

**Statewide Timber Inventories to Support Annual Allowable Harvest Determinations and Federal Coordination on Timber Sales**      **FY2014 Request: \$300,000**  
**Reference No: 49201**

**AP/AL:** Appropriation      **Project Type:** Research / Studies / Planning  
**Category:** Natural Resources  
**Location:** Statewide      **House District:** Statewide (HD 1-40)  
**Impact House District:** Statewide (HD 1-40)      **Contact:** Jean Davis  
**Estimated Project Dates:** 07/01/2013 - 06/30/2016      **Contact Phone:** (907)465-2422

**Brief Summary and Statement of Need:**

Forest inventories in the areas of McGrath, Galena, and Haines will determine sustainable harvest levels and assist in evaluating the economics of biomass utilization and value-added product niche markets. Wood resources decrease local energy costs in a long term sustainable manner. Accurate data is needed to determine the viability of proposed biomass energy and wood processing facilities.

<b>Funding:</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>FY2017</b>	<b>FY2018</b>	<b>FY2019</b>	<b>Total</b>
Gen Fund	\$300,000			\$200,000			\$500,000
<b>Total:</b>	<b>\$300,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$200,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
<b>Totals:</b>	<b>0</b>	<b>0</b>

**Prior Funding History / Additional Information:**

Sec7 Ch43 SLA2010 P31 L32 SB 230 \$215,000

**Project Description/Justification:**

**WHAT IS THE ISSUE OR PROBLEM TO BE SOLVED?**

Demand for wood as an energy source is increasing dramatically. In FY2009, the Alaska Energy Authority funded 31 grant applications for woody biomass projects statewide through four calls for proposals. Another 30-40 applications were submitted for biomass projects during calls five and six. Ability to meet that demand relies on an accurate inventory. Little information is available that indicates what the true volume is on state lands and no stand based inventory maps are available. To provide for sustainable harvest scheduling, inventory information is required to prepare an access and logging plan for both winter and all season harvest. Demands on state forested lands are increasing from timber sale activity, firewood harvest and biomass.

**WHAT IS THE SCOPE OF WORK TO BE PERFORMED?**

This project would complete a timber inventory for Southwest areas surrounding McGrath, and Interior areas surrounding Galena. It would also gather growth data, biomass data, develop Geographic Information Systems (GIS) capacity and complete growth model development for the Haines State Forest inventory update.

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In the McGrath area, this project would complete the first detailed forest inventory on state lands along the Kuskokwim River. Fuel costs are having a severe impact on communities along the river corridor and into the Kuskokwim Delta. Currently small operators are finding it feasible to barge fuel wood to the Delta from as far up river as McGrath and demand is increasing. A forest inventory in this area will help ensure that the resource is managed sustainably for this area and in accordance with the Alaska Forest Resources and Practices Act. This is especially important since the available timber resource is concentrated in the riparian areas and nearby uplands. It will identify stands capable of supplying biomass and timber resources and provide a basis to determine operable biomass volumes. Investment decisions, such as the purchase of wood harvesting or transporting equipment, must be supported by inventory information, a feasibility study and log volume determinations.

In the Galena area, this project would complete the first stand based inventory on state lands along the Yukon River. Fuel costs are having a severe impact on communities along the river corridor and into the Yukon Delta. Dealing with these high expenses has spurred many of the towns and villages to investigate the use of alternative energy systems to displace expensive diesel fuel oil. Galena as one of the larger communities along the river has conducted a feasibility study for biomass energy at the base steam plant located on the former Air Force base. The primary customer for heat from this facility is the Galena City School District which is currently using fuel oil as its energy source.

It is expected that a portion of the woody biomass supply for a 4-7 million British thermal unit (BTU) boiler will come from lands owned by the village corporation Gana-A'Yoo Limited. Adjacent state lands in this area could also serve to provide a biomass source and are located in an economically operable distance from the community. Wood harvest will require state owned timber to sustain and enhance the economic viability of the project. Little information is available that indicates what the true sustained yield is on state lands and no stand based inventory maps are available. Portions of this area also have been impacted by spruce bark beetle which has caused extensive tree mortality and affected tree volume quantities. The inventory would identify and map suitable stands for biomass and value added manufacturing and include an assessment of the bark beetle infected stands. Accurate spatial representation of the stands will also serve to protect riparian areas that support important fisheries resources along the Yukon River. Protection of riparian areas is required under the state's Alaska Forest Resources and Practices Act.

In the Haines area, the Statewide Timber Inventory (SLA10/CH43) has inventoried existing timber stands by re-measuring permanent sample plots established in the 1960's and 1980's in the Haines State Forest. Additional permanent plots will be established in the 12,000 acres of productive second growth timber harvested from the mid 1960's to the present. Additional sampling will be done to determine total biomass per acre from the different timber types on the Haines State Forest. Updated volume estimates will be developed from these measurements. Maintaining a permanent sample plot system provides the ability to track forest cover changes over time. The project will allow for a more accurate determination of a sustainable harvest level for biomass and other value added wood products. Information can be used to project volume availability on a sustained long term basis.

The Haines Borough has submitted a proposal to the Alaska Energy Authority to conduct a reconnaissance phase followed by a resource assessment, feasibility analysis, and conceptual design phase for a renewable energy project. The energy project would employ a wood-fired hydronic

heating system utilizing locally available wood biomass fuel. The system would supply heat to the K-12 School, the Voc-Ed Building, the Municipal Administration Building, and the Public Library. By utilizing a growth model to project the size and volume of future stands, an accurate resource assessment can be made available in support of this proposed alternative energy project. Accurate resource information together with mapping allows detailed analysis of harvest costs and supply to ensure project sustainability. Biomass projects provide jobs and improve economics for timber harvest by providing additional markets for local loggers.

The Alaska Timber Jobs Task Force released a report in June 2012 that included a number of recommendations spanning eight substantive areas of interest. This capital project will provide funding for Division of Forestry to work with the Tongass and Chugach National Forests to implement short- and mid-term recommendations contained in the June 2012 report.

### **WHAT RESULTS WILL BE ACHIEVED AND/OR PRODUCTS PRODUCED?**

This project will result in stable and increased economic, environmental and social benefits from the use of trees from State lands. The information produced will be the basis for development and update of allowable cut levels, identifying management opportunities, promoting alternative energy use, assisting in hazard fuel mitigation activities and supporting land management planning.

Forest inventories in Southwest and Interior areas and development of the Haines growth model will provide a foundation for the future timber sale program. The timber sale program has supported the local economies throughout Alaska. It continues to be a stable source of sustainable timber resources relied upon for a variety of uses. By updating the information timber sales can continue to be offered on a sustained and long term basis. It will allow meaningful evaluation of proposed forest development projects to ensure they are sustainable and long term. The timber inventory will provide the following products:

- Biomass resource information compatible with the Alaska Energy Data Inventory.
- Determination of species, quantity and quality of timber resources.
- Accurate acreage determination of forest cover.
- Determination of sustained yield flow of timber products.
- Purchase network hardware and improve bandwidth for GIS capacity development.
- Spatially accurate stand polygons overlaid on a geographically rectified photo base.
- Web site access to the public of spatial data with volume and acreage querying capability.

The Tongass and Chugach National Forests will harvest more forest resources which will provide more jobs that stimulate local economies and support sustainable development of communities.

### **WHY IS THIS PROJECT NEEDED NOW – WHAT IS THE IMPACT OF REMAINING STATUS QUO?**

High fuel cost, particularly in rural Alaska, is having a severe impact. Demand for biomass and alternative energy from wood is widespread. Potential investors require accurate inventory information before committing to new projects. Without an accurate supply analysis, it is difficult for potential investors to obtain capital or expand businesses. Interest in alternative energy strategies is growing. The state is focused on supporting alternative energy development and decreasing our dependence on fuel oil. In round VI of the Alaska Energy Authority alternative energy grant process

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13 additional woody biomass projects have been proposed for 2013. Ability to evaluate the sustainability and economic viability of proposed projects is hampered by the lack of forest information. The extensive fires of 2004 and 2005, bark beetle impacts, changes in land status, and changes in forest composition significantly impact forest inventory data. Without accurate inventory data, the division must use very conservative estimates of the sustained yield and allowable cut on State land to meet the statutory mandate to manage for sustained yield, and the mission to develop, conserve, and enhance state forest resources.

**WHAT ALTERNATIVES WERE CONSIDERED TO SOLVE THE ISSUE OR PROBLEM, AND WHY WERE THEY NOT SELECTED?**

The use of a statewide United States Forest Service generated biomass map was examined in context to the proposed project inventory areas. This map was found to have extensive limitations in terms of accuracy and spatial resolution and was deemed unacceptable to produce an inventory that would support the delineation of individual timber sale stands. This option was not viable.

**WHAT ACCOMPLISHMENTS HAVE BEEN ACHIEVED WITH PRIOR YEAR FUNDING?**

Statewide timber inventory funded in SLA2010 is 80% complete; roughly 120,000 acres out of 763,000 acres remain to be classified in the Mat-Su valley.

**SPECIFIC SPENDING DETAIL:**

LINE ITEM	DOLLAR AMOUNT	DESCRIPTION
Personal Services	\$ 50,000	Field data collection, vegetation classification, database development and report writing
Travel	\$ 35,000	Travel and per diem for federal/state cooperation, vegetation ground truth and inventory plots.
Services	\$ 210,000	Aerial Photography/Satellite Imagery, GIS Capacity Development, Growth Model Development, Riverboat Time, Grade Study
Commodities	\$ 5,000	Field Supplies, Flagging, Maps, Software
Capital Outlay	\$ 0	
Grants	\$ 0	
<b>PROJECT TOTAL</b>	<b>\$300,000</b>	

**Project Support:**

Numerous City and Village Councils, Several Native Associations, Native Corporations of Gana-A'Yoo, Doyon, Calista, Kuskokwim and MTNT, Tanana Chiefs Conference, Haines Borough, U.S. Forest Service, Native Village of Napaimute, local timber industry, environmental community and several school districts.