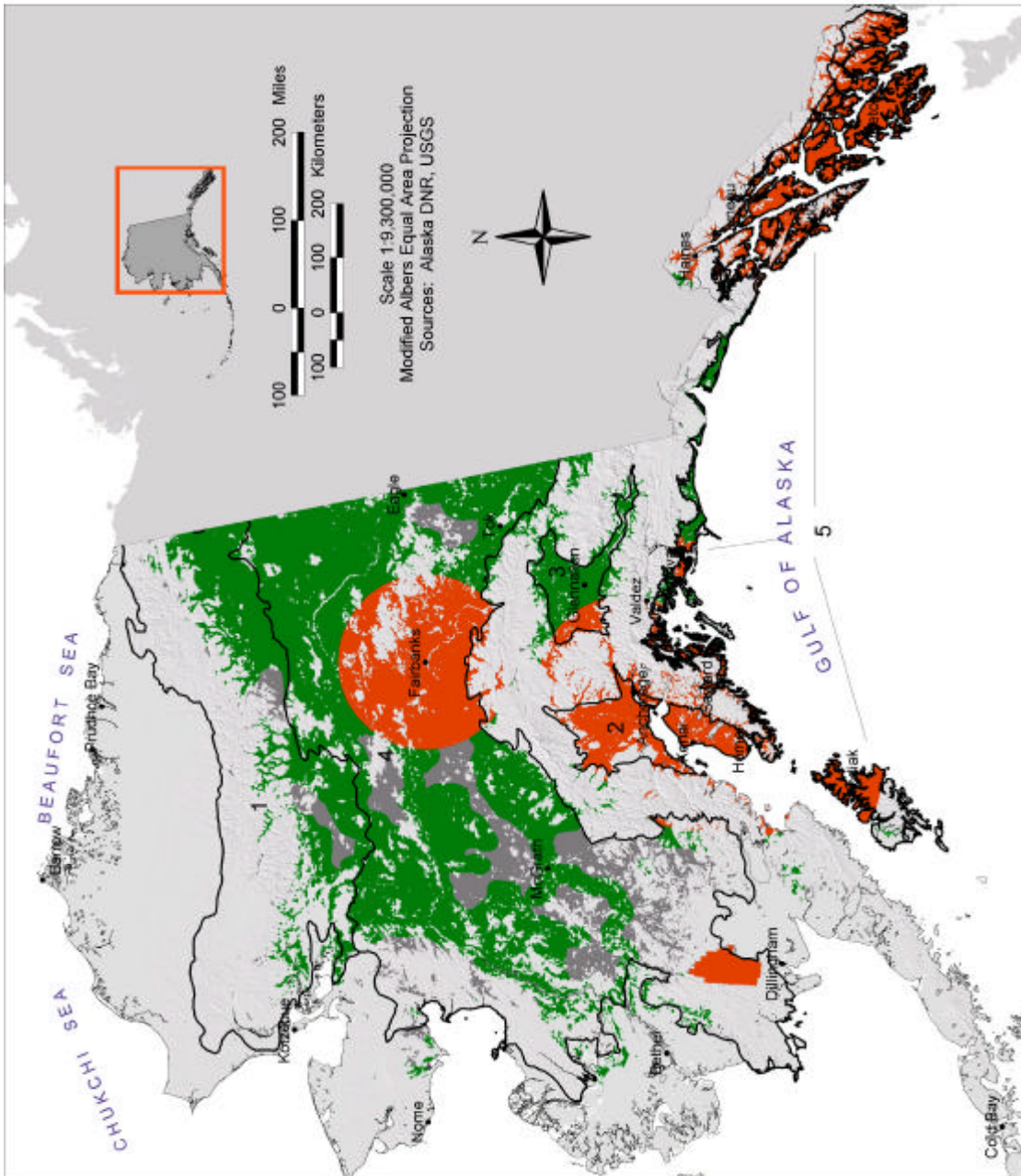
**Forest Legacy Area**

**Qualifying Forested Areas**  
 (to be considered in future  
 amendments to Forest  
 Legacy Area)

**Forest lands not qualifying**  
 for the Forest Legacy Area

**Ecoregions**  
 (Derived from Nowacki et al 2000)

1. Brooks Range Foothills  
 includes: Brooks Range (11)  
 Davidson Mountains (15)  
 Kobuk Ridges and Valleys (18)  
 Cock Inlet Basin (13)
2. Copper River Basin (14)
3. Interior Boreal Forest  
 includes: Anklun Mountains (1)  
 Kuskokwim Mountains (21)  
 Lime Hills (22)
4. North Ogilvie Mountains (23)  
 Nulato Hills (24)  
 Ray Mountains (25)  
 Tanana-Kuskokwim Lowlands (27)  
 Yukon-Old Crow Basin (31)  
 Yukon River Lowlands (29)  
 Yukon-Tanana Uplands (32)
5. Pacific Coastal  
 includes: Alexander Archipelago (5)  
 Gulf of Alaska Coast (16)  
 Kodiak Island (19)



- Homer/Anchor Point area
  - Juneau
  - Sitka
  - Ketchikan
- Lands within or immediately adjacent to remote conservation units in the northern Kodiak Archipelago, Wood-Tikchik region, or Copper River Delta where forestlands are threatened with conversion and strategic acquisition would maintain the wilderness character of the existing conservation unit. Priority will be given to solitary in-holdings and immediately adjacent parcels (vs. parcels that are in a cluster of other in-holdings and adjacent parcels).

The area shaded green on Map 16 was included in the Draft FLA used to solicit public involvement for the AON, but after further analysis was shown to have a low probability of being converted from forestland to other land uses during the next five years. Since this area was eligible to be included in the FLA under all the other criteria, it should be considered for future amendments to the FLA as conditions in the State change.

### **Forest Legacy Area Descriptions**

Map 16 shows the boundaries of the Alaska ecoregions overlaid on the FLA. The ecoregion descriptions (pages 17-25) provide information about the physical and biological characteristics of each area of the FLA. Factors that threaten to convert forest land to other land uses are discussed on pages 40-41. Below is summarized information about the portions of the FLA surrounding the major population centers (see above), plus additional information about the remote areas identified within Alaska's FLA.

#### ***Area surrounding Fairbanks***

- Primarily includes portions of the Yukon Plateau and Flats (6) and Interior Alaska Taiga (4) ecoregions (descriptions pages 23-25/Map 16).
- Forest type/climate: Boreal forest/continental climate.
- Primary threats: Suburban development, remote vacation home and subdivision development (including on Native allotments), lack of timber markets.

#### ***Area surrounding Anchorage, Palmer/Wasilla/Willow area, Kenai/Soldotna area, Homer/Anchor Point area***

- Primarily includes portions of the Cook Inlet Basin (13) and Copper River Basin (14) ecoregions (descriptions pages 20-22/Map 16).
- Forest type/climate: Transitional, mixed broadleaf and conifer/Transitional between coastal and continental climate.

- Primary threats: Suburban development, remote vacation home and subdivision development (including on Native allotments), conversion of forestlands cleared following spruce bark beetle caused tree mortality, lack of timber markets.

***Area surrounding Juneau, Sitka, Ketchikan***

- Includes Pacific Coastal (5) ecoregion (descriptions pages 17-19/Map 16).
- Forest type/Climate: Coastal temperate rainforest/coastal climate.
- Primary threats: Suburban development, remote vacation home and subdivision development (including on Native allotments).

***Remote areas of the FLA:***

***Copper River Delta***

Biological Distinctiveness

The 700,000 acre Copper River Delta, located within the Chugach National Forest on the Gulf of Alaska is the one of the largest contiguous wetlands in North America. The greater Copper River ecosystem is composed of the Copper River Delta and the upper basin, which are linked by the Copper River Canyon. The upper basin consists of massive glaciers and mountains that border the Delta as part of Wrangell-St. Elias National Park. The lush 60-mile wide Delta provides the habitat for the world-renown and economically very important salmon runs that produce “Copper River Reds”, early, oil-rich salmon favored by chefs and gourmets throughout the United States and beyond. The Delta is also a key stopover area along the Pacific flyway. Up to one million shorebirds have been counted during a single day at the peak of the spring migration. This area is so crucial to the survival of these migratory birds that it was designated a Hemispheric Site (sites hosting at least 500,000 shorebirds annually) by the Western Hemisphere Shorebird Reserve Network. Due to low populations, Dusky Canada geese and Trumpeter Swans are of particular concern within the Copper River Delta. Dusky Canada Geese breed only within the Delta. The upland areas of the Delta harbor coastal temperate rainforests, a globally declining forest type. Upland and lowland areas of the Delta provide prime habitat for healthy populations of brown and black bear, wolves, wolverines, moose, mink and otters.

Types and Severity of Threats (See pages 40-41 for more information on threats)

Large tracts of privately owned land within and near the Chugach National Forest are planned sites for coal mining, oil and gas, and tourism development. A proposed road across the Delta to access a large in-holding with the Chugach National Forest would cross hundreds of streams that feed the delta, many of which are critical salmon habitat. The first oil strike in Alaska occurred at Katalla, just east of the Copper River Delta; plans to re-develop those oil and gas resources are currently being drafted. Carbon Mountain, on the east side of the Delta holds significant coal resources, owned by the Korean Alaska Development Company. The owners are primed to develop a mine as soon as market conditions would make the venture more profitable.

***Northern Kodiak Archipelago***

**Biological Distinctiveness**

The Northern Kodiak Archipelago, which includes Shuyak, Afognak, Raspberry, Whale, Spruce, and Marmot Islands, is characterized by well-developed stands of mature Sitka spruce, at the western end of the distribution of coastal temperate rainforest. Abundant salmon runs support the healthy population of Kodiak brown bear, the world's largest terrestrial carnivore. Freshwater mixing in the many bays and estuaries creates a biologically rich coastal environment.

**Types and Severity of Threats** (See pages 40-41 for more information on threats)

Numerous Native allotments ring many of the bays and estuaries in the area. The market for allotments is active and driven by a growing in bear-viewing and sport-fishing oriented tourism industry. Allotments in this area are also sought by people wishing to create ultimate private sport fishing and hunting retreats. The FLP presents an important opportunity for interested Native families to sell conservation easements on their allotments, thus protecting both ecologically important sites and key subsistence resources while also generating much needed income in return for their commitment to conservation.

Note that due to the coarse nature of the available land cover data for the state, some of the Northern Kodiak Archipelago does not appear as forested on Maps 6, 8 and 16. Only the forested areas of the Archipelago will be considered for FLP projects.

***Wood-Tikchik Region (Ahklun Mountains ecoregion (1))***

**Biological Distinctiveness**

The Wood-Tikchik area lies within the Ahklun Mountains ecoregion (Map 7), just north of Bristol Bay in the transitional zone between the Interior and the southwest coast. The name refers to two separate systems of large, interconnected, clear water lakes. The area is ecologically diverse, ranging from glaciated mountain peaks to coastal lowlands. Black spruce forest vegetation dominates some hills and ridges, while lowlands have wet soils and mesic graminoid herbaceous vegetation. Forests of white spruce, paper birch, and alder cover the low hills along the major rivers. The abundance of surface water plus the diversity of habitats makes this ecoregion excellent habitat for waterfowl and other birds. Many species of bird depend on the habitats of this and neighboring ecoregions for the majority, if not all, of their nesting habitat (Ricketts et al. 1999). Birds nesting in the area are waterfowl, including mergansers, harlequin ducks, and goldeneyes; raptors including goshawk, great grey and boreal owls, and bald and golden eagles; and shorebirds including whimbrel, wandering tattler and solitary sandpiper. Also nesting are yellow billed, common, red-throated and Pacific loon, long-tailed yeager, and numerous species of warblers, sparrows and woodpeckers.

Populations of all top-level predators are intact in the region, and brown bears reach extraordinary natural densities in the nearby Katmai and Lake Iliamna areas. Other

common mammals include black bear, moose, caribou, beaver, muskrat, otter, fox, wolverine, mink and marmot. All five species of North American Pacific salmon are native to the area and spawn in the Wood River and Tikchik systems. Bristol Bay supports the commercially important largest run of sockeye salmon in the world.

Bordered by the Nushagak lowland on the east and the Wood River Mountains to the west, the lake systems span a variety of terrain and vegetative zones renowned for their diverse beauty. Wood-Tikchik State Park is special because it is the largest state park in the nation, at 1.6 million acres, and due to its wilderness character. The state created the park in 1978 to protect the area's fish and wildlife breeding and other habitat, and to preserve continued subsistence and recreational activities.

Types and Severity of Threats (See pages 40-41 for more information on threats)

Numerous Native allotments exist in this area. The market for allotments is very active and driven by a growing bear-viewing and sport-fishing oriented tourism industry. Allotments in this area are also sought by people wishing to create ultimate private sport fishing and hunting retreats. The FLP presents an important opportunity for interested Native families to sell conservation easements on their allotments, thus protecting both ecologically important sites and key subsistence resources while also generating much needed income in return for their commitment to conservation.

Note that due to the coarse nature of the available land cover data for the state combined with the patchy character of the forests in this region, much of this region does not appear as forested on Maps 6, 8 and 16. Only the forested areas of the Wood-Tikchik region will be considered for FLP projects.

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## **APPENDICES**

Appendix A: List of public meetings & Public Information Packet

Appendix B: Summary of public comments

Appendix C: University of Alaska Lands & Mental Health Trust  
Lands: Special cases regarding the Forest Legacy  
Program in Alaska

**Appendix A: List of public meetings & Public information packet**

Alaska Forest Legacy Program/Assessment of Need  
Public Meeting Schedule 2002

<i>Date</i>	<i>Group</i>	<i>Location</i>	<i>Time</i>
March 8	Community Forest Advisory Council	Atwood Building, Anchorage	2 p.m.
March 11	Chugach State Park Advisory Board	Atwood Building, Anchorage	6 p.m.
March 12	Susitna Area State Park Advisory Board	Div. Forestry, Palmer	7 p.m.
March 13	Kachemak Bay State Park Adv. Board	NERR building, Homer	7 p.m.
March 21	Kenai River State Park Adv. Board	Kenai River Center, Soldotna	7 p.m.
April 1	Juneau State Park Adv. Board	Mendenhall Public Library, Juneau	5:15 p.m.
April 2	Sitka State Park Advisory Board	Centennial Hall, Sitka	7:30 a.m.
April 3	Ketchikan State Park Adv. Board	Ketchikan Electric Authority, Ketchikan	7 p.m.
April 11	South Kenai State Park Adv. Board	Ninilchik Senior Center, Ninilchik	7 p.m.
April 25	Valdez State Park Adv. Board	Valdez Public Library, Valdez	6 p.m.
May 2	Society of American Foresters & The Wildlife Society, Alaska State Chapters joint annual meeting	University of Alaska Fairbanks, Woods Center	Poster Session 8 a.m. to 7 p.m.
May 8	Forest Stewardship Committee	Chugach National Forest conference room, 3301 C. Street, Anchorage	10 a.m.
May 17-18	TRAAK Board	Atwood Building, Anchorage	9 a.m. – 5 p.m.
May 22	Fairbanks State Park Adv. Board	Div. Forestry/State Parks, Fairbanks	6:30 p.m.

## Forest Legacy Program

### *Protecting Private Forest Lands From Being Converted to Non-Forest Uses*

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#### Program Purpose:

Development of the nation's forested areas poses an increasing threat to maintaining the integrity of our country's valuable forest lands. Intact forest lands supply timber products, wildlife habitat, soil and watershed protection, aesthetics, and recreational opportunities. However, as these areas are fragmented and disappear, so do the benefits they provide. While local governments commonly guide development away from the most sensitive areas through traditional land use controls (like zoning and performance standards), sometimes these measures are not sufficient to fully protect the forested component of our natural resource base.

The Forest Legacy Program (FLP), a federal program in partnership with states, supports state efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, FLP is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. FLP helps the states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values.

#### Program Activities: *Where does the money go?*

In fiscal year 2001, congress appropriated nearly \$60 million to the FLP. Forest Legacy complements private, federal and state programs focusing on conservation in two ways. First, FLP directly supports property acquisition. Additionally, FLP supports efforts to acquire donated conservation easements. FLP funded acquisitions serve public purposes identified by participating states and agreed to by the landowner.

#### Eligibility: *Who benefits, and how much?*

Participation in Forest Legacy is limited to private forest landowners. To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The federal government may fund up to 75% of program costs, with at least 25% coming from private, state or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use.

## **Forest Legacy Program in Alaska: Assessment of Need**

In January 2001 Governor Tony Knowles selected the Alaska Division of State Parks and Outdoor Recreation/Department of Natural Resources to implement the FLP in Alaska. According to national guidelines, Alaska must conduct an Assessment of Need (AON) to establish our state's FLP. The Alaska Division of State Parks and Outdoor Recreation has contracted The Nature Conservancy of Alaska to conduct the AON. The AON will document the need for a FLP in Alaska, identify goals and criteria to guide the program in state, and delineate the boundaries of the forest areas to be included in the program.

The AON will include relevant information about both public and private lands in Alaska, identify what forces are converting forests to non-forest uses, and address the issue of how best to maintain the integrity of forestlands for future generations. The AON will address the following as they relate to the purpose of the FLP:

1. Forest Resources including:
  - Aesthetic and scenic values;
  - fish and wildlife habitat;
  - Minerals resource potential;
  - Public recreation opportunities;
  - Watershed values;
2. The threat of conversion of forest areas to non-forest uses;
3. Historic uses of forest areas, and trends and projected future uses of forest resources;
4. Current ownership patterns and size of tracts and trends and projected future ownership patterns;
5. Cultural resources that can be effectively protected;
6. Outstanding geological features, and;
7. Other ecological values.

Information for the AON will be gathered and synthesized from existing sources (e.g., vegetation and land ownership databases, federal, state and borough land use plans, cultural site inventories), interviews with resource professionals, and through a series of public meetings. Alaska's AON process was initiated in December 2001 and is planned to be completed by September 2002. Public meetings designed to solicit comments and suggestions to shape Alaska's program are scheduled for March through early May 2002.

**About the Draft Proposed Forest Legacy Areas Map:**

The draft proposed Forest Legacy Areas (FLAs) were selected based on the Draft Goals and Criteria for the Forest Legacy Program in Alaska (3/5/02). The FLAs depicted on this map include a 10 mile buffer around communities, transportation corridors (roads, major rivers and marine highway routes), and the following existing conservation units:

- State Designated Areas (Alaska State Parks, Preserves and Recreation Areas,; ADF&G Critical Habitat Areas, Refuges, Range Areas, and Sanctuaries; State Forests)
- EVOS Parcels (Pending or Final, 1996 and 1999)
- Wild and Scenic Rivers
- National Wilderness Areas
- Proposed Wilderness Areas
- National Wildlife Refuges
- National Parks, Preserves and Monuments
- USFS National Monuments
- BLM National Recreation Areas and Conservation Areas

Any area smaller than 2,200 square miles (5698 square km) that did not meet the above criteria, but was surrounded by forest land was included in the FLA. Additionally, any forested area smaller than 38.6 square miles (100 square km) and isolated within other vegetation types was not included in the FLA.

**Please Note:**

- We used the most comprehensive and detailed vegetation data available for Alaska (USGS AVHRR (1991) coverage) to create the FLA map. This data set was mapped at a one kilometer resolution. The coarse scale of the data means that only the dominant land cover within each square kilometer is represented on the map. Some areas that contain both forests and other land covers (e.g., tundra, rock and ice, etc.) may not be shaded as forest on the map; however, if these areas meet the draft criteria, they will be included in the FLA.
- The Draft FLA map is intended to stimulate discussion about which areas Alaska should select as Forest Legacy Areas (areas that will be eligible for Forest Legacy Program funding in the future); it is a work in progress. We encourage you to study both the map and Draft Goals and Criteria for the Forest Legacy Program in Alaska (3/5/02) and provide your comments and ideas (see attached comment form) by May 1<sup>st</sup>, 2002 to:

Evie Witten, FLP/AON Project Manager  
The Nature Conservancy of Alaska  
P.O. Box 3231  
Homer, AK 99603  
(Or via email: [picea@alaska.net](mailto:picea@alaska.net))







# Forest Legacy Program

## Budget History and Legislative History

### BUDGET HISTORY: Appropriations

FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
			*					**	**	
<i>...Dollars in thousands...</i>										
4,938	9,915	6,948	6,688	3,000	2,000	4,000	7,012	29,933	59,768	65,000

\* \$7.8 million of unspent funds were rescinded in FY 1995 - all the FY1995 funds plus \$1.112 million of prior year funds. The above amounts were the original appropriations before the rescission.

\*\* Reflects realignment and adjustments to achieve primary purpose objectives

### LEGISLATIVE HISTORY: Congressional Direction

#### **FY 2002 - \$65,000,000**

- C The managers have modified bill language proposed by House and the Senate concerning approval of the Forest Service project selection. The managers require the FS notify the House and Senate Committees on Appropriation in advance of undertaking specific forest legacy projects
- H The Committee directs the FS to allocate forest legacy funding to those projects that enhance federal lands, federal investments or compliment Federal assistance efforts and see that public access is provided to the greatest extent practicable. States should explain and justify projects before federal funding is provided.
- H The Committee also expects the FS to require cost-shares for each individual project and monitor cost-shares closely.
- C The Committee is concerned that some forest legacy projects may go forward with inadequate professional lands expertise, especially concerning appraisals and titles. The Committee expects that the FS to work diligently to provide these services as appropriate and requires the States to do the same.
- C The managers note the recent revision to the Puerto Rico FLP standards and accordingly direct the FS to not follow the House direction concerning this program in Puerto Rico
- H The Committee requests the Secretary of the Interior to join the Secretary of Agriculture in reviewing the findings of the New Jersey Highlands study and report to the Committee on ways the Federal government can partner with State,

county, local and private efforts to preserve critical lands within this nationally significant area in the Northeast. In the past two years, \$62 million has been provided by these non-federal entities to purchase critical areas within the Highlands. The Committee believes that the Federal government should be a major partner in this preservation effort and recommends that the Secretaries consider as a model, the Sterling Forest project in the same region which has been a big success.

**FY 2001 - \$59,768,000**

- H The Committee directs the FS to allocate forest legacy funding to those projects which enhance Federal lands, Federal investments or compliment past Federal assistance efforts
- C The managers also acknowledge the importance of forest protection in south Carolina and encourage the FS to work with appropriate State agencies to ensure the continuation of these much needed protections.

**FY 2000 - \$29,933,000**

- H The Committee recommends that the increase above the 1999 level (\$28,000) be used to cover fixed costs
- HC The Committee encourages the FS and the States to develop forest legacy selection criteria that emphasize projects which enhance federal lands, investments, or past assistance efforts

**FY 1999 - \$7,012,000**

- S The Committee encourages the FS to review the merits of acquiring a conservation easement for the MacFarlane Ranch property near Park City, UT.

**FY 1998 - \$4,000,000**

No Direction

**FY 1997 - \$2,000,000**

- S The Committee directs the FS to allocate limited funding appropriated for the Forest Legacy Program to the projects that are the closest to completion.

**FY 1996 - \$3,000,000**

No Direction

**FY 1995 - \$6,688,000**

HC Any political subdivision within New York State must agree to include itself, in order to participate in the program. A subdivision is defined as a village, city town or county.

**FY 1994 - \$6,948,000**

No Direction

**FY 1993 - \$9,915,000**

C The conference intent, as clarified by the colloquy published in the Congressional Record, is that New York State can only receive FY 1993 funds for lands associated with the New York and New Jersey Highlands study region. Furthermore, the conference report specifies that in New York State, any political subdivision within the State must agree to include itself in order to participate in the program. A subdivision is defined as a village, city, town or county.

**FY 1992 - \$4,938,000**

For Legacy, bill language prohibits commitments beyond funding provided. Report language specifies that in NY State, any political subdivision must agree to include itself, in order to participate in the program. A subdivision is defined as a village, city, town, or county. Upon completion of a needs assessment study and approval by the Secretary of Agriculture, Massachusetts shall be eligible to receive funding.

# FOREST LEGACY

## UPDATE

November 2001

### Appropriations Continue to Increase

By Rick Cooksey, Washington DC

To say that this has been an unusual year in Congress to develop the Forest Legacy program budget is like saying that a hurricane is just a bad rainstorm. Both are understatements. The negotiations and dialog to determine the FY 2002 appropriation have been changeable and at times concerning, but the outcomes are very positive for the program. Highlights and outcomes are:

- ❖ The House and Senate came together in a Committee of Conference agreeing to expand the FLP to \$65 million for FY 2002
- ❖ The conference agreement on the Interior and Related Agencies Appropriations, Conservation Spending

Category represents an increase of \$34,921,000 over the President's budget request

- ❖ At times in the process it seemed that congressional earmarks might absorb all potential program funding, but in the end an improved balance was achieved
- ❖ Congress earmarked 25 projects in 15 states equaling \$42,865,000
- ❖ The Forest Service is provided unallocated funds for projects and to cover costs for technical assistance, program administration and State assessment and planning equaling \$22,135,000
- ❖ Congress backed off several directives outlined in earlier mark-up bills

cont'd on page 3

### Pumpkin Brook Link Closes in Massachusetts

By Neal Bungard, Durham, NH

The Pumpkin Brook Link is a 136-acre forested tract located adjacent to the Squannacook Wildlife Management Area and is less than a mile from the Hunting Hill Conservation Area. The land was most recently bought in 1960 along with house and farm. The landowner sold off the house and farm but held onto the forested tract because he wanted to do something with the property. He decided that conservation

of the property was the best use of the land, the Forest Legacy Program allowed his heirs to carry out his intent for the land. The land was protected by a conservation easement to be held by the Town of Shirley Conservation Commission. The total cost of rights acquired is \$775,000, and the Forest Legacy payment is \$250,000. The closing was on October 9, 2001.



Protecting Important  
Forests from Conversion  
to Nonforest Use

## North Carolina Partnership Closes Phase II

By Liz Crane, Atlanta, GA

Phase II of the Town Creek project, located between Wilmington, NC and Myrtle Beach, SC closed on September 20, 2001. International Paper Company will continue forest management practices on approximately 1,250 acres of the 1,500 acres. The remaining 250 acres located in the riparian area have a more restrictive easement held by the State of North Carolina Clean Water Trust Fund. The total value of the interests in Phase II is \$3,017,480 and

the Forest Legacy payment was \$2,650,000. The North Carolina Coastal Land Trust contributed \$2,600 in cash and the State paid for the remainder. Phase I of the Town Creek project placed 1,082 acres of International Paper Company lands under conservation easements. With the completion of Phase II, a total of 2,591 acres will remain in forest use. This project connects several other tracts of privately protected lands along this unique water body.

## Land Protected to Date (including donations and state purchases)

State	Projects	Acres	Total Value	FLP Payment
California	2	3,275	\$4,850,000	\$40,000
Connecticut	12	1,261	\$2,271,000	\$390,000
Illinois	3	143	\$584,000	\$492,000
Maine	5	31,396	\$7,283,000	\$5,793,000
Maryland	3	668	\$775,000	\$0
Massachusetts	10	1,388	\$7,021,000	\$3,680,000
Minnesota	2	251	\$504,000	\$238,000
Montana	2	86,255	\$14,292,000	\$4,795,000
New Hampshire	14	12,797	\$5,112,000	\$1,804,000
New Jersey	4	2,340	\$13,112,000	\$1,662,000
New York	6	1,555	\$4,673,000	\$2,403,400
North Carolina	2	2,341	\$5,305,000	\$4,050,000
Puerto Rico	9	1,468	\$1,577,000	\$792,000
Rhode Island	5	598	\$1,265,000	\$1,265,000
South Carolina	1	571	\$1,428,000	\$975,000
Utah	11	28,862	\$26,565,000	\$6,970,000
Vermont	11	50,955	\$8,358,000	\$5,707,000
Washington	11	3,411	\$19,771,000	\$10,219,000
TOTAL	113	209,537	\$124,756,000	\$51,275,400



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## National Association of State Foresters Debate Resolutions Regarding FLP

By Rick Cooksey, Washington DC

The Working Lands Conservation Committee presented three resolutions to the NASF at their Annual Meeting held in Hot Springs, Arkansas, October 1-4, 2001. The resolutions were proposed to address growing concerns by the committee and several Individual State Foresters. The resolutions and their outcomes are:

### Minimum Funding for a Viable State Program

Due to concerns over increasing amounts of project earmarks and the impact on the ability for all participating states to maintain a program, this resolution recommends that all projects be selected through the process outlined in a state's Assessment of Need and that an annual appropriation of non-earmarked, non-directed FLP funds be allocated to allow every state eligible for the program to participate. *NASF action - Approved*

### Ownership of Acquired Interests

Due to a concern over the movement towards authorizing land trusts or other non-governmental organizations to hold title to interests in FLP project lands this resolution acknowledges the important role of non-profit and non-governmental

organizations, but asserts that FLP goals and objectives are best obtained and served, in the near and distant future, when the title to interest acquired are held by the state or federal unit of government. *NASF action - Tabled*. Significant debate occurred around this resolution and a proposed amendment was offered, but agreement could not be reached. NASF will work on the resolution in committee and present an alternate approach to the NASF Executive Committee later this year.

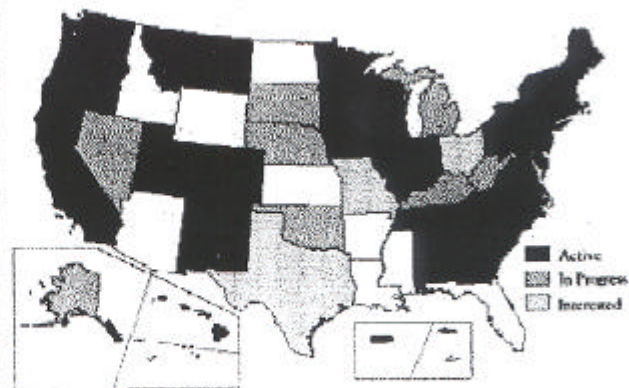
### The Ability to Exercise the Right to Conduct Traditional Forestry Practices

Due to concern in at least one state that actions are being taken to further restrict the right to extract timber on FLP project lands after they enter the program this resolution recommends that FLP funds should not be used to purchase interests from landowners who will restrict the exercise of that right unless it is by mutual consent of the landowner and the owner of the interest(s) acquired and should be approved by the easement holder. *NASF action - Approved*

### Appropriations cont'd

- The conference agreement now requires the Forest Service to notify (vs. gain approval by) the House and Senate Committees on Appropriations in advance of undertaking specific Forest Legacy projects
- The conference noted a recent revision to the Puerto Rico FLP standards and accordingly direct the Forest Service not to follow the House direction concerning a moratorium on the Commonwealth's program

### Forest Legacy Program Activity



## Forest Legacy News

### FLP Managers Meet

Over 75 State and Federal Forest Legacy Program managers met on October 3-4 in Kent Narrows, Maryland following the Land Trust Rally. Participants discussed a variety of issues such as federal appraisal standards, revision of the Forest Legacy Guidelines, publishing of the first Forest Legacy National Report, fiscal year 2002 Appropriations, Forest Legacy Grant Management, and monitoring of conservation easements. Success stories were shared among the 31 participating states and territories. The meeting contained a special panel session with invited Washington DC leaders from national conservation organizations and the federal government.

### Seven New States

Alabama, Colorado, Georgia, Iowa, New Mexico, Oregon and Pennsylvania completed their Assessment of Need (AON) documents. The AON utilizes existing information to assess the condition and values of the forest including important scenic, cultural, fish, wildlife, recreation resources, riparian areas and other ecological values. Each AON provides an analysis of the threats to conversion of forests to non-forest uses. It also lists the goals and

objectives of that State's Forest Legacy Program, describes the eligibility criteria for Forest Legacy Areas, and articulates the process the State will use to determine the priority of acquisitions. State participation in the Forest Legacy Program is voluntary. A total of 31 states and territories are now participating in the Forest Legacy Program.

### Land Trust Rally 2001

Over 1,400 people from 48 states and 18 countries participated in the Land Trust Rally held in Baltimore, Maryland September 29 through October 2. It is the only conference especially for land trusts and those involved in private land protection efforts. It brought together land trust professionals, attorneys, appraisers, public agency staff to learn about private land protection, emerging legal issues, funding mechanisms, organization management, and the latest public policy developments. Field trips, seminars and over 120 concurrent workshops included topics such as tax law, land transactions, drafting and negotiating conservation easements, public policy, partnerships, and working lands conservation. Next year's Rally will be held in Austin, Texas on October 26-29, 2002.

The Forest Legacy Program was established in the 1990 Farm Bill. State and Federal partners implement the program together. Information sharing occurs in many ways including this periodic update. If you would like to receive a copy, please send a request to Forest Legacy, USDA Forest Service, 1720 Peachtree Road NW, Atlanta, CA 30309.

USDA Forest Service  
1720 Peachtree Rd. NW  
Atlanta, CA 30309

FOREST LEGACY

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## Alaska Forest Legacy Program Assessment of Need

### Public Comment Form

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After reviewing the attached information about the national Forest Legacy Program, the Draft Goals and Criteria for Alaska's program, and the proposed Forest Legacy Area map, please record your comments below. Please be as specific and descriptive as possible, and use extra sheets if necessary. Your input will help shape the Forest Legacy Program for Alaska; thank you for participating.

For further information, go to the Alaska State Parks website ([www.dnr.state.ak.us/parks](http://www.dnr.state.ak.us/parks)), and the National Forest Legacy Program website (<http://www.fs.fed.us/spf/coop/flp.htm>).

**Please send your comments by May 1<sup>st</sup>, 2002 to:**

Evie Witten, FLP/AON Project Manager, The Nature Conservancy of Alaska, P.O. Box 3231,  
Homer, AK 99603 (Or via email to: [picea@alaska.net](mailto:picea@alaska.net))

Date: \_\_\_\_\_

Name and address (optional): \_\_\_\_\_

In your opinion, should we add or delete any goals or criteria to or from the current draft? Would you modify any of the goals or criteria? How and why?

What important issues affect forests in Alaska, and what are the threats to maintaining forests in the state?

Only lands within the designated Forest Legacy Areas (FLAs) may be eligible for Forest Legacy Program funding in the future. The draft FLA map includes existing conservation lands and buffered areas around communities and major transportation corridors (see map for details). Do you know of other forested areas that are predominantly privately-owned that you think should be included in the draft FLA map? Have we included areas in the draft map that you think should be excluded? Please explain or draw where these areas are located and why you think they should be included or excluded.

## **Appendix B**

### **Alaska Forest Legacy Program – Assessment of Need Public Meeting Summaries 2002**

#### **Community Forest Advisory Council** (statewide representation)

- March 8, 2002, Anchorage
- 14 participants
- Interests and comments focused on community forests, and protecting forest-related activities important to Alaska communities for recreation and economics (subsistence, businesses (tourism, non-timber forest products, small woodlot/sawmill owners).
- Questions regarding eligibility of Mental Health Trust lands and University lands, and support for including both in Alaska's FLP due to abundance of MHT and UA-owned parcels within and near communities throughout the state and aggressive land disposal programs of both institutions.

#### **Chugach State Park Advisory Board**

- March 11, 2002, Anchorage
- 23 participants
- Concern about current SP budget crisis, and FLP adding lands and additional management burden to Parks.
- Interest in emphasizing forest lands near communities, including remaining open spaces within urban areas.
- Interest in using FLP to secure additional access to existing conservation units, and to acquire inholdings and sensitive adjacent/proximal lands.
- Interest in acquiring surface and subsurface rights.
- Support for draft goals and criteria.

#### **Matanuska-Susitna State Park Advisory Board**

- March 12, 2002, Palmer
- 9 participants
- Interest expressed in providing access to lands for both motorized and non-motorized recreation
- Interest in emphasizing forest lands near communities, including within urban and rapidly developing areas.
- Questions regarding eligibility of Mental Health Trust lands and University lands and support for including both in Alaska's FLP.

#### **Kachemak Bay State Park Advisory Board**

- March 13, 2002, Homer
- 13 participants
- Interest in emphasizing conservation forest lands near communities for hiking and skiing trails and wildlife habitat

- Interest in working with Native corporations, especially near and adjacent to existing conservation units and communities.
- Questions regarding eligibility of Mental Health Trust lands and University lands; concern that many parcels threatened with conversion and of concern to community are owned by MHT or University.

#### **Kenai River Special Management Area Advisory Board**

- March 21, 2002, Soldotna
- 34 participants
- Interest in using FLP to address watershed conservation concerns on Kenai River and other area rivers (Kasilof, Anchor, Deep Creek).
- Support for broad and inclusive nature of draft goals and criteria.
- Recognition that several recent and major pollution events within the Kenai River watershed occurred on privately owned developments on land that once was forested, and that FLP could not only help preserve habitat, but also prevent point source and non-point source pollution of rivers.
- Interest in using FLP to address groups of small, adjacent privately owned river-front parcels.

#### **Juneau State Park Advisory Board**

- April 1, 2002, Juneau
- 9 participants
- Recommendation that we seek mapped database of anadromous streams, buffer them and add to FLA mapping protocol.
- Support for all of Southeast/temperate coastal rainforest area being included in draft FLA.
- Support for keeping FLP goals and criteria wide in scope.
- Recommendation to include salmon-producing streams, sites that produce landmark trees, and land easily accessible from good anchorages (access for recreation and subsistence hunting and fishing) as FLP priority areas.
- Questions regarding eligibility of Mental Health Trust lands and University lands; concern that many parcels threatened with conversion and of concern to community are owned by MHT or University.

#### **Sitka State Park Advisory Board**

- April 2, 2002, Sitka
- 11 participants
- Desire to keep archeological and cultural sites in goals and criteria.
- Lands near community are important (access and viewshed), and many of the most important and threatened parcels are owned by MHT and University of Alaska.
- Support for keeping definition of 'forest' as broad as possible to include coastal muskeg wetlands and good nesting habitats.

- Support for all of Southeast/temperate coastal rainforest area being included in draft FLA.

#### **Ketchikan State Park Advisory Board**

- April 3, 2002, Ketchikan
- 10 participants
- Questions regarding eligibility of Mental Health Trust lands and University lands; concern that many parcels threatened with conversion and of concern to community are owned by MHT or University.
- Concerns about current parks budget and adding more management responsibility.
- Support for acquiring lands near communities, noting that recreation opportunities on an island are limited and parks are heavily used.
- Support for using FLP to protect viewshed from clearcuts; is a quality of life issue and economic development issue (related to booming tourism industry). Support for limited harvests that leave trees standing.
- Concerns that not all of what is really Ketchikan was included in FLA buffer around the relatively small city limits. Recognition that may be a problem for other *de facto* communities with small city limits. Recommendation to use borough boundaries instead of city boundaries.

#### **South Kenai State Park Advisory Board**

- April 11, 2002, Ninilchik
- 9 participants
- Some support for acquiring forest land near communities.
- Some support for protecting and maintaining forests along streams to protect fish spawning and rearing habitat, and thus protect commercial and sport fisheries.
- Some concern that FLP will permanently prevent land from being developed for agriculture and other business ventures.

#### **Valdez State Park Advisory Board**

- April 25, 2002, Valdez
- 7 participants
- Support for keeping goals and criteria broad to address different parts of the state.
- Questions regarding eligibility of Mental Health Trust lands and University lands; concern that many parcels threatened with conversion and of concern to community are owned by MHT or University.

#### **Society of American Foresters/The Wildlife Society - Alaska Chapters**

- May 2-3, 2002, Fairbanks
- 80 + participants
- Presented poster at joint poster session.
- High volume stands in Southeast have been disproportionately harvested in last 50 years, and harvests have adversely affected habitat values for many species ( marble murrelet, gawshawk, Sitka black-tailed deer, anadromous fish).

- Structural habitat values of Southeast floodplain stands is important for wildlife; more of this forest type should be protected.
- Support for using FLP to prevent further habitat fragmentation in Interior riparian forests (from placer mining and other human use) and Southeast (from harvesting and roadbuilding).
- Recommendation to look at landscape scale and focus on habitat (vs. individual species) when selecting FLP projects.

### **Alaska Forest Stewardship Committee**

- May 8, 2002, Anchorage (statewide representation)
- 13 FSC members; 15 other attendees.
- General agreement that the goals and objectives are not too broad or narrow; that some goals are more important and applicable in certain areas, and that with a few exceptions (noted below) the goals and objectives should not be changed.
- Suggestion that production of traditional wood products should be included in goals and objectives.
- Suggestion that rather than focus on rare, threatened and endangered species in the goals and objectives, to use species of special concern designation (e.g., Audubon's peer-reviewed watch list of birds).
- Marty Freeman (AK Div. Forestry) explained that inholdings in state forests make managers suppress fires despite management plans calling for no fire suppression; acquiring inholdings in state forests could help the Division of Forestry carry out their fire suppression management objectives.
- Discussion about prioritizing within the proposed/draft Forest Legacy Areas:
  - Agreement that the proposed FLAs accurately represent the environmentally important forest areas in the state, and that priority should be placed on areas with the highest threat.
  - Agreement that lands near communities tend to have the greatest threat of conversion and are most important to people in Alaska. Suggestions to use a minimum population size for communities to be included in the priority area.
  - Agreement about using travel time (e.g., 90 minutes) or a standard distance (e.g., 100 miles) to draw priority areas around selected communities.
  - Also agreement that lands near rural communities are important for subsistence and other traditional uses, and that we should correlate travel time or distance with activity and mode of transportation characteristic of place (e.g., Anchorage or Fairbanks residents usually travel by car for recreation; McGrath residents usually travel by snowmachine for subsistence hunting).
  - Agreement that using FLP to acquire inholdings and parcels immediately adjacent to existing conservation units should be a priority when real threat exists.
- Discussion about the FLA map, and whether to show public lands as part of FLA, or to highlight only private lands.

- Questions about whether BLM data base show Native allotments that have not yet been adjudicated. Suggestion to qualify all data show on FLA map with definition and explanations in text, recognizing that data sets are flawed.
- Suggestion to include a map of Native allotments in AON.

### **Fairbanks State Park Advisory Board**

- May 22, 2002, Fairbanks
- 9 participants
- Support for broad goals and criteria, recognizing different needs in different parts of the state.
- Support for using FLP to conserve scenic vistas and watersheds near communities.
- Recognition that inholdings threaten values of existing conservation units and support for using FLP to acquire inholdings.
- Recommendation to reach out more to rural areas and Native corporations during public process, and discussion of threats in rural vs. more urban areas of the state.
- Support for using FLP/conservation easements to protect working forest lands in the Interior.

### **Comments Received (in addition to those received at public meetings)**

Comment forms were distributed at all the public meetings as well as through the State Parks website. Participants were urged to provide additional comments and to pass comment forms and information onto others. Below is a summary of written and verbal comments received via mail, email and telephone between March 9 and August 10, 2001. The numbers in parentheses indicate how many people made the same comment (not including at the public meetings).

- Rare groves of maximum size trees in the coastal temperate rainforests in Southeast have been cut disproportionately and are virtually non-existent in other parts of the northern hemisphere, and what stands remain should be protected. (2)
- Loss of forests around safe anchorages in Southeast is a loss of value to increasing numbers of recreational users; we need to conserve all that we can.
- Protect generous forested buffers and greenbelts along salmon spawning streams to protect all our fisheries. (6)
- Protecting the subsurface of forested lands should be considered under the FLP in Alaska.
- Inholdings in parks and refuges are a threat to habitat, forest resources (2) and recreation throughout the state; the FLP should be used to acquire inholdings and help solve access problems.
- FLP funding should be used to preserve urban forests in Alaska's cities (3).
- FLP in Alaska should be focused on forest lands in and adjacent to communities (5), including remote villages in order to retain forests in "community forest" categories for all forest uses, including harvest and regeneration of products for community benefit/use.

- Habitat issues including “fragmentation” should not have important priorities in Alaska’s FLP. There is already an immense area under conservation protection in Federal and State lands.
- Loss of forest cover for at least the next generation in Southeast is a big problem in Alaska forests. FLP funding should be used to acquire the most ecologically valuable of the privately owned forestlands remaining in Southeast. Harvests have not been evenly distributed across forest types and ages.
- Timber harvests have taken the best of the old growth forests in Southeast and have negatively impacted deer wintering and salmon rearing habitat, and resulted in a loss of functionality within those ecosystems. As a result those forests have lost many of their top level predators.
- Urbanization, especially in the Mat-Su and Kenai regions is one of the greatest threats to forest in Alaska today.
- The spruce bark beetle infestation is also threatening to convert forest land; its causing some landowners to cut and develop forest lands that they would have not disturbed otherwise.
- A lack of seed beds in forests killed by spruce bark beetle also threatens forests – some of these areas may become grasslands for the foreseeable future (2).
- It is important to protect stands of younger spruce not affected by the spruce bark beetle; they provide refugia habitat for song birds, brown bear and other wildlife and good seed source.
- A lack of timber markets threatens forest lands in Interior and Southcentral Alaska. (3). It is getting harder and harder for forest land owners to justify managing for timber.
- Fire suppression is threatening to convert forests because fires more catastrophic and landowners are more apt to convert to a different land use after a big fire than if the fire is a more frequent, not stand re-placing event. (2)
- Ditching and draining activities on private lands threaten forest values near Southeast communities (lodge pole pine stands) and on the Kenai (riparian spruce/cottonwood stands).
- Private recreational and tourism activities in remote areas often have a disproportionate effect on local communities and resources, especially if they are sited on or near ecologically important areas. (3)
- Forests in Karst systems in Southeast are productive and ecologically unique and should be considered for protection under FLP.
- Small scale developments near communities and along river and road systems across the state have a large, cumulative effect on forests and wildlife. These can be cascading effects if predators are extirpated.
- Farming has converted forest lands to farm fields in Alaska in the past, and may still be a threat (e.g., proposed industrial hog farm on the Kenai Peninsula).
- Planting non-native tree species may impair the functioning of natural ecosystems in Alaska. Alaskans should not plant non-natives in areas with high spruce bark beetle mortality.
- Interior riparian forests are some of the most productive in the state and have some of the most human use.



## ADVISORY BOARD

May 6, 2002

Evie Whitten  
PO Box 3231  
Homer, AK 99603

Dear Ms. Whitten:

Thank you for taking the time to provide a presentation to the Kenai River Special Management Area (KRSMA) Advisory Board in March to share the information on the Forest Legacy Program. A committee that was formed at that meeting met to discuss recommendations that the KRSMA Board might consider, and during the April 18 KRSMA Board meeting, this program was further discussed.

The Kenai River Special Management Area (KRSMA) Advisory Board was legislatively established to serve a public forum for advising the Department of Natural Resources on issues relating to the management of the Kenai River Special Management Area. The Board addresses a great many issues relating to the health of the watershed and its habitat, water quality and recreational opportunities.

We strongly support the introduction of the Forest Legacy Program in Alaska, and have the several comments to offer for your consideration. While our Board is primarily interested in issues related to the Kenai River watershed, we also recognize the importance of other major watersheds on the Kenai Peninsula. We support the draft goals that have been proposed, and recommend that the FLP be focused on the following areas on the Kenai Peninsula:

- Kenai River watershed, as the first and highest priority
- Kasilof River watershed
- Ninilchik River watershed
- Deep Creek watershed
- Anchor River watershed

Each of these watersheds includes lands that clearly fit the criteria for lands that may be considered in the FLP. Additionally, maintaining the health and integrity of lands within these watersheds is important for sport and commercial fishing interests, recreation, quality of life and the economy of the Kenai Peninsula.



Kenai Area Office, Box 1247, Soldotna, AK 99669, Soldotna 262-5581  
Kenai Peninsula Borough, Box 850, Soldotna, AK 99669, Soldotna 262-4441

Alaska Division of Parks and Outdoor Recreation, Department of Natural Resources, in cooperation with the Kenai Peninsula Borough.



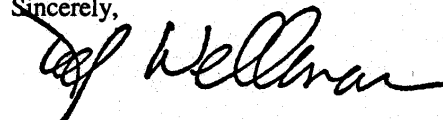


Ms. Evie Whitten  
May 6, 2002

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We will be interested in hearing how the FLP will be implemented in Alaska, and look forward to using this program to protect lands important to us on the Kenai Peninsula. Thank you for the opportunity to comment on this program.

Sincerely,

A handwritten signature in black ink, appearing to read "Ted Wellman". The signature is written in a cursive style with a large, sweeping initial "T".

Ted Wellman  
President, KRSMA Advisory Board

Cc: Director Jim Stratton, DPOR

## **Appendix C**

### **University of Alaska Lands & Mental Health Trust Lands: Special cases regarding the Forest Legacy Program in Alaska**

Both the University of Alaska (UA) and the Alaska Mental Health Trust (MHT) own land for the exclusive use and benefit of the University and Mental Health Trust Authority, respectively, and therefore, are not state public domain land. Both organizations are governed and operate like private intuitions. These two land owners are among the largest single holders of non-federal forest land in Alaska, and through the state land selection process, obtained numerous parcels with high economic value close to and within communities. Many of these parcels also have high ecological, subsistence and recreational values and are the focus of local and statewide conservation efforts. Indeed, of the twelve Forest Legacy projects suggested by the public at fourteen Assessment of Need outreach meetings in different communities, nine have been on UA or MHT lands.

The University Land Management office operates strictly under University of Alaska Regent's Policy. *Alaska Statute 38 05.030(F)* exempts UA lands from all the other provisions of *Title 38*, the Alaska statute governing the management and disposal of state-owned lands. UA Regent's policy dictates only that the Land Management office manage and negotiate the sale of land and resources to secure the highest financial return for the University. Unlike the Alaska Department of Natural Resources, the University of Alaska does not allow public access to UA lands, and *is not required to consider the best interest of the state* in making land management and disposal decisions.

The mission of the Mental Health Trust Land Office is twofold: (1) to protect and enhance the value of Alaska Mental Health Trust Lands; and (2) to maximize revenues from Trust Lands over time. Revenues generated from Trust Lands are used by the Alaska Mental Health Trust Authority to improve the lives and circumstances of Alaska Mental Health Trust beneficiaries. *Alaska Administrative Code 11 ACC 99.020* mandates Trust Lands be managed solely in the best interest of and for the maximum financial return for the Alaska Mental Health Trust and its beneficiaries. Trust Land Office activities are funded from Alaska Mental Health Trust income, not the state's General Fund. Further, *Alaska Administrative Code 11 ACC 99.140* stipulates that MHT lands shall be considered private lands under state and local statues pertaining to land management, including *AS 41.17* pertaining to Coastal Zone Management, and *AS 46.40* pertaining to the Alaska Forest Practices Act. The Alaska Mental Health Trust Authority owns close to one million acres, and approximately 75% is forested.

For further information visit the following websites:

<http://www.ualand.com/>

<http://www.dnr.state.ak.us/mhtlo/>

<http://touchngo.com/1glcntr/akstats/AAC/Title11/Chapter099.htm>