United States
Department
of Agriculture

Forest Service
R10-MR-47

September 2007

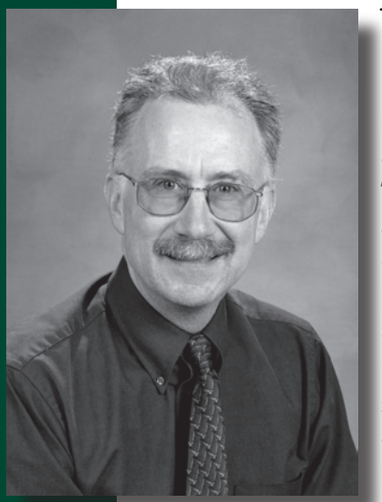
State and Private Forestry in the Alaska Region Accomplishments Overview 2006

U.S. Forest Service
State and Private Forestry
3301 C Street, Suite 202
Anchorage, AK 99503-3956
(907) 743-9455

http://www.fs.fed.us/r10/spf

Table of Contents

Message from Andrew Mason



We in Alaska Region State and Private Forestry are pleased to share with you this overview of our 2006 accomplishments. Through the primary programs of Cooperative Forestry, Fire, and Forest Health Protection, the 24 employees in S&PF deliver a wide range of technical and financial assistance that benefits many customers: forest landowners and managers, communities, and other citizens. The delivery of this important assistance would not be possible without our partnerships with the Alaska Division of Forestry, Denali Commission, Juneau Economic Development Council, University of Alaska Fairbanks Cooperative Extension Service, Alaska Energy Authority and with many other agencies and organizations statewide.

In this year's report, I would like to highlight two stories. The first is yellow cedar decline, a phenomena apparently caused by freezing associated with reduced snowpacks/climate change. The yellow cedar tree is not only of cultural importance to Alaska Natives, but also has a very high economic value. Over 500,000 acres in Southeast Alaska and additional adjacent lands in British Columbia are affected by yellow cedar decline. This report summarizes the outstanding research conducted by our shared S&PF-PNW (Pacific Northwest) Research Station Scientist Paul Hennon, who also serves as the Southeast Field Unit Leader for Forest Health Protection in Juneau.

The second story is about hiring Alaska's first statewide National Fire Plan Coordinator. The Alaska Division of Forestry, Kenai Peninsula Borough, Alaska Fire Service (BLM) and the Forest Service all agreed that we needed a single person that could help us coordinate, focus and report our combined national fire plan activities, particularly those activities aimed at reducing the risk of catastrophic fire to communities. Deb Cooper, former Seward District Ranger, Chugach National Forest, was selected and hired under Title IV of the Intergovernmental Personnel Act of 1970, and reports to the Chief of Fire for the Alaska Division of Forestry. This position was established for two years; Deb began her agreement in early 2006. Deb's three primary customer groups are the Kenai Forest, Wildfire Protection and Fuels Management Coordinating Committee; the Alaska Division of Forestry; and Department of the Interior agencies. Deb will provide assistance to federal, state, borough, Alaska Native organizations, communities and other citizens so that they can further accomplish the four goals of the National Fire Plan as stated in the Ten-year Comprehensive Strategy Implementation Plan (May 2002):

- Improve fire prevention and suppression;
- Reduce hazardous fuels;
- Restore fire-adapted ecosystems;
- Promote community assistance.

All agencies agree that the major focus is to reduce the risk from wildland fire to communities by facilitating collaboration at all levels of government.

As I close this letter, I have some personal news to share. I accepted a new position as the National Forester for the Natural Resources Conservation Service (two-year detail from Forest Service) and moved to Washington, D.C., in late April 2006. My wife Debbie and I have enjoyed our time immensely in Alaska and it has been an honor to serve you these past 4½ years as the Director of State and Private Forestry for the Alaska Region. Jim Fincher, Glacier District Ranger, Chugach National Forest, served as Acting Director until August 2007. Deb Cooper will follow as acting director behind Jim.

All who act as director of this organization look forward to serving the people and communities of Alaska, and the citizens who benefit from the Forest Service State & Private Forestry programs.

Sincerely,

Arlen C Mason

Cooperative Forestry Programs

Cooperative Forestry Programs

Cooperative Forestry programs provide financial and technical assistance to help Alaska's rural and urban citizens care for their public and private forest lands. We are able to provide a broad range of services to our customers due to the partnerships forged with the State of Alaska and many other agencies and organizations. The following are highlights of our accomplishments in Cooperative Forestry Programs in 2006.

Primary Target Outcomes
U.S. Forest Service Strategic Plan
FY 2004-2008

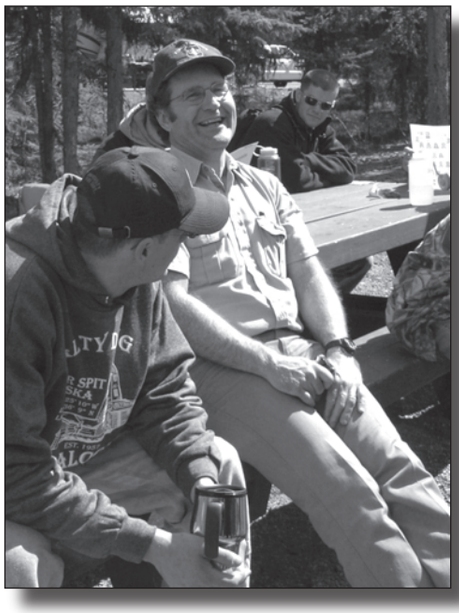
- Consider opportunities for energy development and the supporting infrastructure on forests and grasslands to help meet the nation's energy needs.
- Increase the area of forest and grassland watersheds in fully functional and productive condition.

Economic Action Programs

Primary Target Objectives
Alaska Region Strategic Business Plan
FY 2006-2008

- Stimulate commercial use of woody biomass from all land ownerships in Alaska for energy production.
- Support and assist in the year-round economic vitality and social well-being of the communities in Southcentral and Southeast Alaska and natural resource dependent communities throughout the state.

Economic Action Programs provide integrated rural community assistance and forest products conservation and recycling services to communities, tribes, organizations, agencies, and businesses so they can strengthen their local and regional economies, better manage environmental, economic, and social change, more effectively utilize forest resources, and accomplish forest land stewardship objectives.



Assistant Director Steve Patterson talks to students about natural resource issues.

Forest Products Conservation and Recycling Programs (FPC&R)

The purpose of FPC&R is to provide technology transfer, market development, and financial assistance services to entrepreneurs, small businesses, tribes, organizations, and state agencies. Sustainable market-driven methods are used to improve wood resource utilization, expand recycling and wood-in-transportation applications, and promote appropriate commercial use of non-timber forest products. Development of these products helps improve local and regional economies, restore forest health, reduce risk from wildfire, and achieve other forest land stewardship objectives.

- In 2006, the Alaska Region granted funds to the Juneau Economic Development Council to support a wood utilization specialist; this individual provided expert technical assistance to more than 200 customers statewide.

Woody Biomass/ Wood Energy Initiative

- In 2006, the Alaska Region continued its leadership of the Alaska Wood Energy Development Task Group (AWEDTG), a statewide partnership that includes 14 agencies/organizations. In 2006,

AWEDTG issued a request for statements of interest for feasibility studies on thermal wood heat pilot projects. Twenty-four applications were received, of which twelve were funded for feasibility studies. Both the Alaska Energy Authority and the Alaska Region provided funding to support these twelve projects. The results for the feasibility studies will be available in early 2007.

- In August of 2006 the results of the 2005 feasibility studies were published.

Communities that Received Financial Assistance for Wood Energy
2006 Feasibility Studies Underway

Applicant	Buildings in Study	Potential fuel displacement
Alaska Gateway School District	• Central Office Complex • Dot Lake School • Mentasta Lake School • Tok Multi-purpose Building • Northway School • Tanacross School • Tetlin School • Tok School	108,000 gallons
Copper River School District	• Cooper Center School • Kenny Lake School	26,000 gallons
City of Elim	• School/Gym/Cafeteria • City Offices • VPSO Office	38,000 gallons
Gulkana Village Council	• 6 Buildings	7,000 gallons
Haines Borough	• New K-8 school to be attached to existing High School	60,000 gallons
Klawock City School District	• Main School • Middle School • Native Art Building • Gymnasium	15,000 gallons
City of Kokhanok	• Village Council Buildings	4,300 gallons
Kuskowkwin Native Association	• Aniak Training Center • Association Offices	24,000 gallons
Mt. Sanford Tribal Consortium/ Chess'na Tribal Council	• Multiple Tribal Buildings	14,000 gallons
Northern Alaska Environmental Council	• Office	3,900 gallons
City of Tanana	• "The Circle" (residential area) • City Buildings • Tanana School • Washeteria • Clinic • Water Treatment Plant • Tanana Native Council Administrative Building and Elder Housing	125,000 gallons

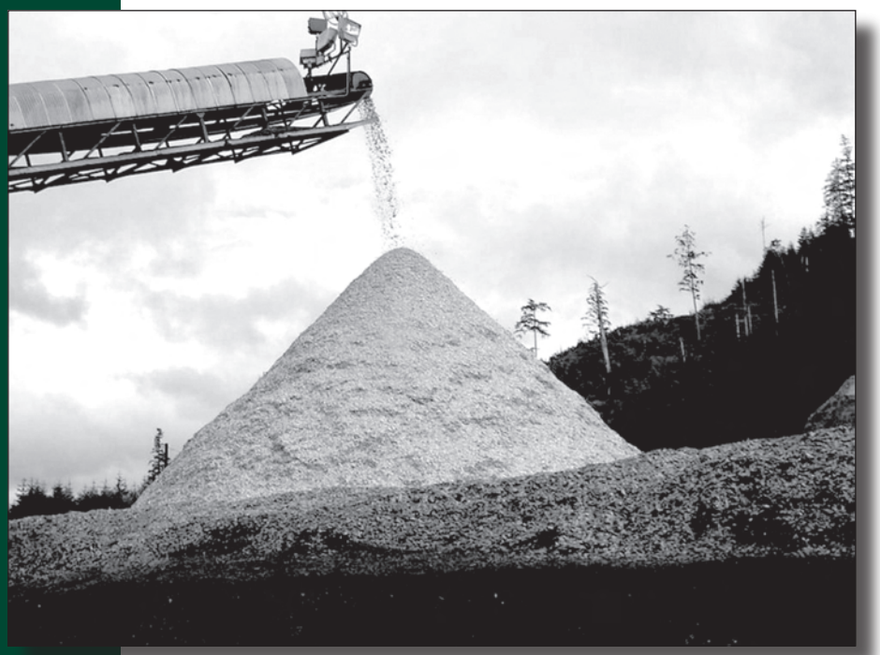
Congressional earmarks and special funding: $394,020 to Ketchikan Wood Technology Center for research support.

Landowner Assistance Programs

Primary Target Objectives
U.S.Forest Service Strategic Plan
FY 2004-2008

- Assess and restore high-priority watersheds and maintain riparian habitat within these watersheds.
- Maintain the environmental, social, and economic benefits of forests and grasslands by reducing their conversion to other uses.

About 20 million acres in Alaska, representing 10% of the State's land mass and one-quarter of its forests, are forested and privately owned and, therefore, eligible for Landowner Assistance Program funding. Landowner assistance programs, administered in partnership with the State of Alaska Division of Forestry, help private landowners protect, improve, restore, and maintain forest land. Programs include Forest Stewardship, Forest Land Enhancement, and Reforestation, Nurseries, and Genetic Resources. A fourth program, the Forest Legacy Program, is delivered through a partnership between the Alaska Region and the State of Alaska, Division of Parks and Outdoor Recreation.



Wood chip pile, Viking Lumber Company

Forest Stewardship

The Forest Stewardship Program provides natural resource management planning services to non-industrial private forest (NIPF) landowners to protect, maintain, enhance, and/or improve forest and watershed health, diversity, productivity, and sustainability. As a result, the public benefits from the reduced risk of catastrophic fire, increased protection of water quality, improved wildlife habitat and other values. In 2006, the Alaska Region granted $540,000 to the State Division of Forestry to assist with the delivery of the Forest Stewardship program in Alaska. Accomplishments this past year include:

- Forest Stewardship plan was completed by Yak-Tat Kwaan, an Alaska Native corporation of Yakutat, covering 17,152 forested acres. Regeneration, stand improvement, forest road maintenance, cultural sites, and wildlife habitat were important elements of the plans.
- Forest Stewardship planning grants were awarded to 6 ANCSA corporations covering 1,270,000 acres and obligating $188,000. Grantees were Afognak Joint Venture, Sealaska for Prince of Wales unit, Tetlin Village Council, Maserculiq of lower Yukon River village of Marshall, Gwitchyaa Zhee of Fort Yukon, and Leisnoi of Kodiak Island.
- For private lands in individual ownership, 84 Forest Stewardship plans were prepared and signed by landowners covering 1,644 forested acres.
- Spruce beetle kill aftermath continues to be a major forest issue for private forestland in Alaska. Technical assistance was provided to the Kenai Peninsula Borough Spruce Bark Beetle Task Force for forestry operations on NIPF lands.
- Alaska reforestation procured 371,000 seedlings from commercial nurseries and planted them on 1,748 acres. Planting occurred on State land for 8,400 seedlings on 23 acres, Alaska Native Corporation land for 340,000 seedlings on 1,650 acres, other private land for 22,600 seedlings on 75 acres. Pre-commercial thinning was completed on 5,535 acres of Alaska Native Corporation land, 29 acres of other private land, and 92 acres of state land. Pruning was completed on 25 acres of state land.

- In the wildland urban interface, 112 home inspections, plans, and cost-share agreements were prepared, and $149,516 was obligated. Of this 39 had Forest Stewardship plans prepared, and 73 had other forest management plans covering 81 acres. Final inspections were performed for 103 homeowners paying $124,196 and covering approximately 171 acres.
- Regeneration, Nurseries, and Genetic Resources funding has enabled progress in reforestation. State tree seed bank maintenance was supported, and seed was supplied to organizations requesting seed for reforestation seedling production. Cone collections from Montana Creek Native Association lands were obtained, processed, and seed was tested and put in cold storage. A white spruce direct seeding trial was installed in the Houston block of State land. A white spruce seed upgrading project was initiated in cooperation with the Division of Agriculture, Plant Materials Center. The international larch plantation was assessed for first year survival.

Forest Land Enhancement Program (FLEP)

Forest Land Enhancement Program Accomplishments in 2006

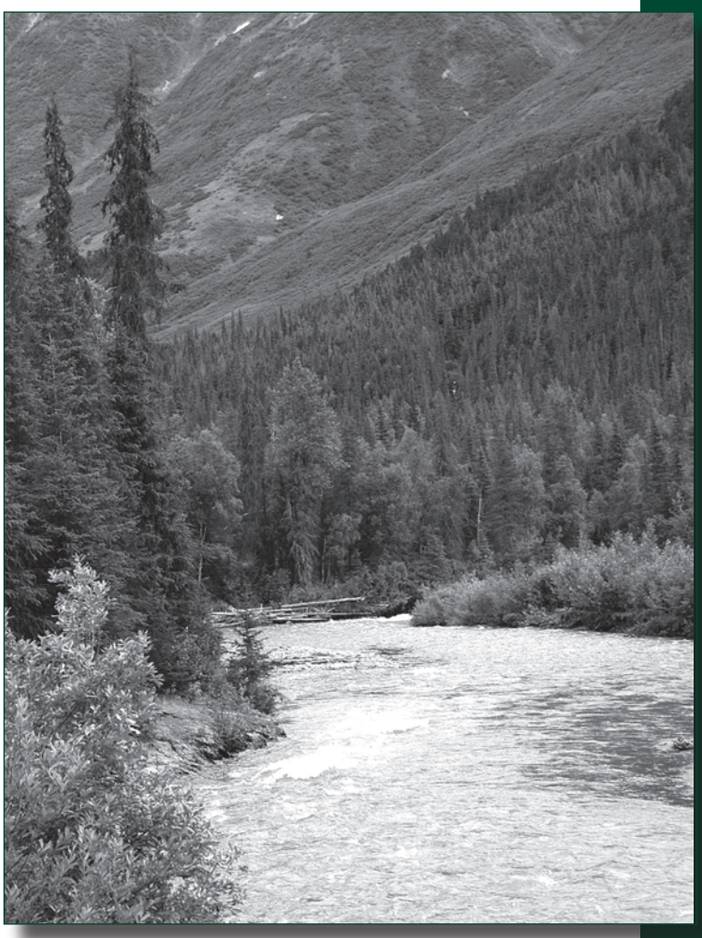
Practice	Projects	Acres
Afforestation & Reforestation: Planted	6	120
Wildfire fuel reduction	6	39
Stand improvements	8	466
Roads	1	1
Wildlife	1	1

The Forest Land Enhancement Program was authorized by Congress in 2002 to provide cost-share reimbursement services to non-industrial private forest landowners so they can protect, maintain, enhance, or improve forest and watershed health, diversity, productivity, and sustainability, resulting in public benefits. In 2006, the Alaska Region granted $187,921 to the State Division of Forestry to assist with the delivery of the FLEP program in Alaska.

Alaska has approximately 3.4 million acres covered by Forest Stewardship Plans. These lands are eligible for FLEP cost-share assistance. The FLEP program helps landowners accomplish thinning, reforestation, and hazardous fuel reduction, as well as other important practices such as road maintenance to protect salmon streams from siltation and treatment of hardwood forests to increase production of moose browse. The FLEP program assisted 43 landowners in 2006 by financing $479,646 of their projects costs.

Forest Legacy Program (FLP)

The Forest Legacy Program provides land purchase services to private landowners so they can protect environmentally important forest lands threatened by conversion to non-forest uses. FLP is implemented through a partnership between the Alaska Region, the State of Alaska, Division of Parks and Outdoor Recreation, and non-government



Bug killed trees in Moose Pass

and not-for-profit organizations. In 2006, the Alaska Region received notification that University of Alaska and Alaska Mental Health Land Trust property are eligible for the Forest Legacy Program. In addition, the Alaska program closed on the Gorman property (80 acres) located in the Wood-Tikchik State Park area near Dillingham. The state expects to close on the Diamond Creek project (275 acres) located near Homer in June 2007 and the Agulowak River Conservation Easement (1,183 acres) in Fall 2007.

Urban & Community Forestry Program

Primary Target Outcome
U.S. Forest Service Strategic Plan
FY 2004-2008

- Improve the productivity and efficiency of other mission-related work and support programs

The Urban and Community Forestry Program provides technical, financial, educational, and research services to communities. These services facilitate tree management with activities such as planting, protection and maintenance of community trees and forests, and utilization of wood from these trees, to maximize environmental, social and economical benefits. Trees are also managed to improve the quality of life for community residents by enhancing aesthetics, improving air quality, reducing storm water runoff, reducing the heating and cooling cost of buildings, and providing habitat for urban wildlife. The Alaska Region partners with the State Division of Forestry to deliver the Urban and Community Forestry Program. In 2006, the Alaska Region granted $198,000 to the Division to assist with the delivery of this important program.

Over 458,000 Alaskans live in communities with the potential to have community forestry programs. As of 2006, roughly 85% of these citizens reside in communities that have "managing" or "developing" community forestry programs. A "managing" community has all four of the following components, whereas a "developing" community has one or more: professional forestry staff, tree ordinance, management plan, and/or advisory or advocacy group. Six years ago, less than 3% of Alaskans lived in communities with managing or developing community forestry programs. Currently, Alaska has six Tree Cities USA and the three largest electricity utilities are recognized as Tree Lines USA.

The Alaska Community Forestry Program benefited from the 1,930 hours of work donated by volunteers for non-profit work, Arbor Day celebrations, tree plantings, and tree maintenance activities. City officials, employees, and private citizens were provided 1,368 hours of training in 2006. Division of Forestry staff provided 26 technical assists to agencies, local governments and businesses.

John Henshaw, Forest Legacy Program Manager, leads Kachemak Heritage Land Trust staff to visit a project at Diamond Creek.

ts:

- The **Community Forestry Program** hosted the Pacific Northwest Community Tree Conference in Anchorage May 17-19. Co-sponsors included the Alaska Community Forest Council, Washington and Oregon's Community Forestry Programs, U.S. Forest Service, University of Alaska Cooperative Extension Service, International Society of Arboriculture Pacific Northwest Chapter, American Society of Landscape Architects Alaska Chapter, Chugach Electric, Golden Valley Electric, and the Municipality of Anchorage. Sixty-two people

attended training and field trips. The public was invited to an opening reception and presentation, and guest speakers made additional presentations to Anchorage municipal employees. Eighteen volunteers donated 223 hours to organize and hold the conference.

- The **UCF Program** provided scholarships to three municipal employees to attend the 40-hour Municipal Foresters Institute and to take the ISA Certified Arborist Exam and a year's membership in ISA and the Pacific Northwest Chapter.
- **Citizen Advisory and Advocacy Organizations**: Anchorage TREErific secured a grant from the Anchorage Parks Foundation to fund equipment purchases of equipment and trees for tree planting and maintenance projects. It sponsored monthly educational presentations or field trips and maintained plantings done previous years. Homer Tree Stewards held an Arbor Day planting, bought pruning and safety kits for use in pruning and maintaining street trees. The Juneau Urban Forestry Partnership sponsored Arbor Day events, wrote and printed a pamphlet, Juneau Tree Walk, and a Guide to Downtown Trees, which is used for guided and self-guided tours, and developed a poster and display for use at public events. The Sitka Tree and Landscape Committee organized volunteer planting and maintenance events and developed a brochure, Right Tree Right Place, which will be distributed to residents in utility bills.

2006 Urban & Community Forestry Grant Recipients

Craig Middle School for tree planting and maintenance	$900
Homer Tree Stewards/Soil & Water Conservation District for tree pruning tools	$1,310
City of Hoonah for tree planting and Arbor Day	$1,200
Metlakatla Indian Community for tree planting and Arbor Day	$1,500
City of Wasilla for tree planting, poster contest, & Arbor Day	$1,500

Anchorage TREErific volunteers install moose fencing at Abbott Loop Park Tree Planting.

The Alaska Northern Forest Cooperative

S&PF Staff Assisted with Hardwoods Conference

S&PF staff provided significant assistance to the Alaska Northern Forest Cooperative's (ANFC) very successful fall workshop in October 2006, *Hardwood/ Deciduous Tree Management*, held at the Lake Lucille Inn near Wasilla. Forest Health Protection staff presented on the following topics:

- Amber-Marked Birch Leaf Miner Update—John Lundquist
- Fungal Pathogens of Deciduous Trees and Their Management—Lori Trummer
- Update of Deciduous Tree Defoliators—Jim Kruse

Asst. Director Steve Patterson also moderated one of the sessions. The conference included a field trip to review birch milling, insect and pathogens affecting hardwoods, birch syrup production, thinning trials, regeneration studies, ruffed grouse habitat improvement, and a stop at the Birch Grove Farm to review the work accomplished by the landowner under a Forest Stewardship Plan.

For more information about Forest Vegetation Simulator (nationally supported by the Forest Service): http://www.fs.fed.us/fmsc/fvs/description/index.shtml

For more information about the Alaska Northern Forest Cooperative and its activities go to: http://www.uaf.edu/ces/aknfc/index.htm.

Development Started on Boreal Forest Growth and Yield Model

S&PF staff also helped ANFC and the University of Alaska Fairbanks host a successful workshop in May 2006, to inform participants about the Forest Vegetation Simulator (FVS) and help them understand what would be needed to develop and support a FVS variant for the northern boreal forest. The FVS growth and yield modeling tool and its extensions (e.g., Fire and Fuels, Insects, Pathogens) and visualization tools (e.g., Stand Visualization System) are used throughout many forested regions in the United States and Canada for project-level planning, landscape analysis, forest health assessments, forest plan revisions, inventory updates, and wildlife habitat evaluations. The Fire and Fuels Extension allows for simulations of fire behavior, fire effects, fuel loading, and snag dynamics.

Workshop participants were very interested in supporting the development of a FVS variant for the northern boreal forest and showed their commitment by agreeing to provide forest inventory data to FVS development staff at the Forest Management Service Center in Fort Collins, Colo., by January 2007. A technology development agreement (MOU) for the project will soon be signed by six agencies/organizations: University of Alaska Fairbanks, Bureau of Indian Affairs, Bureau of Land Management, Tanana Chiefs Conference, Alaska Division of Forestry, Fort Wainwright, and Forest Service (Alaska Region, Pacific Northwest and Rocky Mountain Research Stations, Forest Mgmt. Service Center). A working variant is expected to be ready for testing by December 2007 (with a climate change option). A fire and fuels extension to the variant is planned for development in 2008.

Denali Commission

Denali Commission

Congress created the Denali Commission to improve the delivery of government services, provide job training and economic development, and improve public infrastructure in rural Alaska through an innovative federal-state partnership. The primary focus of the Commission has been on energy projects (bulk fuel facilities and rural power system upgrades), health care facilities (clinics), and training. Congress added a new transportation role to the Commission's portfolio in August 2005 through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which authorizes the federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

The Commission leverages its resources by borrowing staff from other agencies, delivering programs through partnerships with other agencies and organizations, and by intergovernmental coordination and cost sharing. Today, 14 State of Alaska agencies, 19 federal agencies, and a growing list of Native nonprofit organizations have committed, through signed agreements, to working together with the Denali Commission on behalf of rural Alaska.

Economic and Community Development

The Alaska Region provides a staff person to the Commission through an interagency agreement. Paul McIntosh serves as liaison between the Commission and the Region, and manages the Commission's Economic Development Programs and the Multi-Use Facility Program, and represents the Commission on the Alaska Wood Energy Development Task Group.

- The **Mini-Grant Program** provides grants up to $30,000 through Alaska Department of Commerce for community planning and economic development projects. The program has been co-funded by the Forest Service since Commission funding began. However, in FY 2005 and FY 2006, Forest Service funding was not available.

  Project selections for $400,000 in FY 2005 funds were made in early FY 2006. Six of the 12 projects selected for funding were located in Tongass National Forest communities.

  The Denali Commission contributed $500,000 to the Mini-Grant program in FY 2006, which attracted 44 total grant applications. Of the 37 applications that passed the initial threshold review, 17 of them came from Tongass (10) and Chugach (7) national forest communities. Of the 17 grants awarded from FY 2006 funds, five went to Tongass communities and four went to Chugach communities.

  For program details, see http://www.commerce.state.ak.us/dca/grt/minigrant.htm or contact Jo Grove, (907) 451-2716, or jo_grove@commerce.state.ak.us.

- The **Alaska Growth Capital (AGC) Program** provides loans to businesses in Alaska's most economically distressed communities. In 2006, AGC issued $8,171,000 in business loans for land purchase, building construction, working capital, debt refinancing, and other uses. AGC also conducted 60 technical assistance engagements.

  Since the Commission's first investment in the program, AGC has provided more than $34 million in loans to businesses in the most economically distressed areas of Alaska, including many businesses in national forest communities. For more information, see http://www.alaskagrowth.com/, or contact Jeff Batton, (907) 339-6760, or jbatton@alaskagrowth.com.

- The **Initiative for Accelerated Infrastructure Development** is a community mapping effort co-funded by several federal, state, and private organizations and delivered by the Alaska Department of Commerce, Community and Economic Development (Department) to accelerate mapping of rural communities across Alaska to facilitate community planning and infrastructure development.

  In FY 2006, the Department completed maps for 25 communities in the Bristol Bay Native Association area (10) and the Kawerak area (15). Work continued on maps for 42 communities through the following partners: Tlingit Haida Regional Housing Authority (11), Coastal Villages Region Fund (14), Aleutian / Pribilof Islands Association (4), North Pacific Rim Housing Authority (4), and Copper River Basin Regional Housing Authority (9). The Department also initiated new projects with the Bris-

tol Bay Borough to map 3 communities, and Yukon Delta Fisheries Development Association to map 10 communities.

Department staff continues to actively reach out to entities that may wish to partner with the Department to develop new community profile maps of their communities. For more details, see http://www.commerce.state.ak.us/dca/grt/iaid/iaidhome.htm, or contact Ruth St. Amour, (907) 269-4527, ruth_st.amour@commerce.state.ak.us.

- The Commission provided the initial funding to the Alaska Department of Commerce for a new **Alaska Marketplace Program**, a competition of entrepreneurial/business ideas, modeled after the Development Marketplace program of the World Bank. The program, led by the Alaska Federation of Natives (AFN), provides funding and technical assistance as an incentive to develop and implement sustainable business ideas that will help grow the economy and reduce poverty in rural Alaska communities statewide.

  The Commission contributed $275,000 (FY 2005 funds) to the program, and AFN secured another $500,000 from other sources. AFN launched the program at their October 2005 convention in Fairbanks. Short, simple concept papers were submitted by 146 applicants by the December 15, 2005 deadline. Finalists were selected in February 2006. In April 2006, all the finalists presented their plans to a jury of experts at the Alaska Marketplace event in Anchorage. Twenty two entrepreneurs received a total of $478,000 to advance their business ideas. They also were given access to a year of expert mentoring. Two of the winners were from Tongass communities and three were from Chugach communities. For more information, see http://www.alaskamarketplace.org/, or call (907) 274-3611.

- The **Multi-Use Facility Program** is designed to encourage the consolidation of essential community services, eliminate the duplication of services and increase the efficiency with which services are delivered in rural Alaska. The Alaska Department of Commerce, Community and Economic Development, Division of Community Advocacy (Division) partners with the Commission to deliver the program.

  The Division used funds carried over from the FY 2005 appropriation to initiate the FY 2006 program. By the end of FY 2006, the review panel had not met to review and score the applications. Decisions on the 2006 projects would be made in December, 2006. The Division continues to manage planning, design and construction projects funded through previous grants. For more program details, see http://www.commerce.state.ak.us/dca/multi_use.htm, or contact Athena Logan, (907) 269-4540, or athena_logan@commerce.state.ak.us.

- **Alaska Wood Energy Development Task Group**
  The Commission joined the Alaska Wood Energy Development Task Group in 2006 and assigned McIntosh as its representative. The Commission contributed $300,000 through its energy program toward the development of the Craig Wood-fired Boiler project and participated in the ground breaking ceremony in August 2006.

For more Information please contact: Forest Service Liaison to the Denali Commission, (907) 271-1640.

For more detailed Commission project information, see www.denali.gov, and click on Project Database.

- Includes communities within a national forest boundary or within 100 miles of a national forest boundary.
- A number of FY 2006 grants awarded to applicants in early FY 2007.

Fire Management Programs

Fire Management Programs

National Forest System Incident Support During the 2006 Fire Season

Target Outcome:

- Reduced risk to communities and the environment from catastrophic wildland fire by improving the health of the nations forests and grasslands

Alaska's state and private land base is more than 135 million acres. Fire protection on these lands is the responsibility of the State of Alaska. Of the state's 626,932 people, about 49% of them live outside municipal boundaries or in communities of less than 10,000 people. These people depend upon state and rural and volunteer fire departments for wildland fire protection. Funds are provided by the federal government through Cooperative Fire Programs and the National Fire Plan (NFP) to address critical fire management needs in state and private fire protection responsibility areas. Assistance is provided in three specific program areas: State Fire Assistance (SFA), Volunteer Fire Assistance (VFA), and Federal Excess Personal Property (FEPP).

In 2006, $665,900 of State and Private Forestry funds and $361,000 of NFP funds were granted to the state to support fire preparedness and suppression efforts. This year, 50 rural and volunteer fire departments received $131,000 of Volunteer Fire Assistance funds and $269,000 of NFP Volunteer Fire Assistance funds. These funds benefited 34 rural communities across the state.

Alaska's first statewide National Fire Plan Coordinator was hired through a cooperative agreement among the Division of Forestry, Alaska Fire Service/BLM, Kenai Peninsula Borough, and Forest Service. With a focus on reducing the risk of wildland fire to communities, the coordinator is leading and facilitating interagency implementation of the All Lands/All Hands Action Plan; working with other local, state, and federal agencies to adopt an "All Lands/All Hands" approach in other geographic areas of Alaska; and coordinating statewide FIREWISE activities.

To reduce the risk of catastrophic wildland fire on the Kenai Peninsula in 2005 and 2006, the eight "All Lands/All Hands" agencies together treated 5,900 acres of high priority hazardous fuels and completed 10 Community Wildfire Protection Plans for 24 communities.

Program Description

The risk of loss from wildland fire is at an all time high on Alaska's Kenai Peninsula following a one million acre spruce bark beetle epidemic that poses a real threat to 51,200 residents, 26,000 residential structures, and $2.7 billion of assessed property value (located in 15 community census areas with either an extreme or high wildfire risk rating). In recognition of this risk, eight agencies (Kenai Peninsula Borough, Alaska Division of Forestry, Kenai National Wildlife Refuge, USDA Forest Service, Bureau of Land Management, Bureau of Indian Affairs, Chugachmiut, and Kenai Fjords National Park), collaboratively developed the All Lands/All Hands Action Plan for 2005-2009, which identifies and schedules the highest priority hazard mitigation projects.

Program Performance

Region 10's Chugach National Forest exceeded its assigned hazardous fuels treatment targets in both FY 2005 and 2006. In FY 2005 and 2006, the eight "All Lands/All Hands" partner agencies together accomplished about 5900 acres of hazard mitigation and completed 10 Community Wildfire Protection Plans that cover 24 extreme or high risk communities. In FY 2007, the Chugach National Forest will accomplish its assigned hazardous fuels targets and continue to collaboratively work with the other seven agencies to plan and implement the highest priority projects in the All Lands/All Hands Action Plan.

Hazardous Fuels Reduction Program on Alaska's Kenai Peninsula

Issue: Hazardous fuel reduction remains a top priority on state, private and federal lands impacted by the spruce bark beetle on Alaska's Kenai Peninsula, including the Chugach National Forest.

Hazardous Fuels Management	FY 2005 Enacted	FY 2006 Enacted	FY 2007 Pres. Budget
Funding	$1,919,000*	$905,580	$794,000
Target Hazardous Fuels Reduction Program	1,500 acres	600 acres	600 acres
Actual Hazardous Fuels Reduction Program	1,506 acres	613 acres	
Target Veg Management Program (Secondary Benefit)	100 acres	500 acres	625 acres
Actual Veg Management Program (Secondary Benefit)	1,051 acres	875 acres	
Wildland Fire Use & Hazard Mitigation Grants (estimated)	0 acres	1,148 acres	

** $ in thousands*

Program Highlights

- The Forest Service's Alaska Region and seven other agencies are successfully using an "All Lands/ All Hands" approach on Alaska's Kenai Peninsula to mitigate the impacts of a one-million-acre bark beetle epidemic that poses a very serious wildland fire threat to many Kenai Peninsula communities.
- Together, in FY 2005 and FY 2006, the eight "All Lands/All Hands" agencies have treated 5,900 acres of high priority hazardous fuels and completed ten Community Wildfire Protection Plans for 24 extreme or high risk communities.

Critical Questions & Answers

Q: Why are treatment costs so high as compared to similar treatments in other states?

A: Many of our treatment areas are located within the wildland urban interface near private structures and must be treated mechanically or by hand. Due to the degraded condition of the dead spruce and lack of wood processing infrastructure there is little or no market for the wood. Also, service contract costs have always been higher in Alaska and many of the acres that are easy to treat have already been treated.

Q: Did the recently completed Community Wildfire Protection Plans (CWPP) identify additional acres that need to be treated?

A: Yes, several of the CWPPs expanded the WUI area around their communities.

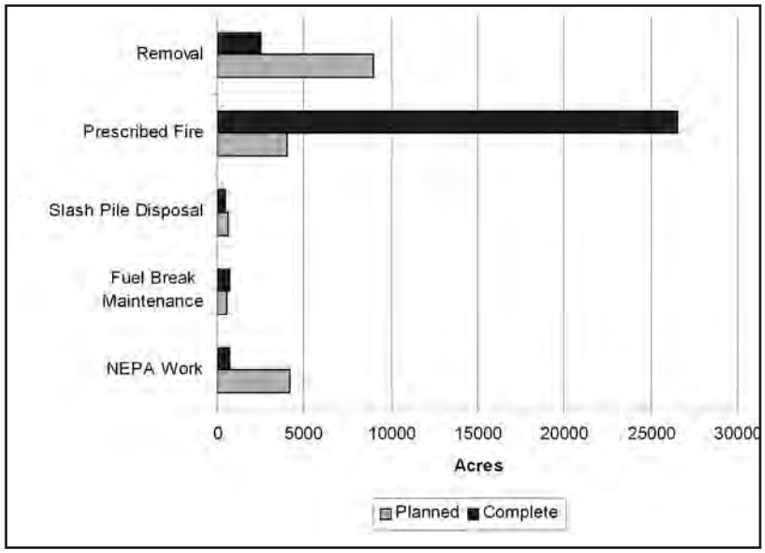
Program Potential

- Five percent additional funding would not increase accomplishments above the 600 acres per year of hazardous fuel treatment planned by the Alaska Region on the Chugach National Forest.
- A five percent reduction in funding would likely reduce our planned accomplishment below 600 acres annually. These are high-cost acres that require mechanical/manual treatment and there are very limited opportunities to reduce costs through utilization for solid wood products or biomass.

The Kenai Peninsula Interagency Mitigation Program accomplishments for FY 2006 include a total of 2,292 completed acres of fuel mitigation work. Also major effort was placed on the completion of ten Community Wildfire Protection Plans covering 25 extreme and high risk communities. The very wet summer and fall conditions made it impossible to accomplish the planned prescribed burns this year. The col-

laborating agencies were able to complete 41% of the planned wildfire mitigation work this last year even though there were poor market conditions and wet weather.

It should also be noted that the State of Alaska and the Kenai Peninsula Borough have a total of 9,323 acres of dead spruce prepared for sale in prior years that have not been purchased under existing market conditions. These sales continue to be available "Over The Counter" or are available to be rebid. Some areas with high risk will likely be treated with buffer zones if no market exists for the products. The State Department of Natural Resoruces withdrew several sales from planned offers this year because none of the unsold sales were purchased under existing limited markets.



Some of the high-risk areas given priority this year were Kenai, Anchor Point/Homer, and the Hope/Sunrise area. The Hope/Sunrise area has seen extensive beetle activity the last 3 years. The State Division of Forestry, the Kenai Peninsula Borough, and the Chugach National Forest initiated mitigation contracts in the Hope area in 2005 and 2006. Work in that area will likely continue into FY2007 and FY2008.

Cooperative Fire Protection Program

Target Objective:

- Assist 2,500 communities and those non-National Forest System lands most at risk with development and implementation of hazardous fuels reduction and fire prevention plans and programs.

Cooperative Fire Program and National Fire Plan funding provide the State with the opportunity to address critical fire management needs. This includes the development of preparedness capabilities to respond to initial attack for fire suppression within the state fire protection responsibility area, wildland urban interface, and fire prevention. The Cooperative Fire Program and National Fire Plan require that states meet certain accountability requirements, in addition to reporting requirements of the grant process.

State Fire Assistance for Cooperative Forestry and National Fire Plan (SFA)

The Forest Service provides financial support and technical fire program assistance to the State of Alaska fire protection organization through the State Fire Assistance Program to enhance the firefighting capacity of state, local, and rural fire protection organizations. Funds may be passed to organizations approved by the State to conduct special projects. These not only include assistance to local fire agencies, but community-based wildfire hazard mitigation efforts, fire plan development, and fire adapted ecosystem restoration. Grants provided under the program are on a 50-50 cost share basis and allow state and local matching funds to leverage the federal investment.

There are two primary areas of emphasis:

- Preparedness–Increase the ability of local, rural, and state organizations to provide coordinated fire protection and mobilization for fire suppression on both federal and non-federal lands.

  The Division of Forestry provided a variety of training courses for their firefighters in 2006 including: Basic Firefighter; First Aid; Hazardous Materials for First Responders; Hazardous Materials Aviation Transportation; Commercial Drivers; Annual Fireline Refresher and other interagency courses and management training. This usually represents over 2,000 persons who attend a variety of fire management courses each year.

- Hazard Mitigation and Fire Planning–Supports state coordinated hazard mitigation activities in the wildland-urban interface, focused on reducing property loss, decreasing fuels hazards, and increasing public awareness, developing fire plans and citizen-driven solutions in rural communities.

  The State completed 110 acres of hazardous fuels treatment on state-owned lands adjacent to Chugach National Forest lands. These acres are located within the wildland urban interface areas near the communities of Moose Pass, Hope and Sunrise.

Volunteer Fire Assistance for Cooperative Fire and National Fire Plan (VFA)

The Volunteer Fire Assistance (VFA), formerly known as the Rural Community Fire Protection program, is administered by state forestry agencies through 50-50 cost-sharing grants to local fire departments located in rural communities. The program's main goal is to provide federal financial, technical and other assistance in the organization, training and equipping of fire departments in rural areas, defined as having a population of 10,000 or less. This 10,000 population limit for participation in the VFA program facilitates distribution of available VFA funding to the neediest fire departments.

VFA Matching Pass through Grants - $66,400.00

These funds were originally intended for the warehouse supply grant program. The one-time VFD warehouse supply grant program distributed over $67,000 in wildland firefighting supplies and equipment to volunteer fire departments. These remaining funds of $66,400.00 from federal 2003 SPS3 were used towards CY 2006 VFA matching, pass through grants. In early May of 2006 an interagency committee met to award 2006 VFA and FFA funding. Checks were distributed within approximately 120 days of award date. Two grans provided $38,500 in SPS3 funds and $86,00 in SPVF funds, for a total of $191,479.92 in CY06 VFA pass through grants.

Volunteer Fire Assistance Grants—2006

FIRE DEPARTMENT	AWARD
Anaktuvuk Pass	$260.00
Akutan	$950.00
Atqasuk	$260.00
Barrow	$260.00
Bear Creek	$2,400.00
Big Lake	$7,500.00
Butte	$7,500.00
Chena Goldstream	$5,820.00
Chignik Bay	$7,229.00
Chugiak	$5,667.69
Delta Junction	$6,247.00
Dillingham	$7,500.00
Ester	$7,500.00
Galena	$1,923.00
Hollis	$7,500.00
Homer	$7,500.00
Hope/Sunrise	$2,500.00
Houston	$6,688.98
Igiugig	$4,410.00
Kaktovik	$260.00
Klawock	$846.00
Lowell Point	$7,500.00
McGrath	$5,000.00
Meadow Lakes	$7,500.00
Nikiski	$4,850.00
Ninilchik	$6,610.00
North Pole	$7,425.00
Nuiqsut	$260.00
City of Palmer	$7,500.00
Point Hope	$260.00
Point Lay	$260.00
Sapa	$1,721.17
Seward	$5,513.00
Steese	$7,500.00
Sutton	$5,411.88
Tok	$6,742.00
Tri Valley	$6,750.00
Valdez	$6,721.20
Wainright	$260.00
Total	**$191,478.92**

Fire Prevention/Firewise

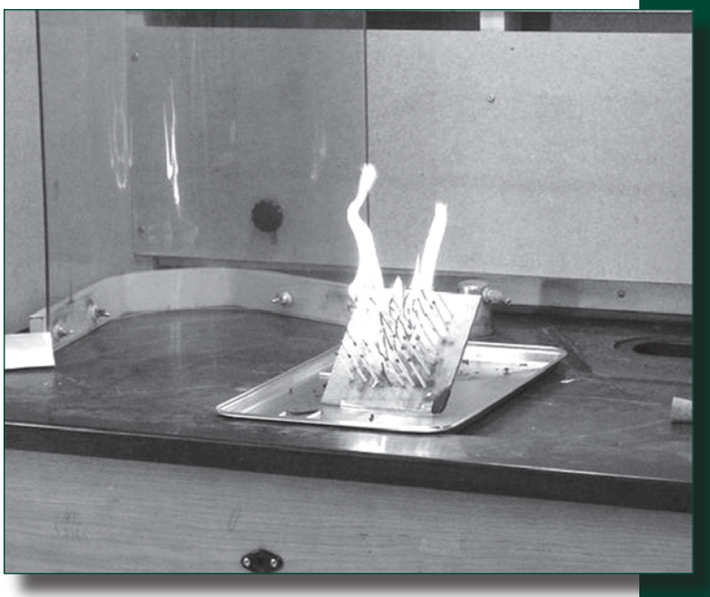
The Forest Service is actively involved in statewide Alaska Firewise and fire prevention programs as a member of the interagency Alaska Wildland Fire Coordinating Group. The Firewise program helps teach local communities and homeowners how to protect their homes and businesses from wildfire.

The Conservation Education Program, administered by the State Division of Forestry brought lessons about the natural world to hundreds of teachers and more than a thousand students in a dozen Alaskan communities in 2006.

The state's Conservation Education effort revolves around three major programs: Project Learning Tree, Fire in Alaska, and Tapping into Spring.

Project Learning Tree is a national program sponsored by the American Forest Foundation. It provides curriculum that helps teachers and students bring the environment into their classrooms and their classrooms into the environment. The state provided nine 15-hour-credit workshops to teachers throughout the state in 2006. In all, 145 Alaskan educators successfully completed this training where they had fun while experiencing interactive and practical lessons aimed at incorporating the natural world into their classrooms.

Fire in Alaska is a relatively new education program begun in 2002 that has experienced tremendous success in educating teachers about the role of wildland fire in Alaska. A 15-hour fire class uses lessons about fire ecology, fire behavior, fire management, and living with fire in the wildland-urban interface. Many of these lessons involve laboratory experiments, simulations, role-playing, and games. Over the past year, 154 Alaskan educators completed the training.



An experiment called "match stick forest" is used in Delta Junction to teach about the dangers of wildland fires in Alaska.

Tapping into Spring introduces third graders in Southcentral Alaska to the wonders of the forest with a two-day, field-based outdoor experience that culminates with collecting birch sap and creating a bit of syrup. For the past four years, six classes per year have been selected to participate. Students learn about the role that forest products play in our daily lives, the basics of tree anatomy, and about the factors that govern tree growth in our ecosystem.

McGrath, Homer, Palmer, Fairbanks, and Nondalton are just a few of the communities hosting PLT, Fire in Alaska, and/or Tapping into Spring activities. Well over a thousand students and 299 teachers from all across the state participated in and benefited from state-sponsored natural resource education in 2006.

Forest Service Line Officer Requirements

Agency administrators must be prepared to make critical and informed management decisions related to land and resources under their span of authority during a wildfire incident. Classroom training is the most common form of knowledge that an agency administrator receives, but many agency administrators lack the experience in the "practical" application of a real wildfire incident.

Two less experienced agency administrators from the Tongass National Forest were able to apply classroom training to actual large and/or complex wildfire incidents. They were given a "shadow assignment" with an experienced agency administrator coach on the coach's unit. This exposure will better prepare them to oversee a similar event in the future.

Following are the experiences that both agency administrators received during their assignment.

Pete Griffin

I just returned from a terrific agency administrator shadow assignment in R6. I shadowed District Ranger Bill Anthony (Deschutes NF, Sisters RD) on the Black Crater Fire. This fire originated in Wilderness and grew to nearly 10,000 acres. It forced the evacuation of two housing developments and a Type I team (Southern Area IMT- Blue Team) was handling the incident. I attended daily briefings (incident action plan, night shift plans, public meetings) with Bill. I watched Bill as he worked with the IMT to keep costs down, meet objectives, and provide for a transition to a Type II (or Type III) team in the not too distant future.

When Bill took a day off as required by work rest guidelines, I spent a half day with the IMT and then transitioned myself to the Ochoco NF, Lookout Mountain RD, where Ranger Art Currier was the agency rep for Agency Administrator Jeff Walter (forest supervisor) on the Maxwell Fire. This fire also began in Wilderness and was also an interagency undertaking with the Oregon Department of Forestry (which has different objectives in fire mgt). Again, I attended daily briefings at the incident command post and learned the fine art of "schmoozing" from a master. This fire included three land use agreements for helicopter bucket dipping and a helibase. While the IMT (Washington State Interagency Team II) negotiated the land use agreements, Art had laid the groundwork for those possibilities well in advance (as in years before). As a result, those agreements were made swiftly, and in the case of the dip sites, at no cost. I found that the incident business advisors on both incidents were providing really valuable oversight in maintaining reasonable costs. Both fires at the time of my departure were projected to exceed $10 million meaning the wildland fire situational analyses would have to be approved by the regional forester.

The IMTs on both fires did a good job explaining costs to the agency reps. I was in on the close out for the outgoing IMT on the Maxwell Fire as well as the brief-in for the incoming IMT, and watched how the agency reps laid out the objectives for managing the fire. In all, it was a terrific assignment in an ecosystem that I'd had very little experience. I saw wild horses (took pictures) and added a species to my life list. Saw some recreation facilities, including the High Desert Museum and the Newberry National Volcanic Monument, both south of Bend. I spent some time reading the 14 monuments at the Firefighters Memorial in Prineville. And along the way, got to talk to fellow rangers about a lot of things other than fire. That was a very good thing.

Patricia Grantham

I had the opportunity to serve in an agency administrator shadow assignment on the Tripod Fire Complex near Okanogan, Wash. in early August 2006. The person I was shadowing was District Ranger Mark Morris. I was especially fortunate to be assigned to this particular incident, as it was the largest event being managed in the US at the time, with significant complexity, two Type I teams managing it (the fire was so large that it was cut in half in a north-south line), other agencies involved (Washington State DNR), an area command in place due to this large fire and several smaller ones and two fire use events being managed, and great community interest. My experience was absolutely terrific. I had been out of the fire game since coming to Alaska in 1992, so it was an eye opener regarding new protocols and yet it was something of getting back on a bicycle after being off one for many years - it all came back. The Wenatchee-Okanogan NF's were extremely supportive of my presence and welcoming and made my experience extremely high quality. I cannot say enough about the skills and professionalism of District Ranger Mark Morris, the person I shadowed. Mark has a significant fire background and an excellent working relationship with local communities due to his long tenure in the area. I could not have been matched to a more qualified mentor.

It was a great experience and I highly recommend it to other rangers. It was one of the most worthwhile trainings I've attended in quite sometime.

For more information, contact: Pete Griffin, (907) 789-6244, or pgriffin@fs.fed.us, or Patricia Grantham, (530) 841-4502 or pagrantham@fs.fed.us.

Forest Health Protection Programs

Forest Health Protection Programs

Primary Target Outcome

- Improve the health of the nation's forests and grasslands by reducing the impacts from invasive species.
- Increase the area of forest and grassland watersheds in fully functional and productive condition.

Annual Forest Health Protection Coordination Meeting

Forest Health Protection (FHP) Program staff work to protect Alaska's forest and tree resources from damaging outbreaks of insects, diseases, and invasive plants, enabling federal, state, and private land managers to prevent, suppress, and control outbreaks of forest pests. FHP provides, directly, or via partnerships, contracts or agreements, survey and monitoring information, and technical and financial assistance. FHP also aims to help maintain, enhance, or restore healthy forest conditions, and works to detect and eradicate newly introduced exotic organisms through partnerships with the USDA Animal and Plant Health Inspection Service and State agencies.

Information dissemination is an essential part of the FHP program. FHP staff develops and maintains the primary forest insect, disease, and invasive plant reference book, letter, report, and reprint library for Alaska, an insect collection that documents nearly 100 years of field collections, and a database that documents the insect species, host, location, dates of insect pests found in Alaska. These serve as the largest source of original information on forest insect pests in Alaska. Over 50 pest or plant-specific brochures and a bibliography of nearly 100 years of forest health publications have been developed specifically for Alaska. All of our publications are available free of charge both in hard copy and/or on our website at http://www.fs.fed.us/r10/spf/fhp.

Following are some of the other highlights from our most important cooperative activities in the Forest Health Protection Program.

General Surveying and Monitoring Work

Aerial and Ground Detection Surveys for Insects, Diseases, and Invasive

Plants—In 2006, the aerial detection survey continued to be the primary tool for forest disturbance detection in Alaska. We identified 31 distinct insect, disease and abiotic disturbance agents across the vast state of Alaska, many of which have a narrow temporal and biological window for detection. During approximately four weeks in July, seven Forest Service and State of Alaska, forest health specialists surveyed 33 million acres from Dixon Entrance and Bristol Bay in the south to Kotzebue Sound and the Arctic National Wildlife Refuge in the north.

We based flights out of Fairbanks, Anchorage, Juneau and Wrangell, while two route flights were conducted to get a sampling of remote interior regions of the state. These flights were all conducted with automated flight following, providing positive position information on our crews 100% of the time. In addition to the required regional aviation user trainings, five aerial survey specialists attended Aerial Survey Aviation Safety Management (AS2M) training in efforts to maintain certification as a Fixed Wing Manager–Special Use.

While the aerial detection survey is by far the most economical method for collecting an annual picture of the significant disturbance agents, we are exploring other methodologies for mapping or modeling disturbance over a larger extent of Alaska. Similarly, technologies granting more resolute and repeatable mapping for specialized agents are being explored. For example, areas in Peril Strait and Mt. Edgecumbe were classified, then verified using digital aerial survey methods.

Digital sketchmapping also continues to be the primary data recording method. Six tablet systems were utilized for nearly 100% the 2006 general I&D survey. Additionally, R10 represented the U.S. aerial survey community in Australia, presenting aerial survey methodologies and demonstrating the digital sketchmapping system.

In addition to the aerial srvey work, we work very closely with the Alaska State Cooperative Extension Service to watch for new introduction of invasive plants, diseases, or insects. In cooperation with the State Department of Forestry, several hundred thousand acres were ground surveyed for insects, diseases, invasive plants, and the exotic Amber Marked Birch Leaf Miner.

Tiphanie Hennsington inspects bug traps on the Kenai Peninsula.

Invasive Species

Assessment of Invasive Species in Alaska and its National Forests–In 2006, substantial efforts by FHP staff were focused on an all taxa Invasive Species Strategy for The Alaska Region of the Forest Service.

Delivery of Statewide Integrated Pest Management (IPM) and Invasive Plant Information

This highly successful, long standing, cooperative venture with the University of Alaska, Fairbanks Cooperative Extension Service continued in 2006. Over 13,000 public contacts are made annually through workshops, phone discussions and individual site visits where insect, disease, and invasive plant management information is provided to address pest problems. This partnership program is recognized statewide as the premier credible source of pest management information to the Alaska public. The IPM program makes it possible for information developed by FHP staff to reach entities in need of that information. As a result of these contacts, surveys indicate over 85% of recipients adopt IPM approaches to their pest issues.

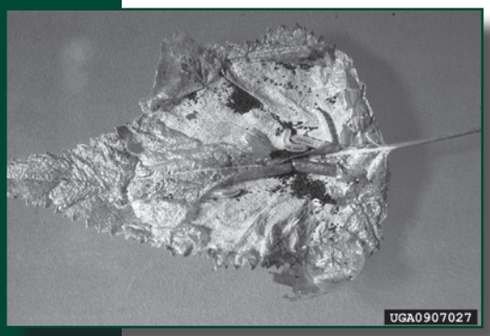
Invasive Insects: Predicting Landscape Scale Restoration After Bark-Beetle Infestation

Staff from the University of Alaska, Anchorage Natural Heritage Program and the Environment and Natural Resources Institute prepared a report describing their work on the Anchor River Watershed Assessment Project entitled, *White spruce regeneration in forests disturbed by spruce beetle in the Anchor Watershed, Alaska.* (Boggs, K. and M. Sturdy. 2006. Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska, Anchorage, 35 pg.) This study describes the site conditions necessary for spruce regeneration and whether affected sites would eventually recover to pre-infestation conditions. The Anchor River Watershed provides an excellent opportunity to assess long-term ecological

effects from the beetle and needed restoration actions.

Biological Control Program continues for Alaska's First Exotic Forest Insect

The Amber Marked Birch Leaf Miner, an introduced pest with a European origin was detected on nearly 150,000 acres and continues to spread and intensify. An international cooperative project established in 2003, involving the State Division of Forestry, USDA Animal and Plant Health Inspection Service, and Canadian scientists in Alberta, introduced a parasitic wasp as a biological control agent against the leaf miner. The establishment of an international project to introduce a foreign biological control agent was a very significant accomplishment given our current homeland security issues.



Infested birch leaf

Control of Spruce Aphid Populations

In Southeast Alaska, FHP staff completed a two-year spruce aphid chemical control project, in cooperation with Forest Service Pacific Southwest Experiment Station, Alaska Division of Forestry, and the cities of Craig, Sitka and Juneau. Two methods of tree bole treatment were compared with a soil treatment and control. Though populations of aphids were not at their highest, the results indicated that chemically treated trees had lower spruce aphid populations than control trees. Also, computer analyzed digital images of the experimental trees before and after most aphid feeding occurs showed that chemically treated trees had more needles than control trees.

Monitoring for Introductions of Exotic Beetles and Pinewood Nematode

Forest Service and Alaska Division of Forestry specialists maintained early detection/rapid response (EDRR) monitoring sites in Anchorage, Fairbanks, and Juneau to detect potentially invasive exotic bark and wood boring insects. Results from 2005 monitoring studies were negative for non-native, exotic beetles. Concern for exotic bark beetle and wood borer introductions have increased and exotic beetle monitoring efforts will continue in 2006. Monitoring for the pinewood nematode, *Bursaphelenchus xylophilus,* continued in 2006 and, to date, none were found during export phytosanitary inspections since 1999 in addition to three years of field surveys. The presence of pinewood nematodes would restrict export of Alaskan wood to Asian countries. FHP staff and the UAF Alaska Cooperative Extension Service are also participating in the Western Plant Diagnostic Network effort to coordinate an "early detection and warning" system for identifying potentially damaging plant and insect agents into Alaska.

Invasive Plants

Invasive Plants Management

In 2006, FHP continued to emphasize efforts addressing invasive plants on Alaska's state and private lands. Public awareness grew substantially this year, with invasive plants articles in over 15 newspapers statewide as well as radio and TV coverage.

Partnership development

Working with the Alaska Association of Conservation Districts (AACD), FHP supported continued prevention, early detection and control activities of Cooperative Weed Management Areas (CWMA) in the Matanuska-Susitna Borough, the Kenai Borough, and the Fairbanks Northstar Borough. These CWMA's support the development of local, "grass roots" infrastructure to conduct weed control activities at identified invasive plant problem areas.

Expansion and refinement of the Statewide Invasive Plant Database and Invasive Plant Ranking System

The database and ranking system are broadening in breadth and depth as a result of FHP surveys and cooperative work with the Alaska Natural Heritage

Program, U.S. Geological Survey, National Park Service, Agricultural Research Service, UAF Cooperative Extension Service and many others. For more information about the statewide database and the Alaska invasive plant ranking project see: http://akweeds.uaa.alaska.edu/.

Barb Schrader (Regional Office, WFEW Program) and Paul Hennon (S&PF)

Schrader anad Hennon led a team that completed the *Invasive Species Strategy 2006-2010, The Alaska Region, USDA Forest Service*, which was presented to the Regional Leadership Team in fall, 2006. This document outlines the roles and responsibilities for various staffs and stresses collaboration within and outside of the Forest Service to address this complex problem.

Loose strife weed pull

Pathogens and Tree Decline

Pathogen Risk Assessment For Alaska

This project helps identify the risk of various exotic tree pathogen introductions into Alaska's ecosystems. In 2006, a comprehensive report was developed that describes methods for assessing potential pathogens, and provides a list of those pathogens, their country of origin, and whether or not they already occur in North America. In 2007, we will investigate more about these pathogens, and contribute information about them to the national database (EXFOR) on exotic insects and pathogens). This will lead to a better ranking system to determine which of these pathogens pose the greatest risk to Alaskan forests.

Yellow-Cedar Decline

Decline and mortality of yellow-cedar persists as one of the most spectacular forest problems in Southeast Alaska, affecting approximately 500,000 acres. All research suggests that contagious organisms are not the primary cause of this extensive mortality. The current hypothesis identifies climate as a potential cause: the lack of snowpack at lower elevations in late winter allows solar radiation to penetrate the open-canopy forests and may trigger premature loss of cold tolerance in cedars, predisposing these trees to freezing injury in spring during cold periods. Collaborative research with experts from Vermont on cold tolerance of cedar supports this hypothesis, as yellow-cedar trees are quite cold hardy in fall and mid winter, but deharden rapidly in spring during warm periods. A management strategy is being developed to help sustain yellow-cedar in the context of this climate-induced problem. One aspect of this strategy is to identify portions of the landscape that are suitable and unsuitable for yellow-cedar in today's climate, as well as a warming climate.

Bark-Beetle Infestation: Effects and Restoration Needs Post-Outbreak

Assessing Watershed Restoration Needs After Bark-Beetles

Fieldwork for the Anchor River Watershed Assessment was completed in 2005 by staff from the UAA Natural Heritage Program and the Environment and Natural Resources Institute. The assessment documents natural regeneration by forest type in upland

and riparian sites. The Anchor River watershed provides an excellent opportunity to assess long-term ecological effects from the beetle and needed restoration actions.

Hazard Tree Information for Managers

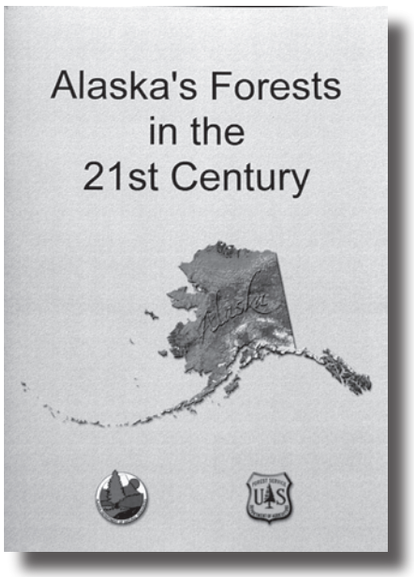
A comprehensive web page has been developed for recreation managers addressing key hazard tree issues including recognizing hazards, reporting/monitoring hazardous conditions, and mitigation options. Conversion of this web-based program to a hard copy book is underway. A new leaflet, "Safe Backcountry Travel in Alaska Around Hazard Trees" will be printed and distributed in 2007.

- New outbreaks of spruce beetle were discovered in the islands of spruce missed by previous outbreaks in past years.
- Integrating FHP with Research. Our two, joint appointment positions with the Pacific Northwest Research Station has ensured a rapid communication of the most recent research results on bark beetles and other insect pests to our various stakeholders. We are charter members of the Western Bark Beetle Research Group, a newly formed, unique cooperative among the three Forest Service Research Stations in the west.

National Association of State Foresters Meeting Hosted in Anchorage

Alaska Division of Forestry hosted the 84th annual business meeting of the National Association of State Foresters (NASF) in Anchorage, September 17-21 at the Hilton Hotel. In attendance were State Foresters from throughout the U.S., Forest Service leaders including Chief Dale Bosworth, USDA Under Secretary Mark Rey, and many others cooperators in forestry. The Alaska Region was responsible for the technical field tour, which required assistance from FHP staff as well as the Chugach National Forest, Division of Forestry and the Cooperative Extension Service. Two hundred foresters and their spouses enjoyed a scenic trip aboard the Alaska Railroad from Anchorage to Seward that followed along Turnagain Arm and through the Chugach National Forest. Presentations were given onboard about: the Amber Marked Birch Leaf Miner, invasive plants, the spruce bark beetle, the Kenai Peninsula's "All Lands/ All Hands" project, and woody biomass utilization. Along the route, interpreters from the Chugach National Forest shared their knowledge about the glaciers and forests and the proposed Chugach Whistle Stop program. A charter boat also took our guests from Seward out into Resurrection Bay to see the effects of the 1964 earthquake and view the magnificent scenery and wildlife.

The Division of Forestry and the Forest Service provided all participants on the tour an "Alaska Map Book" that gives an overview of Alaska's forests including ownership and management, forest health issues, wildland fire history and activities, cooperative forestry programs, forest product industries, and a special section on the Tongass National Forest. The map book was then updated in December and retitled *Alaska's Forests in the 21st Century,* to help inform the new Alaska Governor and her staff about Alaska's forests. All the maps are available online at: http://www.dnr.state.ak.us/forestry/posters.htm.

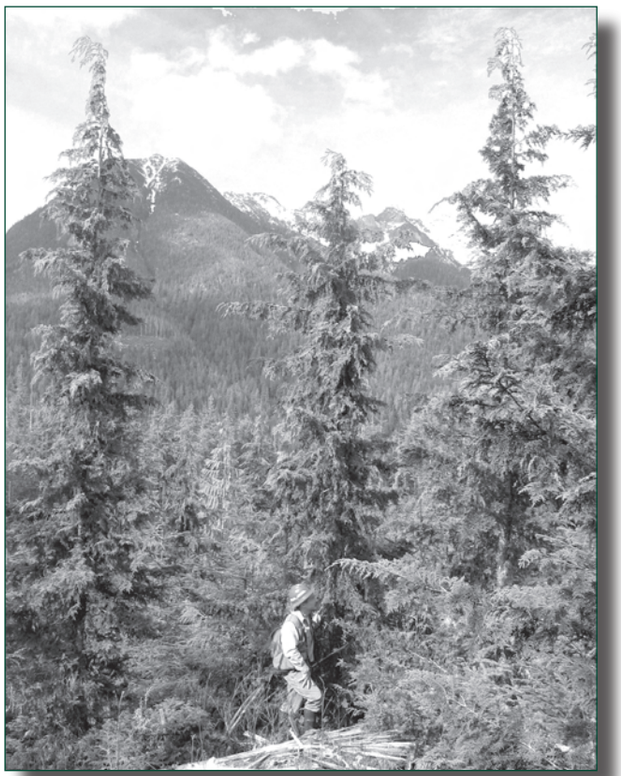


Forest Health and Climate Change

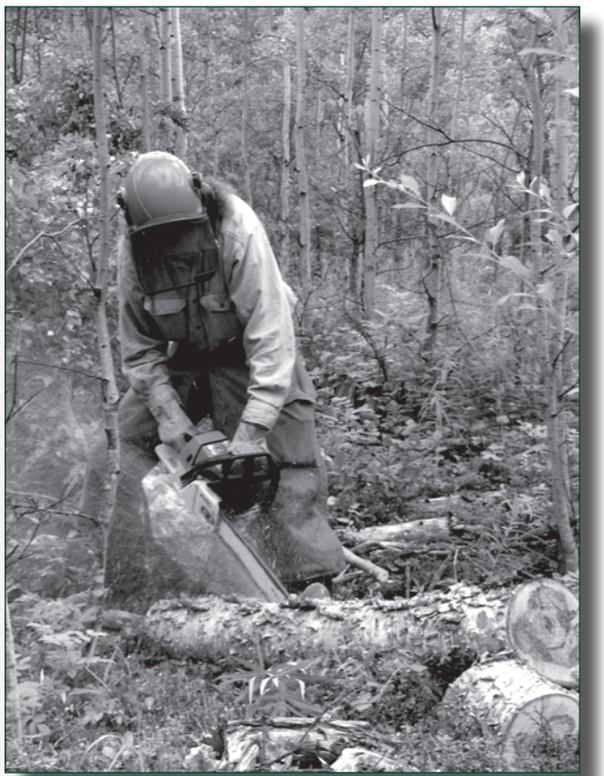
Work focusing on effects of climate change on forest health continued in 2006. Yellow-cedar decline research indicates a climate, particularly low snow pack in late winter and spring, as a trigger for initiating this forest problem. Recent studies suggest that cedars growing at low elevation sites are susceptible to exposure-freezing injury due to inadequate snowpack. Population dynamics of various native insects are also being monitored in light of climate change with the cooperation of the Alaska Division of Forestry. Insects under study include forest defoliators, spruce budworm, larch sawfly, and aspen leaf miner. The recovery of larch after severe mortality from sawfly defoliation in interior Alaska is receiving special attention.

These are but a few of the many program activities and accomplishments in 2006. See also our updated website at: http://www.fs.fed.us/r10/spf/fhp.

Forest health staff includes 14 Forest Service and four Alaska Division of Forestry employees located in three field offices (Juneau, Fairbanks, and Anchorage). Several staff changes occurred in 2006: Steve Patterson from Cooperative Forestry in Anchorage became the new FHP Program Director, John Lundquist from the Rocky Mountain Research Station joined us as our new Anchorage Entomologist. Angie Ambourn moved to Minnesota and was replaced by Jake Gerand. Graham Mahal resigned to return to Minnesota.



Yellow cedar decline



Ken Zogas works on a birch decay assessment on the Kenai Peninsula.

For more information please contact: Steve Patterson, Assistant Director S&PF, Forest Health Programs, spatterson@fs.fed.us, (907) 743-9451.

Or contact any of our field offices:

Southeast Field Office
2770 Sherwood Lane, Suite 2A
Juneau, AK 99801
(907) 586-8811

South-central Field Office
3301 'C' Street, Suite 20
Anchorage, AK 99503-3956
(907) 743-9455

Interior Field Office
3700 Airport Way
Fairbanks, AK 99709
(907) 451-2701

Special Topic: Yellow-Cedar Decline

Yellow-cedar is a culturally and economically important tree that has been dying on over ½ million acres in Southeast Alaska. Along with a number of cooperators, our staff has lead an effort to understand the cause of this problem, and to develop a strategy for managing yellow-cedar into the future.

Research on the cause of yellow-cedar decline has been conducted over the past 20 years. Early efforts were directed at the possible role of pathogens and insects, but none were found. Another early emphasis helped us understand the cedar trees were not dying in appreciable numbers until about 1880 or 1900, a time that marked both the end of the Little Ice Age as well as the onset of decline.

More recent research is clarifying the cause of yellow-cedar decline and the role of climate. Cedars appear to be dying from a form of freezing injury which kills shallow fine roots in late winter and early spring. Cedars are especially vulnerable because they deharden, (lose resistance to cold), during warm periods in late winter. Then, when cold high pressure weather occurs, and shallow soil temperatures dip below 23°F, injury can occur. Snow covering the ground at that time affords cedars complete protection. Dendrochronology and examinations of the weather station data by University of Alaska Fairbanks (UAF) graduate students are helping to solidify the role of climate in this forest decline. They are finding that springs are trending warmer, snow is less abundant, but freezing events in spring are as frequent as they have been in the past…all conditions that favor the decline.

Remote sensing and aerial surveys are helping to document the extent of the problem and landscape features that define it. Our aerial surveys have produced a fairly complete map of the occurrence of yellow-cedar decline. More than 2,500 locations totaling 500,000 acres have been mapped. We are learning that yellow-cedar decline occurs where snow is not abundant; thus, the decline occurs at lower elevations and in the warmer portions of the panhandle. A good example is Mt. Edgecumbe near Sitka. Cedar decline occurs on the lower elevations of the volcano, creeping higher on the south and southwest aspects, but cedar continues to thrive at higher elevation, presumably because it is protected by snow.

All of this information is leading to a strategy to conserve and manage yellow-cedar. The landscape can be partitioned into areas that are favorable and unfavorable for yellow-cedar, using snow as a guide. In some of the areas where decline has occurred, dead yellow-cedar could be salvaged to capture a valuable wood product. Natural succession favors other tree species, such as western hemlock, mountain hemlock, and western redcedar, regardless of whether or not salvage operations take place.

Yellow-cedar wood has great strength and durability, making it the most valuable commercially grown wood in Alaska. We conducted a line of studies on the wood properties of dead yellow-cedar. The last of these studies was published this year. All wood properties are maintained for about 30 years after death (these include volume and grade recovery at a mill, decay resistance, and heartwood chemistry). Some of these properties drop off about 10-15% after the trees have been dead longer, and strength properties remain intact even 80 years after death. The unusual heartwood chemistry is responsible for the persistence of these properties and for the generally favorable opportunities at salvage harvest.

Landscape analyses and climate modeling will suggest locations in Southeast Alaska that will be suitable for long term survival and growth for yellow-cedar. These would be the areas to promote cedar to sustain its populations for future generations. We are working with forest managers to determine the best methods of establishing yellow-cedar in managed forests. A project initiated 20 years ago at Anita Bay on the Wrangell Ranger District represented the first attempt to plant yellow-cedar for reforestation. That planting spurred more plantings near Wrangell in the 1990s; these plantings are now being revisited by the District to determine the best thinning strategies to ensure that they will develop into forests with a major component of cedar.

Many cooperators have aided the yellow-cedar project. These include the Pacific Northwest Research Station, Northeast Research Station, The Nature Conservancy, Tongass National Forest, Forest Products Laboratory, Agricultural Research Service, Oregon State University, University of Alaska Fairbanks, and University of Vermont.

More Information: Paul Hennon, Research Forest Pathologist, USFS, Juneau, Alaska, (907) 586-8769, phennon@fs.fed.us. Consult this webpage for more information on the value of wood from dead yellow-cedars: http://www.fs.fed.us/r10/spf/fhp/cedar/wood.html.

State & Private Forestry
Alaska Region Organization
December 2006

Andy Mason
Director

John Henshaw
Forest Legacy Program Manager for Regions 5,6,10 Vallejo, Calif.

Steve Patterson
Assistant Director
Forest Health Protection

Peggy Cossaboom
Assistant Director
Financial & Information Management

Kay Fermann
Assist. Director Cooperative Forestry and Urban & Community Forestry

Willie Thompson
Assistant Director
Fire Management

Paul McIntosh
Denali Commission Liaison

Debra Cooper
Interagency
Fire Program Manager

Gwen Marcus
Administrative Assistant

Erica Cordeiro
Administrative Assistant

Gary Lehnhausen
Ground Safety Training Specialist

Ron Knowles
Management Analyst
Fire Programs

John Lundquist
Supervisory Southcentral Entomologist

Michael Shephard
Statewide Ecologist

James Kruse
Interior Entomologist
Fairbanks

Lori Trummer
Southcentral and Interior Pathologist

Paul Hennon
Southeast Supervisory Pathologist
Juneau

Ken Zogas
Biological Technician

Cyndi Snyder
Biological Technician

Jamie Snyder
University of Alaska Cooperative Extension Invasive Plants Program

Angie Ambourn
Biological Technician
Fairbanks

Dustin Wittwer
Aerial Survey Specialist
Juneau

Mark Schultz
Southeast Entomologist
Juneau

Melinda Lamb
Biological Technician
Juneau

Prentiss Adkins
Biological Technician
(temp)

The U.S. Department of Agriculture is an equal opportunity employer and provider.