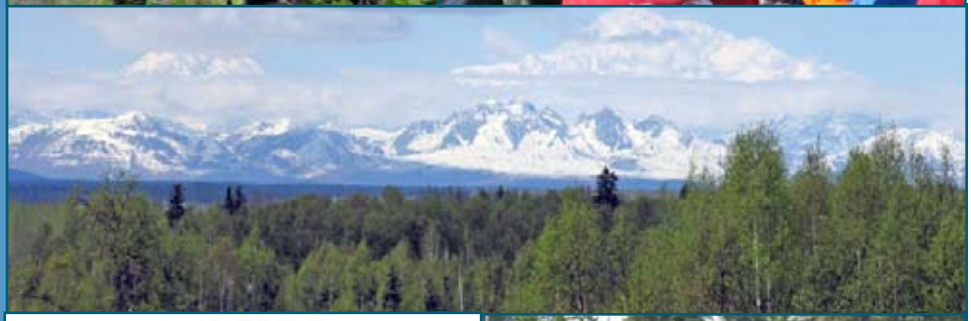
State of Alaska

Statewide Forest Resource Strategy

Division of Forestry
2010



Contents

Executive Summary

This five-year Statewide Forest Resource Strategy has been developed to meet both federal and state expectations. Issues identified in the Statewide Assessment of Forest Resources regard wildfire; sustainable forest products; forest health protection; community benefits from trees and forests; ecosystem services; and cross-cutting issues. This strategy identifies performance outcomes to assess progress for the six issues. This strategy then describes how current state mandated programs and federal-state cooperative programs will address these issues and includes performance measures for these programs. One hundred and thirty four action strategies have been described and each linked to programs, partners, and national themes.

Goals for programs are as follows:

Wildfire & Public Safety:

- Plan for expanding wildland urban interface and associated challenges for fire management.
- Plan for difficult fuel types resulting from spruce bark beetle epidemic.
- Plan for longer fire season and increased fire intensity resulting from climate change; mega fires.
- Maintain capacity to manage wildfire and mitigate damage and risks from wildfire.

State Forest Resource Management Program:

- Maintain timber supply to support industrial capacity and infrastructure to conserve working forests in Alaska.
- Support development of biomass energy in Alaska.
- Develop and maintain transportation infrastructure needed for resource management.
- Engage a diverse set of partners to support sustainable forestry programs.

Federal Economic Timber Initiative:

- Maintain timber supply to support industrial capacity and infrastructure to conserve working forests in Southeast Alaska.
- Develop and maintain infrastructure needed for forest resource management.
- Engage a diverse set of partners to support sustainable forestry programs.

Forest Resource and Practices Act:

- Effective administration of the Forest Resources and Practices Act (FRPA) to maintain best management practices.
  - Prevent or minimize significant adverse effects of timber harvest on water quality and fish habitat.
  - Provide long-term jobs for Alaskans by maintaining a healthy timber and fishing industries.
  - Provide for effective best management practices to serve as compliance standards for nonpoint source pollution and coastal management programs.
- Ensure that private and non-federal public forest landowners comply with the FRPA best management practices.
- Support cost effective habitat management and protection for commercial, subsistence and sport uses.

Forest Health Program:

- Provide early detection and response to invasive forest pests.
- Mitigate impacts of damaging pest species (insects, pathogens and plants).
- Adapt management to changing climate with uncertain and varying scenarios.

Community Forestry Program:

- Support community development that maintains and enhances benefits provided by trees and forests.
- Protect and improve environmental services provided by community trees and forests.
- Build community forestry program capacity at the local level.
- Build a sustainable and effective state program.

Forest Stewardship Program:

- Develop Strategies for expanding Wildland Urban Interface and associated challenges for fire management.
- Provide for effective second growth forest management including roads.
- Support development of biomass energy in Alaska.
- Address land transfers, forest conversion and demographic changes in program and plans.
- Meet increasing demand for fire wood for home heating.
- Contribute to the Governor's climate change subcabinet recommendations for carbon sequestration.
- Support cost effective habitat management for commercial, subsistence and sport uses.

Conservation Education Program:

- Maintain and increase public support for forest management (social license).
  - Expand the geographic breadth of Conservation Education in Alaska.
  - Expand support for the Fire in Alaska educator's series.
  - Continue to emphasize service learning opportunities for educators.
  - Work with cooperators to finalize and implement an environmental literacy plan for the State of Alaska.
  - Continue to integrate education into the various DOF programs.
- Develop Better Data and Information.
- Address unique geographic, social and political challenged in Alaska.

Forest Legacy Program

- Address land transfers, forest conversion, demographic changes, forest fragmentation, and the need for green infrastructure in program and plans.
- Support cost effective habitat management for commercial, subsistence and sport uses, including water supplies, traditional forest uses, and production of wood and non-timber forest products.
- Provide for tourism, fish and game resources, habitat connectivity and diversity, and recreation in Alaskan forests for benefit of local economies.

Introduction

The 2008 Farm Bill requires states to complete a Statewide Assessment of Forest Resources and Statewide Forest Resource Strategy by June 2010 in order to qualify for future federal funding assistance under the U.S. Forest Service State and Private Forestry program. This Statewide Forest Resource Strategy along with the Statewide Assessment of Forest Resource is intended to fulfill this federal requirement.

From federal guidelines, the purpose of the Statewide Forest Resource Strategy is to provide a long-term, comprehensive, coordinated strategy for investing state, federal, and leveraged partner resources to address management and landscape priorities identified in the assessment. The strategy is to cover priority landscapes, address means of accomplishing national objectives and themes, identify partners and stakeholders, identify monitoring strategies, and describe performance measures.

The Alaska Division of Forestry developed a Five-year Strategic Plan in 2008, which states that the Division of Forestry mission as:

We proudly serve Alaskans through forest management and wildland fire protection.

The Division of Forestry Strategic Plan emphasizes personnel management, use of technology, and cooperative relationships. The strategic plan establishes timelines and staff assignments, and identifies 111 action items under the following eight vision categories:

- Division of Forestry has clear mandates and authorities.
- Division of Forestry aligns programs, work force, and authorities.
- Division of Forestry retains and recruits outstanding staff.
- Training supports staff development and retention at all levels.
- Division of Forestry develops and maintains strong cooperative relationships
- Division of Forestry is actively involved in emerging issues.
- Excellent planning keeps pace with division needs.

This Statewide Forest Resource Strategy:

- Compliments and elaborates on the division's strategic plan.
- Builds on issues identified and refined through a stakeholder public process.
- Describes strategies for achieving ongoing goals and also seeks to address new and evolving issues and new technologies.
- Describes actions for state mandated programs and federal cooperative programs.
- Addresses personnel management, public and stakeholder involvement, and collaboration with partners.

- Describes how the division of forestry will contribute to U.S. Forest Service State and Private Forestry themes: Conserve Working Forest Lands; Protect Forests from Harm; and Enhance Public Benefits from Trees and Forests.

Statewide Assessment Key Issues

A primary outcome of the Alaska Forest Resource Assessment was the identification of six key issues that help frame the integrated delivery of a diverse set of federal and state forestry programs and also serve to help define the priority landscape to guide delivery of these programs. This statewide strategy is organized by key programmatic resources with a set of goals and strategies developed and derived from each assessment issue. For each strategy the state and federal programmatic resources required by the State Forester, targeted partners and the national themes addressed are outlined in the attached matrix.

Issue 1: Expanding wildland urban interface, climate change, hazards, and decreased capacity

Alaska is a leader nationwide in that it has an Alaska Interagency Wildland Fire Management Plan that prioritizes landscapes for fire suppression resources statewide for all ownerships, public and private. Fire suppression for all wildland fire suppression agencies in Alaska is guided by the Alaska Interagency Wildland Fire Management Plan. The plan was developed and signed in the 80s to provide a coordinated and cost effective approach to fire management on all lands in Alaska. The plan dictates the shared management prioritization of initial attack resources by designating four protection levels for response to wildland fires. Other wildfire issues in Alaska include community wildfire protection plans, wildland urban interface, State land disposal, spruce bark beetle epidemic, climate change, mega fires, geographical-social-political conditions, employee retention, and contractual costs.

Issue 2: Maintaining and expanding sustainable output of forest products

The forest products industry has been a major part of the economy of southeast Alaska since the 1950s. Reductions in federal timber sales, coupled with large mill closures, have greatly diminished the industry. While some stakeholders and federal policy makers are calling for a rapid transition from a forest products industry dependent on old growth timber supply from the Tongass National Forest, second-growth forests are simply too young to become commercial in significant quantities for several decades. Alaska is at risk from losing what little remains of its industrial infrastructure to support southeast Alaska communities and also provide the tools for desired restoration and wood energy initiatives.

Alaska's interior has supported a modest, but stable, forest products industry for local uses. Currently, very high fossil fuel costs are causing great interest in wood energy for both urban and rural residents. The demand for energy resources is creating new opportunities to more fully utilize forest resources and develop a more fully integrated forest products industry. In many areas the lack of any forest products industry infrastructure is a significant barrier to implementing biomass energy projects.

Issue 3: Reducing threats and impacts to forest health

The condition of forest health in Alaska is assessed, compiled, and published annually. Due to the size of Alaska, much of the assessment is by aerial survey. The coastal forests of south-central and southeast Alaska experience periodic disturbance from several forest pests, particularly spruce beetle (*Dendroctonus rufipennis*) and Ips engraver beetles (*Ips spp*). Spruce aphid, spruce budworms, black-headed budworm, and numerous root and stem rots cause growth loss but usually not tree mortality. Yellow-cedar decline has been a long-term perplexing phenomenon in the southeast Alaska forests. The boreal forest of Alaska's interior region has been less affected by this major spruce-killing species. Northern spruce engraver *(Ips perturbatus*) has become more prominent than the spruce beetle, especially over the last 20-30 years in Alaska's interior spruce forests. Climate change is expected to affect Alaska's forests. Changes in the health of Alaska's forests are expected because both the living components of the ecosystem, such as trees and insects, and non-living components, such as fire, respond to both short- and long-term changes in climate.

Issue 4: Enhancing community benefits from trees and forests

Alaska is home to 686,000 people. Although there are many small villages across the state, more than half of the population lives in the Municipality of Anchorage or the Matanuska-Susitna Borough. Over 60 percent live in towns with populations above 5,000. In many Alaska communities forests are comprised mostly of forest types that existed prior to community settlement. As Alaska's communities have rapidly grown in and around forests over the past 50 years, some forests have been intentionally preserved in parks and green belts, some trees have been retained in more developed public and private lands, and some areas have been cleared with various levels of landscape management following development. Two levels of management by communities are recognized--communities with established programs to manage their community forest, and communities that are developing programs to manage their community forest. Established management programs are those that have met all four standards for an effective program. Those developing programs have met at least one but not all four standards. The increasing level of community forest management is a notable trend in Alaska.

Issue 5: Maintaining or improving output of ecosystem services

Alaska public and private forest lands provide a host of ecosystem services, both near communities and population centers as well as in remote areas. Alaska's forests contribute to the high quality habitats that produce world renowned salmon fisheries that have significant economic, social and ecological value. These fish support commercial, sport, personal use and subsistence fisheries. Alaska has an estimated 71,498 miles of catalogued anadromous fish streams, 27,172 miles of which fall within the assessment priority landscape. These streams support five species of pacific salmon in migration, spawning and rearing stages of their life cycle.

Many non-timber products can be harvested from Alaska's forests. For many years non-timber forest products have been recognized as forest outputs. In recent years the industry has grown both internationally and in the United States. In Alaska these forest products include herbs, sap, mushrooms, berries, and materials for crafts and decorations. Bird populations and habitats are important ecological components, help control damaging insects, and provide viewing opportunities for tourists and residents.

Climate change is expected to impact many aspects of Alaska. Regarding Alaska forests, climate change may affect wildfire, insect epidemics, invasive species, regeneration and growth, and wildlife habitat. The governor established a Climate Change Sub-Cabinet in 2007. The sub-cabinet subsequently convened advisory and working groups to provide analysis and recommendations.

Issue 6: Non-spatial cross cutting issues

In the process of developing the core issues and themes, several issues and needed strategies reoccurred regardless of the particular issue or geographic area involved. These cut across issues and programs, and have been categorized as “cross cutting issues”. These non-spatial elements, common across a broad range of issues and programs, include: the need to maintain public support for forest management (social license); the need for better data and information; challenges in maintaining state, federal and private management capacity; and the unique geographic, social and political challenges in Alaska.

The Division of Forestry Strategic plan is structured toward non-spatial issues. Important strategic plan elements include workforce recruitment, retention, and training; developing cooperative relationships; and development of equipment, technology, and emerging issues. The importance of non-spatial topics became evident during both during strategic plan development and the stakeholder public process. Although not captured geospatially, cross-cutting issues are considered essential in successful implementing all program strategies.

Programmatic Resources and Strategies

The following programmatic resources are required by the State Forester to address the issues and national themes as identified in the Statewide Assessment. Each program description identifies those assessment issues and national themes addressed, and other programmatic resources that may be employed to further efforts to address issues and themes and meet stated goals in a multi-program integrated approach. The matrix at the end of this strategy document summarizes the integration of programmatic resources to address the issues, goals and national themes identified in this strategy.

State Fire and Aviation Program

National Guidance

The Rural Fire Prevention and Control, Enhanced Community Fire Protection and Management Assistance, Planning Assistance and Technology Implementation programs were established by Congress in the Cooperative Forestry Assistance Act of 1978. These funding streams are commonly referred to as State Fire Assistance & Volunteer Fire Assistance. These programs are administered by the US Forest Service and delivered by State Foresters for the purpose of providing coordinated and cooperative Federal, State and local participation. The emphasis is prevention and control of rural fires, broadening existing fire protection on non Federal forest lands, meeting multiple use objectives of landowners. Financial, technical and related assistance is provided to State Foresters for the development of stronger and more efficient state organizations will enable them to fulfill their responsibilities for the protection and management of non federal forest lands.

State of Alaska Fire & Aviation Management Program Description

Alaska Division of Forestry's Fire and Aviation Management Program, augmented with state and volunteer fire assistance funding from the U.S. Forest Service improves fire prevention and suppression and their impacts to communities. The intent is to actively respond to wildland fires while ensuring sufficient firefighting capacity for the future. Forestry's fire managers deliver a coordinated, efficient, uniform response complying with national safety and training standards that ensure state and local crew deployment to state and federal fires. In addition, they may also respond to other types of emergency situations, hazard assessments, fuels treatment projects and public education efforts.

Fire management efforts are directed at interagency activities such as coordinating with federal and local government on wildfire preparedness, fire risk planning, and allocation and distribution of tactical resources. There is also a significant undertaking in the Wildfire Decision

Support System (WFDSS) input, cooperative agreements, annual operating plans ,burn suspensions and bans, media and political interface, safety, accident investigations, Occupational Safety and Health Administration (OSHA) standard compliance, interagency fire readiness inspections, air attack, predictive services, support of interagency incident management teams, federal grant accountability and compliance, and conservation education as it relates to wildland fire management.

Investments are made in training, workshops, and conferences to meet national training and safety standards for state and federal firefighters. Fire readiness is also assured by training emergency firefighters and local government to national standards. Training is a cooperative effort each spring with Forestry's federal and local partners to deliver a broad spectrum of fire training classes that meet targeted allocation of forces for incident management teams. It also provides single resource, OSHA, fire line safety and recurrency training to maintain a qualified workforce.

Alaska Division of Forestry assists communities with Community Wildfire Protection Plan (CWPP) development. Fire managers also conduct wildfire hazard assessments of communities and partner with community leaders on mitigation planning and hazard fuel project prioritization.

Statewide interagency Firewise, prevention and education programs are supported year round. Educational efforts include participation at public events , conferences, information booths, school programs, Project Learning Tree's Fire in Alaska program for educators, online burn permit system, Firewise Communities/USA program, Firewise home assessments and land owner cost share grants for hazard fuel and danger tree removal. The Alaska Wildfire Coordinating Group's (AWFCG) Prevention and Education Committee focuses their efforts on developing public service announcements, key messages, Firewise Alaska booklets, and prevention message for statewide distribution. Local governments have been actively engaged in prevention, education, CWPP development and mitigation efforts for over a decade. These valuable partners leverage the efforts and funding of state and federal suppression agencies in raising awareness in communities throughout the state.

The division looks to continually invest in technology that is of direct efficiency and cost benefit to the wildland fire program. This includes computer aided dispatching, statewide fire reporting, two way radio for fire line communication, Canadian Forest Fire Danger Rating System (CFFDRS), and GIS for fire intelligence, planning, situations and hazard fuel mapping. These are just a few examples of the efforts and risk management tools supported by State Fire Assistance funding.

Volunteer fire departments are empowered with pass through grant funding and Federal Excess Property Program (FEPP) equipment. These rural and urban interface communities need assistance in meeting both existing and expanded fire suppression responsibilities. Rural fire departments represent the first line of defense in coping with fires and other emergencies in rural areas and rural communities. A common grant application is used for VFA & RFA (rural fire

assistance) funding. Funding is awarded to volunteer fire departments by an interagency committee each spring to distribute funds evenly across the state and avoid duplication of efforts with our federal partners. Each year requested funding out strips the amount of funding available; a testament to the success and strength of the program. Alaska State Forestry also invests volunteer fire assistance funding in refurbishing and transforming FEPP vehicles into engines for VFD use in rural, outlying areas of the state.

Alaska Interagency Planning & Coordination. The Alaska Interagency Fire Management Plan (AIWFMP)) gives land owners and suppression agencies a ready made tool to restore fire adapted ecosystems in the state and contribute to the long term sustainability and health of the forests. This plan by its very natures identifies high priority forest ecosystems and landscapes by delineating what level of suppression they receive based on values at risk. Fire is allowed to take its natural progression in Modified and Limited management options. Critical and Full management options provide for full suppression in high priority and at risk landscapes. The fire plan can be adjusted to move landscapes into Modified or Limited suppression management options. Conversely lands designated as Limited or Modified can be moved into Critical or Full suppression management options. The AIWFMP is reviewed annually to incorporate changes to the plan. This flexibility is especially important as wildland urban interface areas of the state continue to expand. We can also adjust to such factors as climate change or the devastating effects of the spruce bark beetle epidemic that have decimated the Kenai Peninsula.

Lands that are in the Critical and Full management options are not likely to ever to receive a reduction in protection level. This is due to the proximity of homes, businesses, infrastructure, the Trans-Alaska oil pipeline, cultural sites, watersheds, river corridors, high value timber or ecologically important forest landscapes. Managers need to use a variety of tools to reduce the risk of wildfire impacts and restore fire adapted lands. Forested lands in Modified and Limited protection options on public lands must be separated from private lands by alternative methods (thinning, shear blading etc.) to protect private values from encroaching wildfire.

The Alaska Wildland Fire Coordinating Group (AWFCG) serves as focal point for State of Alaska Fire Management Program input. AWFCG provides a conduit for broad scale interagency cooperation and implementation of a variety of strategies to reduce risk from wildland fire and to restore fire adapted ecosystems. AWFCG membership consists of: Alaska Department of Environmental Conservation, Alaska Department of Fish & Game, Alaska Department of Natural Resources, Department of Interior (DOI) Bureau of Indian Affairs, DOI Bureau of Land Management, DOI National Pak Service, DOI Fish & Wildlife Service, USDA Forest Service, Chugachmuit, Association of Village Council Presidents, Tanana Chiefs Conference, and Anchorage Fire Department. It is through these stakeholders that statewide programs, strategies and goals reach a broad cross section of cooperating agencies. Continued active participation in the AWFCG and its committees will aid in implementing strategies that advance national strategic objectives and redesign themes.

National Themes

1. ***Conserve working forests land*** will be addressed by investing in risk management tools and maintaining capacity to manage wildfire and mitigate damage and risks from wildfire.

2. ***Protect forest from harm*** will be addressed by reviewing and modifying Alaska's wildland fire management policy and selected wild land fire management practices.

3. ***Enhance public benefits from trees and forests*** will be addressed by assisting communities with CWPP development and revision. These plans will then be utilized to promote Firewise and other risk reducing policies and actions.

Specific strategies the Fire and Aviation Management Program will take in the next five years (2010 through 2015) to address these themes, issues and threats are described below.

Goals and Program Strategy

Assessment Issue 1. Expanding Wildland Urban Interface, Climate Change, Hazards, and Decreased Capacity. Four goals are identified.

<u>Goal - Develop strategies for expanding wildland urban interface and associated challenges for fire management.</u>

Strategies

- Empower, encourage and assist communities with Community Wildfire Protection Plan (CWPP) development and revision.
- Evaluate and revise Communities at Risk (CAR) list with interagency partners.
- Develop a comprehensive fuels management program to treat high risk areas through fire and mechanical fuel treatment, to minimize negative impacts of wildland fire on humans and to increase beneficial aspects for fire, especially to wildlife habitat.
- Review and modify as appropriate, Alaska's Wildland Fire Management Plan to address the escalating need for wood energy in rural communities.
- Plan and conduct integrated projects in forest management, fuels reduction, biomass energy and access.
- Develop and disseminate to the public prevention and Firewise education materials and programs in collaboration with interagency partners and stakeholders.
- Promote Firewise Communities/ USA program and add additional communities.
- Use modern technology to expand outreach, increase information exchange and promote partnerships with rural Alaskan communities.
- Sponsor information & education booths and/or provide information, education and training in CWPP development, hazard fuel reduction, firewise concepts, wildland fire prevention.

- Provide Wildland Urban Interface (WUI) grant opportunities at statewide conference events targeting rural Alaskans.
- Strengthen ties between cooperative forestry, university, fire management, and forest management programs on issues of mutual interest, e.g. firewise, climate change, invasive species, etc.
- Educate sister state agencies and general public about fire risk and mitigation on state disposal lands.
- Encourage the adaptation of regulations and ordinances to minimize fire risk.

Performance Outcomes

- Number and percentage of communities at risk covered by a CWPP.
- Bi annual updated communities at risk list.
- Annual number of Firewise Home Assessments.
- Number of new and renewed Firewsie Communities.
- High risk areas /acres treated to minimize wildland fire impact on humans and increase beneficial aspects to wildlife habitat.
- Annual number of prevention education and Firewise presentations.
- Number of defensible space and prevention education publications distributed.
- Annual review of Alaska Interagency Wildland Fire Management Plan.
- Number of hazard fuel reduction projects /WUI grants projects that integrate multiple coop program objectives and promote collaboration with stakeholders.
- Number of public service announcements via media outreach.

Programmatic Resources Required

- State Fire Assistance
- National Fire Plan Assistance
- Alaska State Fire and Aviation Program
- Conservation Education
- Forest Resource Management
- Alaska Interagency Wildfire Coordinating Group
- Community Forestry
- Forest Stewardship
- Forest Health Protection

National Themes Addressed

- Protect Forests From Harm
- Conserve Working Forest Lands
- Enhance Public Benefit from Trees and Forests

Goal - Develop plans for difficult fuel types resulting from spruce bark beetle epidemic.

Strategies

- Market Online Burn Permit System to educate and inform public on safe burning practices, rules ands regulations.
- Develop integrated public education and outreach approach for hazardous fuel reduction.
- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.
- Work with Kenai land managers to modify infected forest fuels on public lands and separate via mechanical methods or natural fire from private lands.

Performance Outcomes

- Number of Burn Permits Issued by type.
- Amount of geospatial data acquired at high resolutions.
- Annual number of collaborative Firewise and prevention education presentations.
- Number of collaborative and/or leveraged hazardous fuels mitigation projects on the Kenai Peninsula.

Programmatic Resources Required

- State Fire Assistance
- National Fire Plan Assistance
- Alaska State Fire and Aviation Program
- Alaska Interagency Wildfire Coordinating Group
- Conservation Education
- Community Forestry
- Forest Health Protection
- Forest Stewardship
- State Forest Resource Management

National Themes Addressed

- Protect Forests from Harm
- Conserve Working Forests
- Enhance Public Benefit from Tress and Forests

Goal - Address longer fire season & increased fire intensity resulting from climate change; mega fires.

Strategies

- Review and modify as appropriate, Alaska's wildland fire policy and programs to address potential climate-induced increases in wildland fire frequency, size and geographic location.
- Review selected wildland fire management practices, including special consideration of tundra fires (above 68^0 N latitude), which have increased in the last two decades.
- Work with land managers to reassess fire management plan options and the impact on communities and ecosystem management.
- Develop and maintain known sites database for large fire risk assessment.
- Expand fuels mapping to allow for fire spread predictions and values at risk probabilities using FARSITE and Rapid Assessment of Values at Risk (RAVAR).

Performance Outcomes

- Number of decision making tools incorporated into strategic planning efforts; WFDSS, FARSITE, RAVAR.
- Number of known sites inventoried in database annually.
- Annual review of Alaska Interagency Fire Management Plan and fire plan updates.

Programmatic Resources Required

- State Fire Assistance
- Alaska State Fire and Aviation Program
- Alaska Interagency Wildfire Coordinating Group
- Predictive Services
- Forest Health Protection
- Forest Stewardship
- State Forest Resource Management

National Themes Addressed

- Protect Forests from Harm
- Conserve Working Forests
- Enhance Public Benefit from Trees and Forests

Goal - Maintain Capacity to Manage Wildfire and Mitigate Damage and Risks from Wildfire.

Strategies

- Assess work force needs for all programs.
- Develop and utilize local government and non fire state agency response resources.
- Facilitate and increase mobility of personnel among offices where appropriate to accomplish priorities.

- Update policies and procedures to support efficient accomplishment of priorities.
- Allocate resources to efficiently accomplish priorities; crew rotation, how we build crews, emphasize IA certified crews.
- Establish training academies in remote hub communities to deliver advanced fire fighter, single resource and Incident Command System (ICS) training to enhance workforce development.
- Deliver assistance to equip and train Volunteer Fire Departments (VFDs) through the Volunteer Fire Assistance grant program and National Fire Plan VFA/SPS3 funds and Federal Excess Property Program (FEPP).
- Utilize the Northwest Compact and National Resource Order and Status System (ROSS) to obtain critical resources.
- Participate in all risk simulations and training opportunities.
- Continue sharing warehouse and logistical support in response to non wildfire incidents.
- Support and expand interagency dispatch opportunities.
- Assess equipment and facility needs.

Performance Outcomes

- Number of trained and / or certified fire fighters and crews.
- Number and type of resources obtained through the Northwest Compact and ROSS.
- Number of volunteer fire departments assisted with grants and FEPP equipment.
- Number of interagency fire readiness inspections conducted.
- Number of all risk simulations and cross training opportunities.
- Number of Type 2 IA crews.
- Number of Type 1 crews.
- Number of interagency dispatch centers.

Programmatic Resources Required

- State Fire Assistance
- National Fire Plan Assistance
- Volunteer Fire Assistance
- Alaska State Fire and Aviation Program
- Alaska Interagency Wildfire Coordinating Group

National Themes Addressed

- Protect Forest from Harm
- Conserve Working Forests

Assessment issue 6: Cross Cutting Issues

Goal- Develop better data and information.

Strategies

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.

Goal - Maintain state, federal, and private management capacity for fire and resource management.

- Assess work force needs for all programs.
- Strengthen ties between cooperative forestry, university, fire management, and forest management programs on issues of mutual interest, e.g. firewise, climate change, invasive species, etc.
- Facilitate and increase mobility of personnel among offices where appropriate to accomplish priorities.
- Participate in all risk simulations and training opportunities.

State Forest Resource Management

State Guidance

Article VIII of Alaska's Constitution sets the framework for management of the State's Forest Resources. This Article's Statement of policy reads:

> *It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.*

Article VIII mandates that renewable resources including forests be managed in a sustainable manner and subject to preferences among beneficial users.

> *Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses.*

The Alaska Land Act (title 38.05) provides the detailed statutory authority for the sale and disposal of timber as well as other interests in State lands. The best management practices and other requirements that forestry operations on state land must meet to protect other public resources and to ensure reforestation are embodied in the Forest Resources and Practices Act (FRPA, title 41.17). FRPA also establishes the Division of Forestry and outlines the powers and responsibilities of the State Forester and the Alaska Board of Forestry.

While there is considerable statutory guidance and regulatory procedure for the sale of state timber and the management of state forest lands, title VIII of the constitution provides the guiding principals of sustainably managing the State of Alaska's forest resources in the public interest.

Alaska Forest Resource Management Program

The Alaska Division of Forestry manages timber resources on state lands including three legislatively designated State Forests[1] and other State lands either classified through area plans as Forestry or classified for other uses that include or allow for forest harvest and management.

State timber is required to be managed under sustained yield principles. With the exception of the Southern Southeast Area, where timber demand exceeds supply due to disruptions in federal timber supply, state forest resources in the rest of the state are being harvested at less

[1] In April of 2010 the 26th Alaska Legislature established the Southern Southeast State Forest as recommended by the Governor, the Commissioner of Natural Resources and the State Forester.

that their annual capacity. Emerging markets for biomass for energy and increasing markets for cordwood fuel are increasing timber demand in south central and interior regions.

Program Delivery. The division delivers its forest resource program through two regional and eight area offices.

The core forest management services provided by the program include forest management under principles of sustained yield and multiple-use on all state land for:

- Timber inventory
- Timber sale planning and administration
- Fuel wood sales and permits
- Forest access design, construction, and maintenance
- Reforestation of harvested areas
- Wildlife habitat enhancement
- Multiple use management on the Haines, Tanana Valley and Southern Southeast State Forests

Annual timber sales have averaged approximately 22 million board feet per year over the past decade.

	Ten-year record of timber volume sold (MBF)				
	Coastal Region-Southeast	**Coastal Region - South-central**	**Northern Region**	**State Total**	**# Sales sold statewide**
FY 00	8,365	5,774	6,640	20,779	60
FY 01	954	1,857	6,064	8,875	60
FY 02	11,340	1,333	4,207	16,880	56
FY 03	4,145	9,779	4,813	18,737	68
FY 04	8,064	957	2,708	11,729	50
FY 05	16,003	4,564	5,594	26,161	76
FY 06	10,777	1,703	12,478	24,959	63
FY 07	24,437	30,110	6,420	60,967	65
FY 08	4,059	4,316	7,163	15,538	67
FY 09	5,597	1,451	11,036	18,084	91

In Southern Southeast Alaska where the declining supply of federal timber threatens the survival of remaining mills, DOF is trying to maximize sales from the small state timber base to support the remaining mills. The state timber base in SSE is managed for timber harvest and multiple uses under a General Use land classification, and the newly created Southern Southeast State Forest.

There is broad support for transitioning timber harvesting in SE Alaska from predominantly old growth to a mix of second-growth and Old Growth stands as younger trees established on lands harvested over the last fifty years reach economic maturity. Second-growth stands often have higher volumes per acre and lower defect and harvesting second-growth often has less impact on wildlife. Much of the state timber base was inherited from the USFS with young second-growth stands. Pre-commercial thinning can help reduce the time required for second-growth to reach economic maturity. Pre-commercial thinning is a long-term investment, and is only justified if the land will continue to be available for forest management. The 26th Alaska Legislature established a new State Forest in Southern Southeast Alaska comprised of approximately 25 thousand acres of State land. This legislative designation will ensure that land will remain available for long-term forest management. In FY10 the division secured American Reinvestment and Recovery Act (ARRA) funds to accelerate the pre-commercial thinning on the newly designated Southern Southeast State Forest.

National Themes

The state's forest resource management program, while not funded through federal State and Private Forestry programs, contributes in addressing all five major issues identified in the statewide assessment. The developing markets for biomass energy are increasing opportunities for the Division of Forestry to use timber sales as a tool to mitigate forest health and fire risks. The program provides a stable supply of timber to support forest products industry including local manufacturing, and has been instrumental in providing timber to southern Southeast Alaska sawmills when Federal supplies were disrupted. The program has a growing importance in providing communities with opportunities to reduce energy costs and through effective habitat management serves to enhance ecosystem services including important sport and subsistence species depending on early succession forest types such as Moose.

The program contributes to addressing the three State and Private Forestry National themes as follows:

1. ***Conserve working forests land***. State lands managed for perpetual forest products outputs are more likely to remain in forested status. State lands designated and managed for Forestry and legislatively designated state forest are likely to remain as working forest as long as they continue to contribute to the economic well being of communities. Legislatively designated state forest, where in the public interest, are effective tools to ensure long term working forest landscapes.

2. ***Protect forest from harm***. The state's forest resource management program can provide for desired ecosystem health in areas where fire exclusion is necessary due to values at risk. Silvicultural treatments to mitigate fire risk or otherwise manipulate forest types or age classes are most cost effective in conjunction with the harvest of forest products with economic value. The infrastructure associated with a vibrant forest products industry is essential for implementing restoration objectives.

3. ***Enhance public benefits from trees and forests***. The state's forest resource management program seeks to enhance public benefits from forests through a vibrant and sustainable forest products industry. While many of the division's timber sale outputs are small in scale, they provide significant economic benefits to communities throughout Alaska and have the potential to increase in significant with increased demand.

Goals and Program Strategy

The State will strive to meet existing demand for timber sales, and where surplus annual allowable cut is available such as south central and interior Alaska, seek to meet increasing demand for forest products including woody biomass for energy.

Assessment Issue 2: Maintaining and Expanding Sustainable Output of Forest Products.

<u>Goal - Maintain timber supply to support industrial capacity and infrastructure to conserve working forest in Southeast Alaska</u>

Strategies

- Engage the public and stakeholders regarding state forests in southeast Alaska.
- Assist the Tongass National Forest in timber sale planning and layout.

<u>Goal - Provide for effective management of second growth forest, including roads</u>

Strategies

- Apply appropriate silvicultural treatments to State Forest lands.
- Provide effective road infrastructure maintenance to facilitate stand management.

<u>Goal - Support development of biomass energy in Alaska.</u>

Strategies

- Meet growing demand for sustainable woody biomass from state lands.
- Develop forest regeneration techniques for woody biomass.

Goal - Develop and maintain infrastructure needed for resource management

Strategy

- Continue to partner with Alaska Department of Transportation for roads to resources.[2]

Goal - Engage a diverse set of partners to support sustainable forestry programs

Strategy

- Meet growing demand for sustainable woody biomass from state lands.

Assessment Issue 4: Enhancing Community Benefits from Trees and Forests

Goal - Meet the increasing demand for fire wood for home heating

Strategy

- Meet growing demand for sustainable woody biomass from state lands.

Goal - Provide for tourism, fish and game resources, and recreation in Alaskan forests for benefit of local economies

Strategy

- Support and expand public process for state forest plans, five-year schedules of timber sales, and forest land use plans.

Assessment issue 6: Cross Cutting Issues

Goal- Maintain and increase public support for forest management (social license)

Strategies

- Support and expand public process for state forest plans, five-year schedules of timber sales, and forest land use plans.
- Engage the public and stakeholders regarding state forests in southeast Alaska.
- Support and work collaboratively with the Division's Conservation Education Program.

Goal- Develop better data and information.

Strategies

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Develop forest regeneration techniques for woody biomass.

[2] Roads to Resources is an Alaska Department of Transportation Initiative that has helped fund forest resource roads and other resource development infrastructure projects.

- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.

Major program activities to support strategies include:

- Prepare timber sales -- including layout, Forest Land Use Plans, Five-Year Schedules of Timber Sales, and ads -- in Southern Southeast Alaska.
- Conduct timber sale auctions, negotiated timber sales, Requests for Proposals (RFPs), and contracts in Southern Southeast.
- Use available funding to remove barriers to value-added timber sales, including development and maintenance of roads and bridges.
- Assess opportunities to provide wood to new businesses within the limits of available supply while accounting for the demand from existing businesses.
- Conduct thinning in dense forest stands on productive forest land to maximize volume available from state land in southeast Alaska.
- Prepare timber sales, layout, and ads for sales in Northern Southeast, South-central, and Interior Alaska.
- Conduct timber sale auctions, negotiated timber sales, and contracts in Northern Southeast, South-central, and Interior Alaska.
- Develop RFPs for sale layout by private contractors.

Performance Outcomes

- Annual volume of timber offered for sale, including new, reoffered, and OTC sales.
- Annual volume of state timber sold.
- Annual volume of state timber sold to in-state value-added processors.
- Number of commercial sales sold.
- Number of commercial sales administered (number of active sales).
- Number of personal use permits issued.
- Acreage of forest land planted.
- Acreage of second growth pre-commercially thinned.
- Number of Alaskan businesses purchasing timber from state land.

Federal Economic Timber Initiative

State and National Guidance

In FY06, the state and U.S. Forest Service (USFS) signed a Memorandum of Understanding (MOU) for DOF to help improve the economic feasibility of USFS timber sales. In FY06, implementation of the MOU began, and it was extended through July 1, 2012. The Governor's FY08 budget included funding for the State's continued implementation of the Economic Timber MOU.

Federal Economic Timber Initiative Program

This is a unique cooperative program where the division is actively working with the U.S. Forest Service (USFS) to help design and offer more federal timber sales that are economically feasible. As described in some detail in the Statewide Assessment of Forest Resources, available timber sale volume from the Tongass National Forest continues to decline, endangering the remaining mills and devastating the economies in communities in Southern Southeast Alaska (SSE). Even when federal timber sales survive the public review processes and legal challenges, they are often designed in ways that are uneconomical to harvest, and many sales go un-purchased even when mills are in desperate need of timber. Often economic alternatives are not fully incorporated in the various stages of the timber sale planning process, timber sale design and project review.

The State of Alaska is committed to finding long-term solutions to revitalize the existing industry by providing sufficient economic old growth timber volume to allow for updating of mill equipment and restructuring the industry to provide for the development of new products. Such a restructured industry will, over several decades, gradually transition from dependence on predominantly old growth logs to a mix of old growth and young growth timber supply.

Program Delivery

The Division of Forestry employs an experienced logging engineer in Ketchikan who works directly with the interdisciplinary teams at the Forest Service district offices and Supervisor's office levels in timber sale planning. This provides pragmatic presale input to help ensure the interdisciplinary timber sale planning process includes important economic considerations and results in timber sales that can meet their stated objectives by being economically attractive to bidders. Only successful timber sales provide needed timber supply to mills and associated economic activity critical to the viability of Southeast Alaska communities. Working in partnership with the Division's Logging Engineer is a Habitat Biologist from the Alaska

Department of Fish and Game, Division of Habitat. The habitat biologist helps ensure timber sale planning is compatible with state fish and wildlife habitat objectives.

National Themes

The Federal Economic Timber initiative, contributes to the continued output of sustainable forest products as identified in the statewide assessment issue two. The program is an important component of a viable forest products sector in Alaska as it helps mitigate the adverse impacts of a declining timber supply by encouraging what supply is made available has a firm economic foundation for success.

1. ***Conserve working forests land***. .This program helps meet the multiple use mandate on the Tongass by providing successful timber sales on the portion of the forest scheduled for timber management activities.

2. ***Protect forest from harm.*** By helping maintain existing industrial capacity and infrastructure in Southeast Alaska, this program preserves the capacity to meet Forest Service restoration goals.

3. ***Enhance public benefits from trees and forests.*** This program assists Federal Land Managers in providing an output of Forest Products and associated economic benefits to mill owners and communities.

Goals and Program Strategy

Assessment Issue 2: Maintaining and Expanding Sustainable Output of Forest Products as follows:

<u>Goal - Maintain timber supply to support industrial capacity and infrastructure to conserve working forest in Southeast Alaska.</u>

<u>Goal - Develop and maintain infrastructure needed for resource management.</u>

<u>Goal - Engage a diverse set of partners to support sustainable forestry programs.</u>

Strategy

- Partner with the Tongass National Forest in designing federal timber sales that are economically attractive to industry and have a high chance of successfully providing needed timber to local manufacturers.

Assessment issue 6: Cross Cutting Issues

Goal- Maintain and increase public support for forest management (social license).

Strategy

- Support and expand public process for state forest plans, five-year schedules of timber sales, and forest land use plans.
- Engage the public and stakeholders regarding state forests in southeast Alaska.
- Support and work collaboratively with the Division's Conservation Education Program.

Goal- Develop better data and information.

Strategies

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.

Performance Outcomes

- Volume of Federal timber sold in Southeast Alaska.
- Percentage of Allowable Sale Quantity under Tongass Land Management Plan sold to local manufacturers.

Alaska Forest Resources and Practices

National Guidance

Forest Resources and Practices Act **(**FRPA) has an important role in relation to several federal programs. The FRPA regulations are the standards for non-point source pollution control under the Clean Water Act (Sec. 319). The FRPA best management practices embodied in the FRPA regulations are the sole enforcement mechanism for violations of water quality standards. The FRPA regulations are also the approved management measures for control of non-point source pollution under the Coastal Clean Water Act (Sec. 6217). On private land, the FRPA and its regulations are the ACMP standards, policies, and review processes for forest operations. On state and other public land, the FRPA and its regulations are the standards for compliance with the timber harvest and processing, and habitat standards under the ACMP.

Alaska FRPA Program

The purpose of the Alaska Forest Resources and Practices Act (FRPA) is to ensure the management of forest resources provides perpetual supplies of renewable resources by: protecting important forest resources, preventing or minimizing significant adverse effects of timber harvest on water quality and fish habitat and providing long – term jobs for Alaskans by maintaining a healthy timber and fishing industries.

The nine-member Board of Forestry, members of which are appointed by the Governor, provides program oversight. The board is comprised of representatives with broad interests including: commercial fishing; Alaska Native Corporation; environmental organization; forest industry; fish and wildlife; professional forestry; mining and recreation and is chaired by the State Forester.

FRPA is an adaptive program. Originally passed into law in 1978, the Act has been revised over the years at the recommendation of the Board of Forestry to better meet its intent and adapt to changing knowledge, best management practices and conditions. Major revisions in 1990 provided for mandatory riparian retention and other management standards to protect water quality and anadromous and resident fish habitats. Riparian standards were refined and updated for region I in 1999, Region II in 2003 and Region III in 2006.
FRPA is based on four guiding principals:

- Fairness: Successful implementation of the FRPA depends on shared risk and incentives for forest landowners, operators, and regulators.
- No Big Hit: Neither fish nor timber should bear an inordinate share of the burden – there must be a balance. No private landowner should have to bear an unusually large

burden – there should be a dollar worth of fish protection for each dollar worth of timber revenue forgone.

- Enforceability: Standards and regulations should be understandable and measurable for ease of implementation.
  Professional Management: The Act works best when implemented in the field by knowledgeable staff. Provide flexibility for regulators, land managers, and operators to find reasonable, effective solutions to site-specific problems.

Program Delivery. The Alaska Division of Forestry is the lead agency responsible for implementing FRPA and delivers the FRPA program with important participation from its partners from the Alaska Department of Environmental Conservation and the Alaska Department of Fish and Game, Habitat Division. The act requires forest owners to provide detailed plans of operations prior to timber harvest, road construction and other silvicultural practices. The program focuses on prevention as the most effective means of ensuring compliance. Monitoring for Best Management Practices (BMP) compliance is conducted regularly on state, municipal, private and trust lands. As funding is available various monitoring projects evaluate the effectiveness of the BMPs in meeting the intent of the Act. The act requires that the Board of Forestry report annually to the governor on the effectiveness of the act in meeting water quality and fish habitat protection standards and other forestry objectives of the act.

National Themes

The FRPA program, while not funded through Federal state and Private Forestry programs[3], is a critical to continued output of both sustainable forest products and ecosystem services as identified in the statewide assessment issues two and five. The program is an essential component of a viable forest products sector in Alaska as it helps achieve the social license necessary to harvest timber in a matter compatible with other important public resources including clean water and sustainable salmon.

1. ***Conserve working forests land***. The FRPA program contributes to the ability of Forest Landowners to conduct timber harvest and other silvicultural activities in harmony with other important public resources in Alaska that are dependant on vibrant forest ecosystems. FRPA also requires landowners meet mandatory reforestation standards to conserve forests in perpetuity.

2. ***Protect forest from harm***. The FRPA program protects forests from adverse impacts that can be associated with road building and timber harvesting absent effective and enforceable best management practices.

[3] The FRPA program does receive federal 319 funding through the Alaska Department of Environmental Conservation.

3. ***Enhance public benefits from trees and forests***. The FRPA program helps ensure that working forests on State and Private forest lands in Alaska are able to provide an output of Forest Products and associated economic benefits to landowners and communities while continuing to provide important ecosystem services including clean water and important habitats.

Goals and Program Strategy

The Division of Forestry will continue to implement the FRPA program in close association with ADEC and ADFG and under the guidance of the Alaska Board of Forestry. The program will adapt its delivery with changing economic conditions, and will continue to focus efforts on new emerging forest operations anticipated in rural interior Alaska associated with upcoming biomass energy projects. Monitoring for compliance and effectiveness will continue to ensure the program is adaptive to changing conditions and ever improving understanding of effective best management practices. As in the past the program will be adaptive.

Assessment Issue 2: Maintaining and Expanding Sustainable Output of Forest Products

Goal - Effective administration of the Forest Resources and Practices Act (FRPA) to maintain Best Management Practices

Strategies

- Continue to engage partner agencies, landowners, board of forestry and operators on FRPA implementation.
- Continue to survey existing forest road conditions for BMP compliance and related maintenance issues.
- Monitor for BMP compliance and effectiveness and adapt the program and BMPs as necessary for effective implementation.
- Retain experienced work force and recruit from diverse applicant pool.

Assessment Issue 5: Improving Ecosystem Services

Goal - Support Cost Effective Habitat Protection and Management for Commercial, Subsistence and Sport Uses

Strategy

- Continue to engage partner agencies, landowners, and operators on FRPA implementation.

Assessment issue 6: Cross Cutting Issues

Goal- Develop better data and information

Strategies

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Develop forest regeneration techniques for woody biomass.
- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.

Performance Outcomes

- Number Detailed Plans of Operation reviewed annually within time limits.
- Score sheet averages for best management practices compliance monitoring.
- Acres of harvested land that meets reforestation requirements.
- Number training sessions for Clean Water Act and Coastal Zone Management requirements.
- Lack of water bodies listed as impaired by ADEC due to Forest operations.
- Affirmation of program effectiveness by Alaska Board of Forestry in the statutory mandated annual report to Governor.

Programmatic Resources Required

- FRPA Program with sufficient funding for meaningful engagement by three cooperating agencies and the Alaska Board of Forestry

Major program activities to support strategies include:

- Forest Resources & Practices Act (FRPA) implementation on all non-federal lands.
- Detailed Plans of Operation compliance review.
- Field inspections and compliance monitoring.
- Training for agency staff and private operators on best management practices.
- Enforcement actions for non-compliant activities.
- Identify potential funding sources and seek funding for effectiveness monitoring.
- Participate in industry/interagency conduct and technical review of effectiveness monitoring projects.
- Distribute Detailed Plans of Operation (DPOs) and coordinate timely interagency review.
- Respond to operators and landowners on DPOs.
- Conduct field inspections of forestry operations on state, private, municipal, and Trust land.
- Prepare compliance score sheets on forestry operations.
- Conduct periodic audits of forestry operations.
- Complete audit of closed operations and roads in southeast Alaska.
- Review regeneration reports and field verification of private land regeneration surveys.
- Review reforestation exemption requests.
- Conduct regeneration surveys on state land.
- Adopt regulations to implement changes to the Forest Resources & Practices Act.
- Coordinate interagency prioritization of Forest Resources & Practices Act (FRPA) effectiveness.

Forest Health Protection

National Guidance

The USFS forest health funding to DOF supports three primary purposes: 1) to conduct aerial- and ground-based forest pest surveys and provide technical assistance and pest assessments related to the surveys; 2) to conduct, and administer, forest pest prevention, suppression, restoration, and eradication projects; and 3) to monitor the health of Alaska's forests. All forest health projects are completed with matching funds and in-kind support that benefit the recipients of the forest health funding while providing both short- and long-term benefits to maintain forest health and resiliency of Alaska's forests. Under the base program, forest health projects are designed to provide forest pest survey and technical assistance and advice for monitoring, assessment, and mitigation of forest pests and forest health conditions on non-federal forest ownerships in Alaska. Treatments are designed to protect priority acres from damaging insects, diseases, and invasive plants; reduce the risks of mortality from wildland fire; protect highly valued sites; and also prevent future outbreaks by increasing the resilience of the vegetation in treated areas.

Forest Health Protection Program in Alaska

The State of Alaska's Forest Health cooperative program is currently administered by the Alaska Division of Forestry (DOF), Resource Management Section, Central Office within the Department of Natural Resources, in Anchorage. DOF's Forest Health program was established in 1990 with federal Cooperative Forestry assistance for DOF to address a spruce beetle epidemic in the Kenai Peninsula region in the late 1980s. Consistent with federal funding authority (Cooperative Forestry Assistance Act of 1978, Sec. 8, Forest Health Protection, as amended), DOF is the technical representative for the U.S. Forest Service in delivering the Cooperative Lands Forest Health Management program component within USFS, Forest Health Protection, Washington, D.C., administered by the Assistant Director, State and Private Forestry, Region 10 Alaska, Forest Health Protection in Anchorage.

Along with matched funding support, the USFS compact anticipates that a portion of the base forest health grant funds will provide ongoing forest health technical assistance and related forest health projects and surveys. Historically, additional DOF staff positions to provide technical forest health assistance have been dependent on year to year state budgets, but also special funding and grants from the USFS Forest Health Protection program and other federal partners (e.g., USDA APHIS/PPQ) to DOF for conducting specific operational forest health projects; also dependent on overall division staffing levels and existing FHP capacities (e.g., Kenai Peninsula Spruce Bark Beetle Management Project, USDA APHIS/PPQ *Monochamus*/Pinewood Nematode Survey Project, other specialized USFS/FHM funding for Evaluation Monitoring projects, USFS Special Technology Development funding for northern

spruce engraver spruce slash management, etc.). DOF works closely with R10 USFS/FHP to coordinate Alaska's overall forest health protection program across all ownerships. Depending on DOF staff capacity, program and project delivery for the annual Aerial Detection Survey, and also forest health research and evaluation projects across Alaska that address a specific pest or forest health issue, have been accomplished with combined DOF/USFS staff efforts. Other DOF Forest Health projects have been leveraged with a combination of special funding and the combined efforts of DOF, USFS staff specialists and other partners (e.g., USDA APHIS/PPQ, AKDNR Div. of Agriculture) to complete these forest health protection projects.

Since the early 2000s, DOF's Forest Health program, in cooperation with the USFS and other federal partners, has focused on development and expansion of an Early Detection and Rapid Response monitoring system for non-native, invasive insects; also, DOF is currently involved with the Forest Service National Insect and Disease Risk Map effort which is being used on a national scale to available federal forest health funding select insect and disease project locations for forest pest prevention and control work and aerial and ground survey techniques to identify pest suppression treatments. Treatment placements incorporate local priorities including high-value timber stands, wildland-urban interface areas, special wildlife habitat concerns, municipal water supply areas, outdoor recreational sites, and state administrative sites.

Program Delivery/Partnerships. The Alaska DOF Forest Health Program's primary goal is to provide useful and practical forest health information, forest pest control and mitigation advice and related forest health technical assistance to state and private forest landowners, land managers, and the public across Alaska.

Surveys, Assessments, Research. Delivery of the Forest Health Program in Alaska has been accomplished primarily by providing native forest pest and activity trend information derived from an annual forest damage aerial survey (ADS) completed with the USFS FHP staff, as well as on-the-ground forest pest activity information gathered by DOF forest health staff during the conduct of operational forest health projects, biological evaluations, client assists, etc. across Alaska. The lack of good access to most of the key population centers (and adjoining forests) necessitates that program delivery is completed primarily in response to forest health requests received, consistent with program budget and matched federal funds. Most technical assistance and advice is delivered electronically and via the internet (forest health data and reports hosted at DOF and USFS web sites), via the published annual Alaska FHP/Conditions Report with USFS, email, and client-requested site visits to assess a specific pest or pest outbreak situation. Supplemental grant funding available from "other federal" partners have enabled the Forest Health Program to conduct specialized non-native pest monitoring surveys, native pest surveys, bark beetle monitoring and control projects, bark beetle monitoring and trap-out with semiochemical attractants and pheromones, and a few special forest health projects to assist the wood export industry (Cooperative Agricultural Pest Survey "CAPS" funding from USDA, Animal & Plant Health Inspection Service and AKDNR, Div. of Agriculture; USFS Forest Health Monitoring Evaluation Monitoring funding to conduct research on forest pests discovered during ADS surveys, etc.).

DOF has also conducted specific forest health research and special technology development projects jointly with R10 USFS FHP staff and other federal, and state, partners to identify *attractants and pheromones for native bark beetles, efficacy of pesticide treatments against native forest pests, impacts of forest pests in harvested/planted forest sites, and published results from Alaska's research and management of specific forest pests, such as the 1990s Alaska spruce beetle epidemic. Consequently, delivery and deliverables from DOF's Forest Health Program have been quite diverse over the past 20 years, in large part due to partnering efforts and leveraging of special forest health grant funding with the USFS and other federal cooperators.*

Cost-Share Program Delivery (Western Bark Beetle Initiative: Prevention/Suppression/FH Restoration grants). In addition to DOF's base funding, funds are allocated annually from the USFS to western Regions specifically for western bark beetle prevention, suppression and restoration on National Forest System lands and on non-federal lands.

Funds for bark beetle control and forest health restoration activities on "other federal lands" are allocated through a separate process directly from the USFS Chief's Office to the Department of Defense and the Department of the Interior and are not part of the funding available for "western bark beetles". Western Bark Beetle Initiative (WBBI) funds[4] are allocated to the USFS Regions based on two factors: previous years' tree mortality (regional detection surveys) and risk of mortality (National Risk Map). With the decline of spruce beetle populations in Alaska, particularly in the Anchorage area and on the Kenai Peninsula, the Alaska USFS Region's "fair-share" of funding is expected to be reduced in the future.

Other USFS program funds are available for matched grants to conduct biological evaluations and short-duration (1-3 year) research projects to answer questions discovered during "detection monitoring" efforts (during annual detection surveys, non-native pest monitoring,

[4] Alaska Division of Forestry recently worked with USFS R10 FHP to identify new partners for WBBI funding within high priority bark beetle problem areas. Among these were Alaska Native groups, forestry consultants, and private entities. DOF distributed (via hard copy, electronic letter, and web postings) a Western Bark Beetle Initiative call letter and an application packet to over 85 Alaskan Native Corporate entities that have at least some forested acreage in their jurisdiction, including ANCSA "non-profits", Alaska Native consultants (list developed by DOF's Stewardship Program manager), and Alaska Native consortia that assist the Alaska Native groups with Forestry and Natural Resources development projects (e.g. Tanana Chiefs Conference Forestry Dept. representing: Doyon Regional Corp., Kuskokwim Corp., and Alaska Village Initiatives Inc.). The funding availability notices were followed up with an email reminder and phone calls were made to a few of the consultants and Alaska Native tribal entities that have been most actively involved with Alaska Native groups in the past 3-4 years.
This reformulated solicitation and advertisement strategy in 2009 netted a scenario such that the majority of the region's allocation will be effectively leveraged and utilized. New partners as a result of this effort: Salcha-Delta Soil and Water Conservation District; Palmer Soil and Water Conservation District and DOF's Kenai-Kodiak Area Forestry Office. Potential partner opportunities were identified that have forest management or natural resources development budgets and might be encouraged to partner with R10 FHP on future WBBI projects: Alaska Mental Health Land Trust; Tanana Chiefs Conference Forestry Dept. (Doyon Region, Inc.); Afognak Native Corporation; villages tied into the Alaska Village Initiatives, Inc. consortium; and several Soil & Water Conservation Districts with incipient bark beetle infestations and forest health restoration needs.

etc.). One program is via the USFS/FHP/Forest Health Monitoring Evaluation Monitoring program. Another program, administered by the USFS FHM/Forest Health Technology Enterprise Team and USFS regions across the West, addresses matched funding grants to USFS researchers and state partners to conduct special technology development projects that provide forest pest management solutions to real-world problems-an example of this deliverable will be guidelines for managing slash and bark beetle populations during timber harvest, fuels hazard reduction, right-of-way clearing, etc. in interior Alaska white spruce stands.

Forest Health Program Objectives. DOF's Forest Health Program utilizes science, land management, and technology transfer expertise to restore and sustain forest landscapes – across urban, private, and State agency-owned/managed forests. These programs are designed to assist landowners in preventing, detecting, and suppressing insect, disease, and invasive plant outbreaks, making forest landscapes, and the communities that depend on them, more resilient to climate change. Funding allocations for forest health management projects are based upon level of risk as defined in the National Insect and Disease Risk Map (NIDRM), current pest locations and abundances, and other factors that include cost-effectiveness, probability of successfully implementing a treatment, and ability to conduct necessary environmental compliance. Forest health treatments are aligned with other staff activities (including annual coordination with USFS forest health staff), such as hazardous fuels, wood biomass and ongoing DOF forest management activities and projects. In addition, forest health projects are undertaken using an all-lands approach, working across land ownerships and leveraging funding with funding partners and key program cooperators whenever possible.

DOF Forest Health Program Key Objectives. Priorities for DOF's Forest Health Program in Alaska, as outlined in the Statewide Assessment of Forest Resources document, include:

1. Target priority landscapes as identified in the Alaska Statewide Assessment and Strategy for Forest Resources. An exception to this overall program strategy will be and adjustment to address forest pest emergencies due to non-native pest introductions that occur outside targeted priority landscape areas;
2. Participate with the U.S. Forest Service Forest Health Protection staff to conduct the annual Aerial Detection overview survey (ADS) on 25-40 million acres of priority forest landscapes with appropriate ground assessment of forest pest conditions (DOF responsibility under USFS base Surveys & Technical Assistance grant addresses state and private lands on Alaska's 127 million acres of productive forest lands);
3. Provide Forest Health Monitoring and Forest Health Management technical assistance and advice to State and Private forest landowners in Alaska, including mapping and GIS advice and assistance to Alaska's Fire, Stewardship and Community Forestry program staffs and the Forest Health Program's non-federal partners in cooperative projects (approximately 80% of this technical assistance is anticipated within the Alaska priority landscape area);
4. Conduct Early Detection and Rapid Response (EDRR) monitoring for economic non-native bark beetles and wood boring insects in the major population centers of Alaska-Anchorage, Fairbanks & Juneau (this is a cooperative effort with USFS, R10 FHP, ongoing

since 2002; adjusted annually based on ongoing risk assessments in the priority landscape areas);

5. Conduct emergency forest pest prevention, pest suppression and forest health restoration (PSR) projects for DOF and its partners (via matching grants from USFS/FHP, Alaska DNR Div. of Agriculture, USDA APHIS/PPQ and other federal partners),
6. Conduct biological evaluations, forest health research, specialized forest health/forest pest surveys and provide sound native and non-native forest pest management advice and assistance to non-federal forest ownerships in Alaska; and
7. Coordinate, at least annually, with R10 USFS Forest Health Protection staff to discuss ongoing forest health projects, cooperative staff/cost efficiencies, cooperative forest health projects/research, and forest health project plans and activities that cross-cut with other Cooperative Forestry programs in Alaska.

National Themes

1. ***Conserve working forests lands***. Vibrant and resilient forest lands are more likely to remain in forested status due to the greater contribution of these forested landscapes to the economic well being of communities and ecosystem services. The forest health protection program helps identify and reduce threats and impacts to forest health.

2. ***Protect forests from harm.*** Protecting forests from harm is at the core of the forest health protection program. Targeting specific forest health funding, resources and technical assistance to state key private forest partners is a primary objective to address this theme. Leveraging available forest health funding with private landowners and key agency landowners/cooperators to address emerging threats from both native and non-native forest pests is critical to program implementation. Identifying and reducing threats and impacts to forest health is outlined in detail in the following goals and program strategies.

3. ***Enhance public benefits from trees and forests.*** The forest health protection program seeks to enhance public benefits from forests through identification and management of forest health risks. This helps protect, conserve enhance ecosystem services and other economic benefits and values of trees and forest.

Goals and Program Strategies

Assessment Issue 3: Reducing Threats and Impact to Forest Health

Goal - Provide effective early detection and response to invasive forest pests

Strategies

- Work with key partners and stakeholders to expand EDRR monitoring efforts on priority landscapes as additional non-native pest and pathogen introduction pathways are identified (will require focused funding from USFS and others to achieve, keeping in mind that the Forest Health priority landscape area may require future modification).
- Increase awareness and advertise potential pathways for introduction of potentially destructive urban invasive forest pests and pathogens into Alaska (e.g. Emerald Ash Borer in transported hardwood firewood and Alaska Milepost© advertising in coordination with R10 USFS FHP and other key partners).
- Analyze historical archived ADS data to increase staff efficiencies that direct pest and pathogen overview and ground surveys and assessments to priority landscapes across Alaska (note: analysis of ADS data for destructive forest diseases such as wood decays and dwarf mistletoe will be primarily from ground-based data since these agents are not detectible in aerial surveys).
- Expand Alaska's EDRR monitoring for non-native bark beetles and wood boring insects outside of Alaska's three major population/transportation centers in coordination with R10 USFS FHP.
- Expand the agency and citizen network with Alaska communities for early detection of damaging and invasive non-native forest pests and pathogens (this will involve close coordination with AKDNR Division of Agriculture to document non-native invasive plants detected within high priority landscapes across Alaska).
- Develop generic management guidelines for new forest pest and pathogen invaders (e.g., AKDNR Div. of Agriculture, U.S. Customs & Border Protection (HAS), USDA APHIS/PPQ).
- Maintain DOF's active participation on the Alaska Pest Risk Assessment Committee (key partners: U.S. Customs & Border Protection, Homeland Security Agency; APHIS, Plant Protection & Quarantine Agency; U.S. Forest Service, Forest Health Protection).
- Pilot an integrated native and non-native species information web portal for one-stop pest- and pathogen-outbreak tracking in coordination with USFS FHP.
- Pilot development and use of a system to digitally record and map invasive plant locations in Alaska in coordination with USFS FHP.

Performance Outcomes

- Forest pests under surveillance state-wide by annual forest pest aerial detection survey with appropriate ground assessment.
- Non-native bark beetles and wood boring insects minimized.

- Introduction pathways identified and managed to intercept new forest pest invaders.
- Web portal for one-stop pest information and pest outbreak tracking completed.
- System to digitally record and map invasive plant locations completed.

Programmatic Resources Required

- Forest Health program
- Cooperative Partners in State and Federal government
- USFS State and Private Competitive grants

Goal - Mitigate impacts of damaging pest species (insects, pathogens and plants).

Alaska's capability to assess overall forest health conditions, mitigate forest pest impacts and provide technical assistance and comprehensive reporting on potential impacts to the majority of its forest resources on an ongoing basis is challenged in a number of areas. These include limited accessibility to forest resources, small staff resources in relation to potential forested area at risk, lack of infrastructure and population to support economic development, and lack of current forest cover type and mapping data (including reasonable refresh of mapping and satellite-based imagery products) that are required to assess forest cover and vegetation to assess pest risks and hazards and construct pest damage estimates and trends. As stated previously, the USFS cooperative lands forest health base funding has generally not been sufficient to provide technical forest pest assistance and survey advice directly to all Alaska's non-federal forest landowners but has been leveraged with supplemental funding from the USFS, other federal partners, and other state partners, to complete a variety of forest health treatments, directed forest health research, technology development and forest health demonstration projects on priority working forest landscapes.

A positive benefit of this strategic goal is that program funding has been directed to the most critical areas for on-the-ground forest health treatments (special partner grant funding and matching cost-share projects) with more of a focus to use of electronic formats (web based information portals, GIS mapping portals, etc.) for delivery of the aerial survey and ground-based forest health information to landowners, key partners, and the public. Currently, available state and federal forest health staffs are not able to provide 100% coverage with the annual ADS survey of 25-40 million acres of Alaska's approx. 127 million acres of forested lands). Computer and GIS mapping technology is used to collect the forest pest activity information during the aerial surveys although accuracy of the collected data is limited by forest cover maps that are 60+ years out of date in most cases. The challenge, and a potential negative impact to DOF's current objectives, is that delivery of forest health protection services with appropriate staff and funding resources will not be promptly directed to some pest problems because they are either unknown or the forest data (e.g., accurate forest cover types, current mapping imagery) needed to assess forest pest management actions is unavailable.

Strategies

- Manage delivery of western bark beetle prevention, suppression and forest health restoration ("PSR") projects via matching grants to qualified state and private Alaska landowners, including on-the-ground technical assistance to PSR grantees for some projects (i.e., dependent on DOF Forest Health Program staffing and resources capacities).
- Provide technical assistance to state and private managers, landowners and the public for management and control of invasive and destructive forest pests on priority landscapes (includes both native- and non-native species).
- Assist state and private landowners annually with PSR grant proposal development and provide technical coordination on approved projects for available western bark beetle prevention/suppression/forest health restoration matching grant funding. Funded projects will address immediate and emerging forest pest problems, primarily from native bark beetles.
- Explore additional opportunities in coordination with USFS to cost-share high priority western bark beetle funding with new partners in Alaska.
- Document all previously funded and future forest pest mitigation and forest health restoration treatments within the priority landscape areas identified in Alaska's Forest Resource Strategy (develop database with R10 FHP staff).
- Research and develop techniques, individually and via grant funding with key partners, to more effectively monitor native and non-native forest insects, manage or mitigate native bark beetle populations during forest management activities, manage forest stands impacted by chronic tree diseases or pathogens, and similar projects that provide transfer of new forest pest management technologies to DOF and our Forest Health Protection Program clients (e.g., in conjunction with scheduled timber harvest, hazardous fuels reductions, biomass projects, forest thinning operations, rights-of-way clearing operations, etc.).
- Build staff capacity to deliver focused forest health/forest pest research and technology development projects for appropriate forest pest management technology transfer to non-federal forest landowners.
- Develop a more refined forest cover type map for Alaska for assessing both native and non-native pest invasive species risk in coordination with USFS FHP.

Performance Outcomes

- Technical assistance provided to land managers, landowners, and the public regarding invasive and destructive forest pests.
- Completed western bark beetle prevention/suppression/forest health restoration grants.
- Forest pest mitigation and forest health restoration treatments within the priority landscape.

Programmatic Resources Required

- Forest Health program
- Cooperative Partners in State and Federal government
- USFS State and Private Competitive grants

Goal - Adapt management to changing climate with uncertain and varying scenarios

Broad scientific evidence confirms that global climate change is real and the impacts are dramatically altering forest and the goods and services they provide. Climate change observations in Alaska have been related to past patterns of weather and climate, including estimates of fire and insect return intervals; also, regional differences in forest disturbance and climate regimes have been related to intensity of bark beetle epidemics (Berg and Anderson 2006[5]; Berg et al. 2006[6]). These observations have been documented by scientists and government agencies although the impact the changed climatic conditions will have to dramatically alter the composition of Alaska's forests may not be fully known for decades. Regardless, any significant changes in future climate warming, or cooling, will have some measurable impact on the future goods and services Alaska's forests now provide. A synthesis of current research suggests the impacts of climate change will be most pronounced in the boreal forest regions of North America citation (Chapin et al. 2006[7]). Many of the most urgent forest management problems of the past 20 years – wildfires, changing water regimes, and expanding forest insect infestations – have been driven, in part, by changing climate. Future impacts are projected to be even more severe. The majority of Alaska's approximately 686,000 residents are concentrated in the three main population centers of Anchorage, Fairbanks and Juneau, which are also surrounded almost entirely by forests that are a critical component in our response to climate change. Managing the health of Alaska's forests to better adapt to both current and future climates will help ensure that forests continue to produce needed goods and services, including carbon sequestration, which is believed to advance efforts to reduce global warming. The USFS, along with its cooperative and partnering relationship with DOF's Forest Health Program, has a long history of managing ecosystems to restore, maintain, and enhance

[5] Berg, E.E. and R.S. Anderson. 2006. Fire history of white and Lutz spruce forests on the Kenai Peninsula, Alaska, over the last two millennia as determined from soil charcoal. For. Ecol. Manage. 227(3):275-283.

[6]Berg, E.E, J. D. Henry, C.L. Fastie, A.D. DeVolder and S.M. Matsuoka. 2006. Spruce beetle outbreaks on the Kenai Peninsula, Alaska, and Kluane National Park and Reserve, Yukon Territory: relationship to summer temperatures and regional differences in disturbance regimes. For. Ecol. Manage. 227(3):219-232.

[7] Chapin, F.S., D. McGuire, R.W. Ruess, M.W. Walker, R.D. Boone, M.E. Edwards, B.P. Finney, L.D. Hinzman, J.B. Jones, G.P. Juday, E.S. Kasischke, K. Kielland, A.H. Lloyd, M.W. Oswood, C. Ping, V.E. Romanovsky, J.P. Schimel, E.B. Sparrow, B. Sveinbjörnsson, D.W. Valentine, K. Van Cleve, D.L. Verbyla, L.A. Viereck, R.A. Werner, T.L. Wurtz, and J. Yarie. 2006. Summary and synthesis: past and future changes in the Alaskan boreal forest. In: Alaska's changing boreal forest: 332-338.

their health and resilience to stress. Alaska's relatively short "history" of managing specifically for forest health – less than 20 years – has necessitated development of a close partnership with the USFS FHP unit, for forest health management to appropriately address these recent landscape level forest health declines (e.g., recent spruce beetle epidemic). Future forest disturbances from both non-native invasives and also native forest pests will also need to be viewed through a climate change lens. Increased stresses from diseases, insects and invasive plants are also expected.

The DOF Forest Health Program has been working to develop a strategy to help set priorities and inform decisions in responding to climatic changes that will also force changes in Alaska's forests. Changes in the overall forest health and resiliency of Alaska's forests to withstand periodic forest pest "disturbances" will depend on understanding the effects of climatic changes to the forest. Part of this strategy is to partner and cooperate with USFS FHP staff specialists in Alaska to develop an invasive forest pest species strategy for Alaska's forested areas. Relating overall forest landscape changes to climatic changes and that also affects populations, movements and distribution of both native and non-native forest pests, will require good science-based understanding of both plant pest and plant host responses to climate changes.

Responding to Climate Change. The Forest Service is developing a strategy to help set priorities and inform decisions in sustaining forest and grassland resources. The strategy will be based on 20 years of targeted research and a century of science and management experience on public and private forest and rangelands. Forest Service research and management experience has produced highly skilled and experienced land managers, internationally recognized forest and range scientists, and a body of peer-reviewed scientific information for developing responses to climate change. The DOF Forest Health Program can benefit by close coordination with the USFS to keep abreast of the latest science and management research addressing climate changes, forest pests and forests. Any DOF actions that address response strategies for adapting forest health management to changing climate scenarios will be coordinated with the State of Alaska Climate Change Subcabinet's recommendations. A key goal will be to better integrate and leverage state and federal forest health resources (primarily staffs) to high-priority landscapes.

Strategies

- Continue DOF's participation on key USFS national working groups and conferences related to bark beetle management and research (USFS Western Bark Beetle Technical Working Group), forest insect pest management (USFS Western Forest Insect Work Conference), and forest health monitoring (USFS Forest Health Monitoring Working Group).
- Maintain DOF Forest Health Protection's capabilities for in-house mapping and GIS expertise to assist State of Alaska forest resource and fire managers and USFS FHP staff in reporting and analysis of the ADS forest damage data.
- Re-establish overall coordination of DOF's Forest Health Program with forest health staff assistance in both Anchorage and Fairbanks to better align with USFS FHP's Interior

Forest Health Unit staff and program (currently housed in DOF's Northern Regional Office in Fairbanks).

- Participate with USFS FHP in focused research, technology development, and related forest pest evaluation and monitoring projects utilizing available funding (e.g., USFS Special Technology Development Program grants, FHM Evaluation Monitoring grants, FHP EDRR Monitoring grants, etc.) that address both native and invasive non-native pest management in Alaska.
- Investigate how available Western Bark Beetle Initiative funding could be used in landscape-scale forest health restoration projects with key partners in accordance with the USDA Secretary Vilsack's vision for America's forests (e.g., partnerships with Fire, Stewardship, and Community Forestry utilizing focused S&PF Competitive Grant funding).
- Develop an action plan that addresses "Monitoring on the Margins" for tree species threatened by climate change in coordination with USFS FHP.
- Refine the Alaska LANDFIRE ecological vegetation classification for a forest tree cover classification to assess forest pest risk at a landscape level in coordination with USFS FHP (this is needed since Alaska lacks high-resolution base satellite imagery that would be most appropriate for developing detailed forest cover type mapping).
- Develop a central GIS database within the Alaska Dept. of Natural Resources for maintaining Alaska's Statewide Assessment and Resource Strategy geospatial layers (e.g., ArcGIS geodatabase development and maintenance).

Performance Outcomes

- National working groups and conferences related to bark beetle management and research attended.
- Focused research, technology development, and related forest pest evaluation and monitoring completed.
- Western Bark Beetle Initiative funding for landscape-scale forest health restoration projects obtained.
- "Monitoring on the margins" action plan for tree species threatened by climate change completed.
- LANDFIRE ecological vegetation classification to assess forest pest risk completed.

Programmatic Resources Required

- Forest Health program
- Cooperative Partners in State and Federal government
- USFS State and Private Competitive grants

Assessment issue 6: Cross Cutting Issues

Goal- Develop better data and information.

Strategy

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.

Goal - Solve unique geographic, social, and political challenges in Alaska.

Strategy

- Use modern technology to expand outreach, increase information exchange and promote partnerships with rural Alaskan communities.

Performance Measures

- Number of acres treated as a result of an AKDOF-conducted or –administered forest health project (most on-the-ground forest health treatments are conducted via AKDOF-sponsored projects designed to prevent or mitigate populations of injurious forest pests or restore pest-impacted stands to a healthier condition resulting from the treatment).
- Number of new EDRR sites established for ongoing exotic pest monitoring by AKDOF or forest health program partners/cooperators.
- Number of new WBBI grant program partners completing pest prevention, suppression or forest health restoration projects during the calendar year.

Community Forestry

Federal Guidance

The Urban and Community Forestry Program was established by Congress to improve the condition and extent of community trees and forests in cities, suburbs and towns nationwide. It encourages states to provide information and technical assistance to units of local government and others that will encourage cooperative efforts to plan urban forestry programs and to plant, protect, maintain, and utilize wood from, trees in open spaces, greenbelts, roadside screens, parks, woodlands, curb areas, and residential developments in urban areas
Urban and Community Forestry is broadly defined as the comprehensive management of forests and related natural resources in populated areas. These include the inner city, the developing fringe of cities and towns, and communities of various sizes. UCF management integrates natural, social, and economic systems as they affect and are affected by human activity.
The purposes of the Urban and Community Forestry Program, as stated in the Cooperative Forestry Assistance Act of 1978 (as amended), are to:

1. Improve understanding of the benefits of preserving existing tree cover in urban areas and communities;
2. Encourage owners of private residences and commercial properties to maintain trees and expand forest cover on their properties;
3. Provide education programs and technical assistance to state and local organizations (including community associations and schools) in maintaining forested lands and individual trees in urban and community settings and identifying appropriate tree species and sites for expanding forest cover;
4. Provide assistance through competitive matching grants awarded to local units of government, approved organizations or other local community tree volunteer groups, for urban and community forestry projects;
5. Implement a tree planting program to complement urban and community tree maintenance and open space programs;
6. Promote the establishment of demonstration projects to illustrate the benefits of maintaining and creating forest cover and trees;
7. Enhance the technical skills and understanding of sound tree maintenance and arboricultural practices; and
8. Expand existing research and educational efforts intended to improve the understanding of tree and forest ecology; the value of trees and ground covers; economic, environmental, social and psychological benefits of trees and forest cover in urban and community areas; and the role of trees in conserving energy and mitigating urban heat islands.

The USDA Forest Service provides national leadership and coordination. State forestry agencies provide statewide leadership, direction, networks, program management, and technical, financial, and educational assistance. The program relies on cooperation

among agencies, local and tribal governments, the private sector, not-for-profit and community-based organizations, educational institutions, and the Forest Service to promote understanding and management of community forests and related natural resources. State UCF councils advise the State Forester on program direction and priorities.

Assistance provided, including conservation education, must focus on trees, forests, open spaces, greenbelts, and related natural resources, to include soil, water, air, and wildlife. Activities and projects that are authorized include the planning and management of trees, forests, open spaces, greenbelts and related natural resources in communities, including urban and urbanizing areas.

The Forest Service has set four basic performance requirements for states to receive federal funding, which may be met in a variety of ways to best meet state needs:

1. An urban and community forestry program coordinator
2. Volunteer/partnership coordination
3. An urban and community forestry council
4. A state program strategic plan (five-year plan)

Alaska Community Forestry Program

In 1991 the Alaska Department of Natural Resources joined the nationwide effort to help communities improve the condition of their trees and forests through effective management. The Division of Forestry, through a partnership with the Forest Service, receives federal funds to administer the state's Community Forestry Program. A full-time coordinator and community assistance forester provide technical and educational assistance to communities, tree care professionals, volunteer organizations, businesses, and universities.

The Alaska Community Forest Council helps determine goals and priorities of the program and provides expertise and advice to the Division of Forestry. The 15 members represent the geographic and cultural diversity of the state and a broad spectrum of interests and experiences. Supporting community forestry is an important and appropriate role for state government because:

1. Community forests provide essential benefits we cannot live without.
2. A healthy community forest doesn't happen by chance; it is the result of proper planning, management, and community investment.
3. Healthy community forests can help solve many community problems.
4. Community forests and rural forests are connected; good management of one helps the other.

The rapid population growth and development that has occurred in Alaska since 1990 makes it imperative that the Division of Forestry build a greater awareness of, and commitment to, community forest management. Invasive species, urban/wildland fire, forest cover loss, urban sprawl, public health, water quality, air pollution, and climate change are just a few of the critical issues that community forestry positively addresses. A relatively small financial

investment produces big dividends for communities and direct benefits to Alaskans. On a larger scale, when hundreds of communities expand and improve forests locally, conditions improve globally.

Mission. The mission of the Alaska Community Forestry Program is to: ***Help communities build effective, self-sustaining community forestry programs with strong local support.*** Community forest sustainability is measured by how well the network of trees, forests, and related natural resources contribute to human quality of life in cities and villages. Focusing program delivery on sustainable management can help solve landscape-scale problems that affect thousands of Alaskans: air and water quality, climate change, energy consumption, loss of resources to urbanization and fragmentation, and natural disasters.

The Alaska Community Forestry Program will focus its efforts on three areas of need. Each area requires a different approach and different kind and level of state service.

1. Communities that have initiated community forestry programs but need technical and financial assistance to survive and grow into sustainable and effective programs.
2. Communities with potential but currently no or limited management programs for trees and forests.
3. Communities where forest management is important to quality of life but local program establishment is unlikely due to the community's size, structure, or lack of resources.

National Themes

The Alaska Community Forestry Program will address these themes as follows:

1. ***Conserve working forest land*** will be addressed by increasing the number of sustainable management programs that protect, manage, and expand community forests.

2. ***Protect forests from harm*** will be addressed by assisting land managers to conduct inventories and develop and implement management plans and practices that address forest health, invasive species, fragmentation, wildfire, and other threats to forests.

3. ***Enhance public benefits from trees and forests*** will be addressed by assisting communities to protect and maximize ecosystem services provided by forests such as clean air and water, productive wildlife habitat, locally produced wood products and biomass, and recreation areas. Effective management provides a better return on the funds invested by local governments in trees and forests.

Goals and Program Strategy

Assessment Issue 4: Enhancing Community Benefits from Trees and Forests

Goal - Support community development that maintains and enhances benefits provided by trees and forests.

Objective 1: Assist communities in devising reasonable, affordable, and effective ways in which to grow, develop, and protect their communities while integrating the critically important contributions made by forest ecosystems and other natural areas.

Strategies

- Participate in local and regional planning efforts that impact or influence management of community trees and forests.
- Measure baseline tree canopy for the largest population centers using high-resolution imagery.
- Support efforts to calculate the structure, environmental effects, and values of community forests using computer-generated models.
- Encourage best practices for protecting high-value forest landscapes in and around communities.
- Help communities assess and prioritize forest landscapes based on the services and benefits they provide as intact ecosystems.
- Bolster research that quantifies economic and environmental benefits that community trees provide when they are appropriately sited, planted, and maintained.
- Provide technical assistance to communities for writing effective tree management/protection ordinances and policies.

Objective 2: Build support for community forestry among policy makers, community leaders, and the public.

Strategies

- Demonstrate how trees provide economic, environmental, and social benefits greater than their cost when they are selected, planted, and maintained appropriately.
- Bring public attention to successful community forestry projects, programs, leaders, and partners.
- Increase awareness of development practices that conserve critical forest land, habitat, and air and water quality in communities.

Goal - Protect and improve environmental services provided by community trees and forests.

Objective 1: Improve air quality.

Strategies

- Participate in process to develop plans for nonattainment areas that incorporate trees.
- Encourage voluntary or enforceable measures to increase tree canopy or prevent its destruction.

Objective 2: Improve water quality.

Strategies

- Support stream restoration programs in communities, with an emphasis on mitigation of impaired waterways, as defined by the Department of Environmental Conservation.
- Work with communities to protect high-value forest tracts along waterways.
- Encourage practices and standards that limit the amount of runoff and pollutants that enter water bodies.
- Analyze cumulative impacts and help communities establish targets for impervious surfaces.
- Promote best practices for redevelopment in areas that exceed targets for imperviousness.
- Work with local storm water utility managers and public works directors on policies that value the contribution of urban trees and forests toward storm water management.

Objective 3: Help communities establish large-scale tree planting goals and plans.

Strategies

- Support efforts to prioritize tree planting locations based on environmental benefits.
- Develop a tracking tool for communities to monitor progress towards achieving planting goals.
- Partner with electric utility providers to promote planting the right tree in the right place near utility lines.

Goal - Build community forestry program capacity at the local level.

Objective 1: Establish professional urban foresters and arborists positions in Alaska communities.

Strategies

- Offer CF grants to sustain professional positions in high-priority communities.
- Create opportunities for professional development in urban forestry and arboriculture.
- Increase the number of Certified Arborists and Certified Municipal Specialists through ISA statewide.

Objective 2: Support effective and sustainable local community forest management.

Strategies

- Secure data required to measure tree canopy, assess forest condition and extent over time, and to quantify environmental services provided by trees and forests.
- Offer grants and assistance to complete working tree inventories and develop workable management plans.
- Assist in development of effective local risk management programs for trees.
- Support development of effective tree care and tree protection ordinances and policies.
- Encourage the adoption and use of industry standards and best management practices.
- Promote Tree City USA.

Objective 3: Offer technical and educational services to private-sector nursery; arboriculture; and landscape design, installation, and maintenance firms.

Strategies

- Encourage local tree care companies to obtain ISA Certified Arborist and Tree Worker credentials and training.
- Offer tree safety and tree worker training classes in larger Alaska communities.
- Foster development of tree nurseries in Alaska and adoption of high standards for quality.
- Promote Tree Line USA.

Objective 4: Strengthen local community forestry citizen groups.

Strategies

- Help state and local non-profit and volunteer groups to develop capacity to deliver large-scale tree planting and maintenance projects.
- Provide education and assistance to local tree boards and tree non-profit groups.
- Aid in expansion of pool of community forestry volunteers.

Objective 5: Maintain and expand partnerships with universities.

Strategies

- Expand use of interns for community forest management and research.
- Support incorporation of urban forestry and arboriculture courses into Alaska university curricula.
- Promote Tree Campus USA program.

Goal - Build a sustainable and effective State community forestry program.

Objective 1: Engage a diverse set of partners who strengthen sustainable community forestry programs.
Strategies

- Maintain current and establish new partnerships to support community forest management and to provide education, training, and information.
- Expand communication and partnerships within the Division of Forestry, Resources, Fire, and Cooperative Programs, to meet common goals.
- Increase networking, communication, cross-training, and understanding among local governments, state and federal agencies, arborists, planners, landscape architects, engineers, and others who manage or impact community trees and forests.
- Maintain a strong, active, and diverse Alaska Community Forest Council.

Objective 2: Maintain professional staff and a sustainable budget.
Strategies

- Identify and pursue more diverse funding for state program administration, delivery, and grants.
- Keep current on state and national urban and community forestry issues, legislation, and practices.
- Produce a work plan and accomplishment report annually that implements the five-year strategy.

Assessment issue 6: Cross Cutting Issues

Goal- Develop better data and information.

Strategy

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.

Goal - Solve unique geographic, social, and political challenges in Alaska.

Strategy

- Use modern technology to expand outreach, increase information exchange and promote partnerships with rural Alaskan communities.

Performance Outcomes

- Communities develop and sustain programs to manage their community trees and forests to effectively and efficiently meet local needs.
- Communities are served by community forestry professionals and a professional tree care industry.

- Communities participate in tree planting and other conservation activities that contribute to the quality of life, the environment, and the economy.
- Communities have plans that mitigate risks and prepare for catastrophic events.
- Communities benefit from local forest management that helps conserve energy and provides local biomass as an energy source.

Performance Measures

- Federal guidelines for the CF Program detail requirements and measurements for activities funded by the U.S. Forest Service. The measures below are reported nationally each year. Funds from other sources will require other measures.
- Number of people and percent of state population living in communities managing programs to plant, protect, and maintain their community trees and forests.
- Number of people and percent of state population living in communities developing programs and/or activities to plant, protect, and maintain their community trees and forests.
- Number of people living in communities provided educational, technical, and/or financial assistance.
- Number of communities with active community tree and forest management plans developed from professionally-based resource assessments and inventories.
- Number of communities that employ, or retain through written agreement, the services of professional forestry staff to advise and/or assist in planting, protection, and maintenance of community trees and forest. Staff will have at least one of these credentials: (1) degree in forestry or related field and (2) ISA certified arborist or equivalent professional certification.
- Number of communities that have adopted and can present documentation of local/statewide ordinances or policies that focus on planting, protecting, and maintaining community trees and forests.
- Number of communities with local advocacy/advisory organizations, such as active tree boards, commissions, or non-profit organizations that are formalized or chartered to advise and/or advocate for the planting, protection, and maintenance of community trees and forests.
- Number of hours of volunteer service logged.
- State-offered community grant program in current fiscal year.
- Number of communities receiving financial assistance awarded in current fiscal year through a state-managed community grant program.
- Amount of federal (USFS) funding to state.
- Federal (USFS) dollar cost or expenditure per capita in communities assisted.

Forest Stewardship

National Guidance

The nationwide Forest Stewardship Program was authorized in the Forestry Title of the 1990 Farm Bill. The program is funded by Congress, administered nationally by the U.S. Forest Service, and delivered to local landowners by State Foresters. The Forest Stewardship Act provides assistance to State Foresters for "the delivery of information and professional assistance to owners of non-industrial forest lands. Such information and assistance shall be directed to help such owners understand and evaluate alternative actions they may take".

In the Forest Stewardship Program—National Standards and Guidelines, the U.S. Forest Service of 2006 describes the purpose of the Forest Stewardship Program as "to encourage the long-term stewardship of non-industrial private forest lands, by assisting the owners of such lands to more actively manage their forest and related resources".

Alaska Forest Stewardship Program

Non-Industrial Forest Lands (NIPF). The Alaska Division of Forestry seeks to bring the benefits of a stewardship perspective to private forest landowners in Alaska and to contribute to national program goals. The Alaska Division of Forestry will provide technical information and financial assistance to private landowners in accordance with Alaska Stewardship Program priorities. Federal policy considers industrial private forests to be ownerships that are principally engaged in processing forest products. With lack of true industrial forest land in Alaska, non-industrial private forest land will be described as private forest land.

Alaska Native Corporations. Alaska Native Claim Settlement Act (ANCSA) corporations hold the majority of private forest acreage in Alaska and deserve significant Forest Stewardship Program support. Furthermore, serving these groups contributes greatly to national Program goals. The primary goal for ANCSA corporations should be to provide meaningful assistance rather than reach a numerical target. The major issues to be addressed with ANCSA corporations are second growth forest management, primarily in coastal Alaska, wood energy development, primarily in interior Alaska, and habitat management for subsistence species. Since 1991, 37 ANCSA corporations have completed Forest Stewardship plan covering 3,895,719 acres. The typical plan size is 106,000 acres in the interior and 21,000 acres southeast (Figure 1).

Many ANCSA Corporations in the coastal region completed timber harvest on their lands in the 1990's and many have second growth forests today. These second growth forests often have densities far above optimum for individual tree and value growth. Thinning, pruning, and fertilization are silvicultural techniques that may be applicable. Thinning allows greater diameter growth and hence lumber production. Thinning can also increase browse and hasten

the time for the forest to have mature forest habitats. Thinning also allows modifying species composition in regeneration often dominated by western hemlock. Pruning the basal 8 foot log can produce a more knot free and valuable log. Forest fertilization has been used only very limited in Alaska, but is believed to have promise when combined with thinning. Forest fertilization has been used operationally in British Columbia and Pacific Northwest states for years.

Maintaining forest roads is needed on many ANCSA corporation lands that have completed timber harvest. Some roads can be de-commissioned, but many roads provide useful benefits. Roads are needed for silviculture practices, subsistence uses, non-timber forest products, permitted visitor activities, and fire control. If roads are not maintained, culverts and ditches can clog which can lead to erosion and mass wasting into streams. Clearing ditches and culverts, crowning road surface, re-forming water bars, and brush removal are often needed on in-active roads.

Communities in the interior and boreal forest are heavily influenced by the high cost of energy. Many ANCSA corporations in this region have shown interest in developing forest for biomass fuels. Currently, no adequate model for a rural village / biomass energy system is present. However, Alaska Energy Authority has funded design and construction for some biomass energy systems. Forest planning has been progressing through assistance of the Forest Stewardship Program, NRCS, and USDA-Rural Development. However, significantly greater assistance is warranted for imagery, inventory, GIS, and winter road engineering.

Reforestation on boreal forest sites can be problematic. Mechanical scarification or fire can be effective for natural regeneration, but winter logging can have little site preparation effect. Site preparation or planting nursery grown seedlings may be too costly for rural boreal sites. Planting poplar stem cuttings may be a low-cost method of biomass reforesting on winter logged sites. Furthermore, newly developed hybrid poplars from Canada may have sufficient cold tolerance for interior Alaska. Hybrid poplars grow substantially faster than parent types. In addition to providing energy, biomass harvesting may enhance moose browse by broadleaf regeneration, thereby enhancing subsistence opportunities.

Trust Lands. The Federal Office of General Council has determined that land trusts of the University of Alaska and Mental Health Trust are eligible for federal assistance in the Forest Legacy Program. The Office of General Council determined that these trust lands are very similar to private land; hence the Forest Service indicated this ruling should extend to the Forest Stewardship Program. Both trusts have forest land with past timber production, particularly in southeast Alaska. The Forest Stewardship Program will provide assistance to trust land managers similarly to ANCSA corporations over the upcoming five years.

Individual Landowners. Individual private landowners hold much less total acreage than ANCSA corporations but have potentially greater numbers. The Forest Stewardship Program has provided plans for 765 individual private landowners since 1991 (Figure1). The average individual landowner plan size is 56 acres. However, in upcoming 5 years, assistance to

individual private landowners will be mostly limited to providing publications, referrals to partner agencies, and monitoring past plans. Defensible space planning and cost-share grants may continue as funding permits. Declining federal support and rising costs necessitate this change.

Figure 1. Forest Stewardship plans from 1991 to 2010.

Program Delivery. The following objectives will guide program delivery:

- The Forest Stewardship Program will be targeted to priority landscapes as identified in the Statewide Assessment of Forest Resources.

- Key issues for the Forest Stewardship Program, as identified in the Statewide Assessment of Forest Resources, will be second growth forest management, wood energy development, ecosystem services including habitat enhancement for subsistence species, and wildfire fuel reduction in the wildland urban interface.

- At current federal funding levels, significant federal Forest Stewardship Program funding will be available for grants to Alaska Native Corporations and trust landowners.

- Opportunities for supporting private sector resource professionals will continue.

- Monitoring of land management of Forest Stewardship program participants will be performed as required by the National Standards and Guidelines.

- A Geographic Information System tracking method for landowner locations and plan recommendations will be maintained and updated annually.

- Research and development for regeneration, nurseries, and genetic resources will be supported to improve forest management and forest planning.

- The Forest Stewardship Coordinating Committee will be convened approximately twice per year to review issues of the Forest Stewardship and Forest Legacy Programs.

Prioritization. The first level of prioritization will be the priority landscapes depicted in the Statewide Assessment of Forest Resources. The second level of prioritization will be landowners that can contribute to second growth forest management in the Coastal region or wood energy in the interior region. A third level of prioritization will be landowners that can contribute to hazardous wildfire fuel reduction within community wildfire protection plans boundaries.

Forest Stewardship Plan Standards. A Forest Stewardship Plan format will be maintained and modified as deemed necessary. The plan format will incorporate National Standards and Guidelines and local experience of the Alaska Division of Forestry. The format is intended to standardize plans and inform prospective participants about the scope and utility of Forest Stewardship Plans.

ANCSA Corporations and Land Trusts. Assistance will be primarily by providing grants to ANCSA corporations and trusts so that private professional resource services of the corporation's choosing can be obtained. Grants will be awarded to corporations demonstrating intent to develop a Forest Stewardship Plan by providing an acceptable project proposal. The grant amount will be determined by a rate schedule established in consultation with the Forest Stewardship Coordinating Committee. Grant terms and conditions have been standardized as part of procurement procedures of the Alaska Department of Natural Resources.

Due to larger acreage and complexity, Forest Stewardship Plan standards for ANCSA corporations and trusts may have elements not required for individual landowners. For new grant awards, a requirement for Geographic Information Systems (GIS) products will be sought. Expected GIS products will be digitized ownership boundary, USGS topographic map covering the ownership, vegetation classification at 50m resolution or finer, and geographic rectified imagery at 5m resolution or finer.

A concerted effort of outreach and assistance for ANCSA corporations and trusts will continue. Updates about Stewardship grant opportunities will be given in newsletters and mailings. Forest Stewardship promotional materials will be developed for distribution upon request. Revisions and updates of the Alaska Forest Stewardship web page will be conducted. All opportunities to describe Forest Stewardship planning and grants to Alaska Native leaders will be taken. Care will be taken to promote the program in an appropriate and welcomed manner.

Grants will be available to revise Forest Stewardship Plans if the existing plan is over 10 years old or conditions have significantly changed. Eligibility and funding amounts for plan revisions will be determined in consultation with the Forest Stewardship Coordinating Committee.

In addition to grants, additional planning services may be provided by the Forest Stewardship Program including:

- High resolution imagery, 1 m or finer, of some or all of an ownership.
- Ortho rectification.
- Civil engineering services to develop road system locations and identify planning design problems.
- Travel to investigate suitable logging equipment to be described in the Forest Stewardship Plans.
- Cost for forest inventory field crews.
- Cost for crews to conduct road condition surveys.
- Other procurements that may advance Forest Stewardship Plans.

Individual Landowners. In Alaska, individual forest landowners have been most concerned with protecting their homes from wildfire. A secondary concern has been damaging forest agents, particularly spruce bark beetle. Assisting landowners in understanding wildfire defense and damaging agents will be largely through providing publications, web sites, and referrals to partner agencies. Through these sources landowners can learn about threats and methods of mitigation.

Although assistance offered to individual landowners will be less than previous years, on-site wildfire defensible space assistance will continue as funding permits. As previously, Alaska forest landowners with 7 or more acres will be eligible for Forest Stewardship Program assistance. Residential homeowners with 2 or more acres in critical fire protection zones, as defined by the Alaska Wildland Fire Coordinating Group, will also be eligible for Forest Stewardship Program assistance. Alaska Native allotments are eligible for assistance, although few allotment owners have requested assistance.

Cost-Share Programs. Several cost-share programs may be available to landowners with Forest Stewardship plans, such as Wildland Urban Interface (WUI) grants or the NRCS Environmental Quality Incentives Program or Wildlife Habitat Incentives Program. Cost-share programs mostly support on-the-ground management action. No Forest Stewardship program funds will be used

for direct on-the-ground cost-share payments to private landowners. Forest Stewardship Program funds may be used for personnel cost to administer cost-share contracts. Cost-share practices and rates will be adjusted periodically in consultation with the Forest Stewardship Coordinating Committee.

Regeneration, Nurseries, and Genetic Resources. Silviculture research and development projects will be supported. Projects may include poplar and willow regeneration for biomass production, hybrid poplar development and field trials, site preparation testing, second growth forest thinning and fertilization trials, and seed testing and storage.

Monitoring. A system to monitor forest management activities of Forest Stewardship program participants will be developed and implemented. The monitoring system will incorporate national expectations with Alaska specific situations. A sampling method will be used to select properties to monitor. If some landowners decline to allow field monitoring, then other landowners will be selected. Activities on the properties will be assessed for consistency with Forest Stewardship plans. Properties will be rated as consistent with plans or not consistent with plans. Additional ratings may be developed as deemed necessary by the Forest Stewardship Coordinating Committee, State Forester, or U.S. Forest Service.

Records. Increasingly, land-based records are being maintained using Geographic Information Systems (GIS), the most widely used application being ArcGIS. GIS records may include aerial imagery, boundary maps of land parcels and forest types, and written information in attribute tables. The attribute table can record data and descriptive text associated with each land parcel. ArcGIS will be used to record Forest Stewardship plan location and associated information. ArcGIS will also be used for plan monitoring and cost-share practice records.

Forest Stewardship Coordinating Committee. A Forest Stewardship Coordinating Committee (FSCC) has been active in Alaska since program inception. The FSCC will be convened and will be supported by travel and per diem. FSCC membership will follow the Forest Stewardship Act and National Standards and Guidelines to extent possible.

The FSCC will provide advice and suggestions to the Alaska Division of Forestry for implementing the Forest Stewardship Program in Alaska. Regular business considered by the committee may include accomplishment levels, Forest Stewardship plan requirements and grant amounts, cost-share practices and rates, important resource area or cost-share practice prioritization, State or National concerns of private forest landowners, and Forest Legacy Program proposals. The committee may be requested to evaluate and rank funding proposals when funds are insufficient to support all eligible requests. This may involve developing timeframes and criteria for evaluation of proposals. Other business affecting private forest landowners or the Forest Stewardship Program may be considered as appropriate. In committee recommendations, consensus will be sought rather than a voting majority. The FSCC will be asked to participate in program reviews conducted by the U.S. Forest Service and other agencies

The FSCC will usually hold semi-annual meetings in spring and fall. Additional teleconferences may be scheduled as needed. Occasionally a field trip will be scheduled in place of a meeting. Announcements will be mailed several weeks prior to each meeting providing the date, location, time, and agenda. Meetings are open to the public, and persons expressing interest will be kept informed of meeting dates and agenda items.

National Themes

The Alaska Forest Stewardship program will address these themes as follows:

1. ***Conserve working forests land*** will be addressed by planning for sustainable management of private forest lands.

2. ***Protect forest from harm*** will be addressed by engaging private landowners in forest health and wildfire threats and presenting possibilities for mitigation.

3. ***Enhance public benefits from trees and forest****s* will be addressed by connecting private landowners to information sources regarding wildlife habitat, water quality protection, wood energy potential, and silviculture possibilities.

Goals and Program Strategy

Assessment issue 1: Expanding wildland urban interface, climate change, hazards, and decreased capacity

<u>Goal - Develop strategies for expanding Wildland Urban Interface and associated challenges for fire management</u>

Strategy

- Assist fire program with development of a comprehensive fuels management program to treat high risk areas through fire and mechanical fuel treatment, to minimize negative impacts of wildland fire on humans and to increase beneficial aspects for fire, especially to wildlife habitat.

Performance Outcomes

- Number and acres of Forest Stewardship Plans addressing fuels treatment in wildland urban interface.

Programmatic Resources Required

- State Wildfire Program
- Western Fire Managers - Wildland Urban Interface grants

- Forest Stewardship Program
- Natural Resources Conservation Service

National Themes Addressed
- Protect Forests from Harm

Assessment issue 2: Maintaining and Expanding Sustainable Output of Forest Products

Goal - Provide for effective management of second growth forest, including roads

Strategies
- Provide financial and technical assistance to eligible private landowners for forest planning.
- Work the Federal partners for cost-share funding to private landowners.

Performance Outcomes
- Number of forest acres planned and treated and miles of road repaired.

Programmatic Resources Required
- Forest Stewardship Program
- Natural Resources Conservation Service
- Other Federal
- Forest Resources and Practices

National Themes Addressed
- Conserve Working Forests Lands

Goal - Support development of biomass energy in rural Alaska

Strategy:
- Provide financial and technical assistance to eligible private landowners for forest planning.

Performance Outcomes
- Forest acres planned and treated.
- Programmatic Resources Required.
- Forest Stewardship Program.
- Natural Resources Conservation Service.
- Forest Resources and Practices.
- Alaska Energy Authority - Alternative Energy Program.

National Themes Addressed

- Conserve Working Forests Lands
- Enhance Public benefits from Trees and Forests

Assessment issue 4: Enhancing community benefits from trees and forests

Goal - Address land transfers, forest conversion and demographic changes in program and plans

Strategy

- Assist the Division of Parks and Outdoor Recreation in developing proposals for the Forest Legacy Program.

Performance Outcomes

- Number of successful Forest Legacy Projects completed.

Programmatic Resources Required

- Alaska Division of Parks and Outdoor Recreation
- Forest Legacy Program
- Forest Stewardship Program

National Themes Addressed

- Conserve Working Forests Lands
- Enhance Public benefits from Trees and Forests

Goal: Meet the increasing demand for fire wood for home heating

Strategy

- Assist private landowners plan for fire wood harvest.

Performance Outcomes

- Number and acres of Forest Stewardship Plans addressing fire wood.

Programmatic Resources Required

- Forest Stewardship Program

National Themes Addresses

- Conserve Working Forests Lands
- Enhance Public benefits from Trees and Forests

Assessment issue 5: Maintaining or improving output of ecosystem services

Goal - Contribute to the Governor's climate change subcabinet recommendations for carbon sequestration

Strategy

- Forest management for carbon sequestration by coastal forest pre-commercial thinning and fertilization and boreal forest reforestation after fire or insect and disease mortality.

Performance Outcomes

- Number and acres of Forest Stewardship Plans addressing thinning and reforestation.

Programmatic Resources Required

- Forest Stewardship Program
- Natural Resources Conservation Service
- Other Federal
- Forest Resources and Practices

National Themes Addressed

- Conserve Working Forests Lands
- Enhance Public benefits from Trees and Forests

Goal - Support cost effective habitat management for commercial, subsistence and sport uses.

Strategy

- Provide financial and technical assistance to eligible private landowners for forest planning.

Performance Outcomes

- Number of forest acres planned and treated and miles of road repaired.

Programmatic Resources Required

- Forest Stewardship Program
- Natural Resources Conservation Service
- Other Federal
- Forest Resources and Practices

National Themes Addresses

- Conserve Working Forests Lands
- Enhance Public benefits from Trees and Forests

Assessment issue 6: Cross Cutting Issues

Goal- Maintain and increase public support for forest management (social license)

Strategy

- Use modern technology to expand outreach, increase information exchange and promote partnerships with rural Alaskan communities.
- Support and work collaboratively with the Division's Conservation Education Program.

Goal- Develop better data and information

Strategies

- Seek cross program funding opportunities for acquisition of high resolution geospatial data for priority landscapes.
- Develop forest regeneration techniques for woody biomass.
- Improve Forestry's GIS capability. Provide training modules in GPS/GIS.

Performance Measures

- Number of new or revised Forest Stewardship Management Plans completed.
- Number of new or revised Forest Stewardship Management Plans completed in important forest resource areas.
- Number of acres covered by current Forest Stewardship Management Plans (cumulative).
- Number of acres in important forest resource areas covered by current Forest Stewardship Management Plans (cumulative).
- Number of landowners receiving Forest Stewardship Program technical assistance.
- Number of landowners participating in Forest Stewardship Program educational programs.
- Total number of acres in important forest resource areas being managed sustainably, as defined by a current Forest Stewardship Management Plan through a monitoring program.

Conservation Education

National Guidance

Since the founding of the Forest Service in 1905, an important component of the mission has been increasing youth and adult knowledge of forest and grassland ecosystems. Various Conservation Education programs are found in every level of the organization.
The Forest Service Conservation Education Program works with partners to coordinate development and delivery of high-quality, science-based education about forests, grasslands, and related natural resources to pre-kindergarten through 12th grade students and their educators, in both formal and non-formal settings.

Themes of Forest Service Conservation Education are:

1. Climate Change
2. Water
3. Kids in the woods
4. Wildland Fire

Within these themes, the emphasis is placed on the following:

a) Evaluation and Monitoring
b) Place based education and Service Learning
c) Teacher training

Conservation Education in Alaska

The State of Alaska's Division of Forestry (DOF), in partnership with the University of Alaska-Fairbanks Cooperative Extension, began sponsoring Conservation Education in Alaska in 1985. In 1993, the Division initiated funding a three-quarter time coordinator with the continued support of the University of Alaska-Fairbanks Cooperative Extension and the Alaska Forest Association. In 2001, the Division committed to full funding of the Education Coordinator. Since that time, the position is funded approximately eight months through DOF Cooperative Forestry and four months through DOF Wildland Fire Prevention and Education, and in more recent years with additional State General Funds.

The primary mode of delivery for education programs is the delivery of credit classes for educators. Through 2001, the Division provided one core class, Project Learning Tree, a national program sponsored by the American Forest Foundation. Since 2001, the Division has added four additional courses designed to meet the needs of particular audiences and to address goals of the Division and its partners.

Currently, Project Learning Tree and Fire in Alaska are provided on a statewide basis, although the majority of the workshops are conducted in South-central Alaska. Exploring Environmental Issues and Alaska's Boreal Forest have been conducted exclusively in south-central, but there is potential for these courses to be offered in Interior and Southeast Alaska. By providing shadowing opportunities for DNR volunteers and agency staff, Division of Forestry will be able to offer these courses to educators outside of south-central without incurring the prohibitive travel costs. In the event that additional funding becomes available, it may be possible to expand Alaska Division of Forestry's education staff from one statewide position, to a model such as many of our cooperators have with regional education coordinators. In an ideal scenario, DOF would have an additional coordinator in Juneau and Fairbanks.

A program sponsor, the American Forest Foundation, provides a means for teachers completing a Conservation Education courses to apply for grants through a program called *Greenworks.* Since 2001, at least one Alaskan formal or non-formal educator has succeeded in securing a Greenworks grant each year that has enabled them to fund a project that benefits the environment with full student and community participation.

Environmental literacy requires a fundamental understanding of the relationships and interactions between the living and nonliving environment. Citizens are environmentally literate when they have knowledge of environmental processes and issues necessary for them to make informed decisions and participate in civic affairs. The current No Child Left Inside legislation may present a historic opportunity for states to access federal dollars for natural resources education. In Alaska, an interagency and non profit work group has been formed to draft an environmental literacy plan. This is the first critical step in accessing those dollars. Along with partners, the Division of Forestry will provide time, expertise, and financial resources to meet deadlines and assure that Alaska is able to participate in the National effort.

Forest Health, Fire, Community Forestry, State Forest Resource Management, Forest Practices and Stewardship programs all have a fundamental role in providing public education to help accomplish their missions. For example, as policy the fire program seeks to utilize fire as one tool to manage Alaskan forests, and to protect people and resources from un-wanted fire. Human caused fire represents two-thirds of the starts in Alaska, and fire managers know that homeowner's steps taken to make homes *firewise* before an event have a significant impact on the home's survivability. Education provides a means to address both of these issues. An environmentally literate public is critical to maintain the social license to effectively manage public and private forest resources in Alaska. One way to help ensure the Forestry Education program is integrated with the needs of the Division's programs will be to attend monthly Cooperative program staff meetings. Another way will be to publicize inter-division success stories that highlight how education is helping to accomplish program goals.

From 2003-2008, Division of Forestry was successful in obtaining state fire assistance grants to implement a fire education component in public schools. By any measure, this initiative was wildly successful and was featured nationally through several venues. This is having a predictable impact on Division of Forestry fire education efforts. The Division will increase

efforts to secure future funding for this class, and use suggestions and templates from other states that were successful in 2011-15 grant requests.

Conservation Education Program Objectives

1. Expand the geographic breadth of Conservation Education in Alaska.
2. Invest in expanded training of our pool of volunteers and cooperators in other regions of the state.
3. Expand support the Fire in Alaska educator's series.
4. Start early and work closely with collaborators to frame grant proposals in such a manner that approval is likely.
5. Continue to emphasize service learning opportunities for educators.
6. Work with cooperators to finalize and implement an environmental literacy plan for the State of Alaska.
7. Participate in the No Child Left Inside state workgroup.
8. Continue to integrate education into the various DOF programs.
9. Increase collaboration with program managers to look for ways to use public education to accomplish their goals.
10. Provide information and encouragement about Greenworks opportunities at workshops, and research and present other grant opportunities for environmental service learning by students.

Conservation Education Program Delivery. Division of Forestry conservation education intent is to create a generation of critical thinkers and this will only be possible if it has the mechanisms to create educators who are confident and competent in providing nature based lessons. The Division of Forestry currently provides a minimum of one full day of natural resources education to all of the graduates of education programs of the University of Alaska-Anchorage, University of Alaska-Fairbanks, Kenai Peninsula College, and Alaska Pacific University. Division of Forestry maintains strong working relationships with the largest school districts in Alaska and is currently the single greatest provider of supplemental curriculum in the state. Last year 409 educators completed the training. Division of Forestry maintains strong working relationships with Federal and State agencies which have similar outreach goals.

Division of Forestry's Conservation Education program objectives mirror the objectives of Forest Service conservation education programs. Presently, the mission of Conservation Education is to create a generation of critical thinkers equal to the task of evaluating Alaska's complex environmental issues. Ultimately, citizens will consider social, economic, and ecological factors to become participatory citizens, and to act individually to use natural resources in a responsible manner.
To accomplish this Division of Forestry will:

- Provide credit and non credit classes for educators.

- Provide instruction and curriculum to public school teachers, homeschooling parents, non profit volunteers (scouts, Future Farmers of America, etc), and agency outreach staff. In 2009, Division of Forestry provided 29 statewide workshops with 409 graduates.

- Provide classes that address Forest Service and Division of Forestry goals. Currently, Alaska Division of Forestry offers five different credit options for educators.

    a) Project Learning Tree, Division of Forestry's core conservation education class, provides structured kindergarten through grade eight activities over a broad range of environmental topics, emphasizing the connections in forestland between biotic, abiotic, and human influences.

    b) Fire in Alaska, a 15 hour course, provides instruction and curriculum to teach middle and high school fire ecology, fire behavior, and living responsibly in the wildland urban interface.

    c) Exploring Environmental Issues provides curriculum and instruction in place based, community education. Participants use technology to chronicle positive and negative changes in their communities over time and make plans to manage future changes.

    d) Early childhood curriculum provides tools to bring nature into the early childhood classroom and to provide structured experiences for the providers to get kids outdoors. Early childhood research shows that attitudes are formed much earlier about our place in the natural world than previously thought.

    e) Alaska's Boreal Forest provides middle and high school educators with a field based course that teaches them how to implement true environmental evaluation and monitoring into their science classrooms. Participants learn how to perform 1/30th acre forest plots, conduct physical, chemical, and biological stream investigation, and use GPS technology to study wildlife habitat.

- Provide student based natural resource instruction.

    Alaska Division of Forestry personnel and volunteers respond to a great many requests by schools, non profits, and outdoor camps to provide fun and interactive lessons on nature based topics to student audiences.

- Maintain and strengthen partnerships that make all of the above possible.

National Themes

1. ***Conserve working forests land*** will be addressed by teaching students and educators about sustainable forest management.

2. ***Protect forest from harm*** will be addressed by workshops on Fire in Alaska for students, educators, and the public.

3. ***Enhance public benefits from trees and forests*** will be addressed by providing students with understanding of forests, wildfire, wildlife, and locally produced wood products and biomass.

Goals and Program Strategy

Assessment issue 6: Cross Cutting Issues

Goal- Maintain and increase public support for forest management (social license)

Strategies

- Expand the geographic breadth of Conservation Education in Alaska.

- Increase collaboration between educators and program managers.

Goal - Solve unique geographic, social, and political challenges in Alaska

Strategy

- Invest in expanded training of our pool of volunteers and cooperators in other regions of the state.
- Start early and work closely with collaborators to frame grant proposals in such a manner that approval is likely.

Performance Outcomes

- Students and educators provided with a broad understanding of forests and forestry.
- Schools and educational institutional institutions having incorporated natural resources into curricula and activities.
- The public having in-depth and factual coverage of forestry, wildfire, and natural resources.

Programmatic Resources Required

- Conservation Education program
- Wildland Urban Interface grant program
- Department of Fish and Game
- Cooperative Extension Service
- School Districts

Performance Measures

- Report yearly summarizing key education statistics such as the number of workshops completed and the number of participants successfully graduating.
- Document increased training of DNR volunteers and cooperators and their subsequent contribution to workshop totals outside of south-central Alaska.
- While substantially maintaining workshop and participant levels for south-central Alaska, schedule and complete more workshops in Interior and southeast Alaska as well as in small towns on the road system.
- Successfully compete for state fire assistance grants that support the Fire in Alaska educator series.
- Document environmental service learning projects that are funded as a result of our education outreach efforts.
- Document successful new funding sources potentially available through increased federal support of environmental education. Using the Environmental Literacy plan as a guide, work with the Department of education and other cooperators to implement natural resources education in classrooms statewide.

Forest Legacy

National Guidance

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, [16U.S.C.2103c et.seq.]). As defined by statue, 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 project costs 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.

Purchased interests in land may include a variety of property rights ranging from conservation easements to fee simple acquisitions, but most often restrict development and subdivision. The FLP offers the opportunity to utilize a variety of protection alternatives intended to protect private forestland from conversion to non-forest uses. 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 federal and state requirements for the acquisition of lands or interests in lands.

Under FLP, the state, with 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. The state or its designated local unit of government must hold the interest in land acquired.

State of Alaska Forest Legacy Program Description

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 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 intent of identified 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): important forest lands threatened by conversion to non-forest uses. Federal FLP funds may be used to purchase interests in forest lands that meet state and FLP eligibility criteria within the FLA. The Forest Legacy Area description and the eligibility criteria used to identify it are described in the Assessment of Need.[8]

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.

The Alaska Forest Legacy Program is integrated with other State and Federal cooperative programs. The Commissioner's Office is directly involved in implementation of the Forest Legacy Program, as well as a variety of complimentary federal grant programs such as the National Coastal Wetlands conservation program, and the NOAA Conservation and Estuarine Lands Conservation Program, These complimentary programs focus on preserving healthy, functioning forests, wetlands, watersheds, and ecosystems. Programmatic integration of Forest Legacy with other grant programs with similar objectives complements and leverages all programs. Additionally, Forest Legacy compliments Forest Stewardship, National Forest, and National Parks in providing tourism, fish and game, and recreation opportunities in Alaska Forests. Forest Legacy compliments community forestry by addressing land transfer and forest conversion in areas such as the urban/forest interface. Forest Legacy compliments Forest Practices and Forest Stewardship by maintaining forest carbon stores and thus contributes to the Governor's climate change strategies.

[8] Alaska Division of Parks and Outdoor Recreation. 2002. Alaska Forest Legacy Program Assessment of Need. Alaska Division of Parks and Outdoor Recreation. p.51 – 55.

The Forest Stewardship Committee provides input and program guidance, reviews and recommends projects for submission, and provides support for the program at the local level. The committee includes a diverse set of stakeholders that represent conservation organizations, land trusts, other resource agencies and private landowners.

Alaska's Forest Legacy program encourages partnerships with non-profit conservation organizations and local governments. Completed Forest Legacy projects in Alaska demonstrate the success of partnerships involving a variety of conservation organizations, local government, the State, and the Forest Legacy program.

Completed Forest Legacy projects in Alaska include:

- Aqulowak—Wood-Tikchik State Park
- Diamond Creek—Homer
- Sorensen/Gorman—Wood-Tikchik State Park
- Colorado Creek—Chena River State Recreation Area
- Shuyak, Perenosa Bay – Northern Afognak

Priority Area

The current Forest Legacy Area (FLA) appears as the red shaded area on FLA Map. 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 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.

Project proposals are initially screened for feasibility and compliance with Forest Legacy program goals and objectives[9] as well as state land acquisition considerations.

Initial Screening Criteria

1. Will the proposed project meet identified state or local government needs identified in planning documents specifically the State's Forest Legacy Program Assessment of Need,[10] as well as other planning documents such as the Statewide Comprehensive

[9] Alaska Division of Parks and Outdoor Recreation. 2002. Alaska Forest Legacy Program Assessment of Need. Alaska Division of Parks and Outdoor Recreation. 87 p

[10] Ibid.

Outdoor Recreation Plan (SCORP) and other state, municipal or city planning documents. Other needs may be identified by a government entities, the public, an NGO or other entity in other documents or informally.

2. Is the proposed project located in or adjacent to a Legislatively Designated Area (LDA) or in an area that is manageable by the State or local government entity?
3. Is the proposed project free of encumbrances and liabilities?
4. Is the proposed project area or parcel legally described?
5. Are there any known hazardous materials or contamination issues?
6. What public purpose does the project serve? (such as economic, recreational, public access, habitat, etc.). It is expected that the greater public will benefit from the project.
7. Who will hold title?
8. Is adequate match documented in writing as required by the funding source?
9. Is broader support for the proposed project documented in writing (for example, political, community or interest group support)?
10. Is there a willing seller?

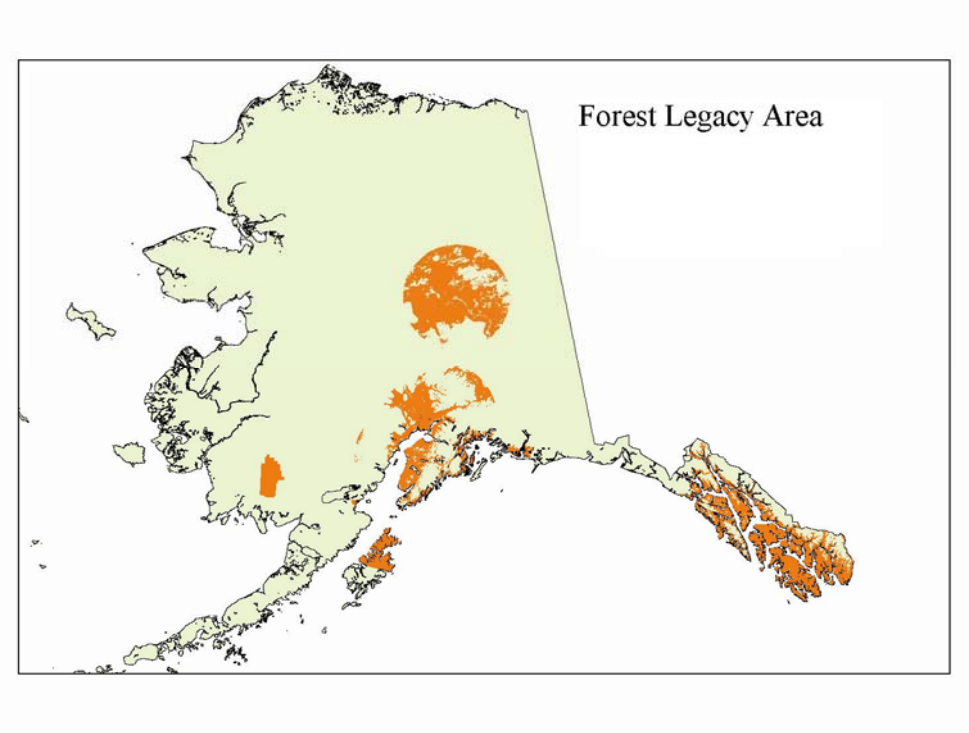


Figure 2. Forest Legacy Area.

Proposals fulfilling initial screening criteria are further evaluated against the State's general prioritization considerations (for all grant programs) and the Forest Legacy Program national evaluation criteria.

State Prioritization Considerations:

Threat:

1. Is the area identified in the proposed project threatened?
2. How immediate is the threat of conversion and is the threat real?

Importance:

3. How important are the public benefits associated with this project?
    a. Forest resources, including non-timber forest products
    b. Access, recreation
    c. Economic
    d. Environmental or ecological
    e. Social, cultural
    f. Water quality and watershed protection
    g. Scenic and/or outdoor recreation benefits

Strategic:

4. Is the project located in or adjacent to a Legislatively Designated Area (LDA) or locally designated area?
5. Is the project manageable?
6. Is the project accessible?

Readiness:

7. How complex is the proposal? Are there multiple parcels, multiple landowners, boundary questions, erosion or accretion issues? Subsurface ownership?
8. Is there an acceptable legal description?
9. Is there a preliminary commitment for title insurance?
10. Have any other due diligence tasks been completed?
11. Have funds been dedicated for this specific purpose (e.g. legislation, mitigation)?

All interests in land are secured in accordance with State and Federal (Uniform Standards for Professional Appraisal Practices (UASFLA)) appraisal and acquisition standards and procedures. The acquired interests in lands are documented on State Land Administration System records and remain with the parcel record in perpetuity. FLP parcels are managed consistent with the purposes, goals and objectives for which they were acquired.

National Themes

The 2008 Farm Bill established 3 State and Private Forestry National Themes. The Alaska Forest Stewardship program will address these themes as follows:

1. ***Conserve Working Forest Lands***
    - FLP applicants are encouraged to work with partners, stakeholders, land trusts and communities to leverage private sector and government efforts to secure strategic parcels that protect and connect ecologically important forestlands, habitat, working forests and open space.
    - FLP projects seek to create contiguity in forested landscapes by utilizing a variety of partners and grant funding opportunities.

2. ***Protect Forests from Harm***
    - FLP projects seek to protect working forests from fragmentation, subdivision, and negative environmental and human impacts through the use of deed restrictions, management plans and other appropriate tools.
    - In some cases protection of forestlands can occur at the wildland-urban interface.
    - FLP projects target high-value forests supporting impaired water bodies through partnerships with communities and local land trusts.

3. ***Enhance Public Benefits from Trees and Forests***
    - FLP projects often target riparian habitat as well as watershed heath in order to protect, restore and sustain water quality and water quantity.
    - FLP projects provide high quality public recreation opportunities.
    - FLP projects often target riparian habitat critical to the health of both commercial and sport fisheries.

Goals and Program Strategies

Goal - Address land transfers, forest conversion, demographic changes, forest fragmentation, and the need for green infrastructure in program and plans.

- Strategy - Administration of the State's Forest Legacy Program by the Division of Parks and Outdoor Recreation.

Goal - Support cost effective habitat management for subsistence, sport and community uses, including water supplies, traditional forest uses, and production of wood and non-timber forest products.

- Strategy - Work with Federal partners for cost-share funding to private landowners.

Goal - Provide for tourism, fish and game resources, habitat connectivity and diversity, and recreation in Alaskan Forests for benefit of local economies.

- Strategy - Administration of the State's Forest Legacy Program by the Division of Parks and Outdoor Recreation.

Programmatic resources required

- Forest Legacy Program
- Division of Parks and Outdoor Recreation
- Conservation organization partners
- Department of Natural Resources Commissioner's Office
- Division of Mining, Lands, and Water, Realty Services, Surveys, Appraisals sections.

- Forest Stewardship Program, Forest Stewardship Committee

Performance Measures

- Successful administration of the State's Forest Legacy Program.
- Acceptance, review, and prioritization of Forest Legacy applications.
- The coordination of acquisition of interests in land, which may include but are not limited to due diligence efforts such as surveys, appraisals, title review and preparation of legal and required documents and supporting documentation.
- Coordinated acquisition process within State Government.
- Coordinate with and leverage other conservation efforts.
- Coordination of Forest Stewardship Committee review of Forest Legacy proposals.
- Monitoring of completed Legacy Conservation Easements.

Conclusion

This Statewide Forest Resource Strategy identifies programmatic resources and strategies to address goals as identified in the Statewide Assessment of Forest Resources. These goals were developed through a collaborative outreach with stakeholders who identified six key issues important to stakeholders. Most of these issues and underlying goals are served by employing multiple programmatic resources available to the State Forester. The following matrix shows the inter relationships between the issues, goals, programmatic resources and underlying national themes.

Implementation of the Statewide Forest Resource Strategy requires successful implementation of the Division of Forestry Strategic plan and continued public support and funding at both the state and national level. Continued partnerships with several Federal and State agencies, local governments, and the private sector is also needed. When partners and the public understand the Division of Forestry goals and strategies, programs and outcomes can be improved.

THIS PAGE INTENTIONALLY LEFT BLANK

Integration Matrix

Issues and Goals	USFS Cooperative Programs							State Programs			Partners												National Themes		
	State Fire Assistance	Forest Health Protection	Forest Stewardship	Urban & Community Forestry	Forest Legacy	Conservation Education	Tongass Economic Timber	Forest Practices	State Fire and Aviation Program	State Forest Resource Management	US Forest Service	Natural Resource Conservation Service	US Dept of Interior	Other Federal	State Agencies	Alaska Native Corporations	Cities and Boroughs	Schools / Universities	Local and Volunteer Fire Departments	Environmental & Conservation organizations	Forest Industry and Forestry Consultants	Protect	Conserve	Enhance
Issue 1: Expanding wildland urban interface, climate change, hazards, and decreased capacity																								
Goal 1. Develop strategies for expanding Wildland Urban Interface and associated challenges for fire management.	X		X	X		X			**X** *	X	X		X		X	X	X		X		X	X	X	X
Goal 2. Develop plans for difficult fuel types resulting from spruce bark beetle epidemic.	X	X	X	X					**X**	X	X		X			X	X		X			X	X	X
Goal 3. Address longer fire season and increased fire intensity resulting from climate change; "Mega Fires".	X	X	X						**X**	X	X		X		X	X	X		X			X	X	X
Goal 4. Maintain capacity to manage Wildfire and Mitigate Damage and Risks from Wildfire.	X								**X**		X		X	X	X	X	X		X			X	X	
Issue 2: Maintaining and Expanding Sustainable Output of Forest Products																								
Goal 1. Maintain timber supply to support industrial capacity and infrastructure to conserve working forest in Southeast Alaska.							X			X	X				X						X		X	X
Goal 2. Provide for effective management of second growth forest, including roads.			**X**				**X**			**X**	X	**X**			X	X					X		X	X
Goal 3. Support development of biomass energy in Alaska.	X		X					X		X	X	X	X		X	X	X	X			X		X	X
Goal 4. Develop and maintain infrastructure needed for resource management.							X	X		**X**	X	**X**	X			X					X		X	X
Goal 5. Assist lowering high costs of production and barriers to market entry.							X			X	X			X	X	X		X			X		X	
Goal 6. Engage a diverse set of partners to support sustainable forestry programs.			X			X	X			**X**	X	X	X	X	X	X	X	X		X	X		X	X
Goal 7. Effective administration of the Forest Resources and Practices Act (FRPA) to maintain Best Management Practices.								X		X		X			X	X	X			X	X	X	X	
Issue 3: Reducing threats and impacts to forest health																								
Goal 1. Provide effective early detection and response to invasive forest pests.		X								X	X			X	X	X						X		
Goal 2. Mitigate impacts of damaging pest species, (insects, pathogens and plants).		**X**								X	X			X	X	X						X		
Goal 3. Adapt management to changing climate with uncertain and varying scenarios.		X	X	X	X				X	X	X	X	X	X	X		X		X		X	X	X	
Issue 4: Enhancing community benefits from trees and forests																								
Goal 1. Support community development that maintains and enhances benefits provided by trees and forests.				X						X				X		X			X	X				X
Goal 2. Protect and improve environmental services provided by community trees and forests.				**X**		X				X	X			X		X			X	X				X
Goal 3. Build community forestry program capacity at the local level				X		X				X				X		X			X	X				X
Goal 4. Build a sustainable and effective state community forestry program.				**X**						X				X		X			X	X				X
Goal 5. Address land transfers, forest conversion and demographic changes in program and plans.			X	X	X					X	X	X		X	X	X				X		X	X	
Goal 6. Meet the increasing demand for fire wood for home heating.			X							X	X	X			X	X	X						X	X
Issue 5:Maintaining or improving output of ecosystem services																								
Goal 1. Contribute to the Governor's climate change subcabinet recommendations for carbon sequestration.			X		X			X		**X**	X	X	X		X	X	X	X		X	X		X	X
Goal 2. Support cost effective habitat protection and management for commercial, subsistence and sport uses.			**X**		X		X	X		X	X	**X**	X		X	X	X			X	X		X	X
Goal 3. Provide for tourism, fish and game resources, and recreation in Alaskan Forests for benefit of local economies.					**X**		X			X	X		X	X		X	X			X			X	X
Issue 6: Cross Cutting Issues																								
Goal 1. Maintain and increase public support for forest management (social license)			X			X	X			X	X	X			X	X		X			X		X	
Goal 2. Develop better data and information.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Goal 3. Maintain state, federal, and private management capacity for fire and resource management.	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X		X			X	X	X
Goal 4. Solve unique geographic, social, and political challenges in Alaska.		X	X	X	X	X	X	X	X	X					X	X	X	X		X	X			

* *Bold* **X** *indicates lead program(s) for goal.*

Division of Forestry