

**Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 174-E

Production and Utilization of Biomass: St. Louis County

Category: E. Air Quality, Climate Change, and Renewable Energy

Total Project Budget: \$ 2,285,700

Proposed Project Time Period for the Funding Requested: 3 years, July 2018 to June 2021

Summary:

This project will facilitate the production and utilization of biomass as a source of energy while providing economic and environmental benefits to the citizens of St. Louis County.

Name: Mark Weber

Sponsoring Organization: St. Louis County Land & Minerals Dept

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Location

Region: Northeast

County Name: St. Louis

City / Township:

Alternate Text for Visual:

The map displays St. Louis County Tax Forfeited Lands

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



Environment and Natural Resources Trust Fund (ENRTF)

2018 Main Proposal

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I. PROJECT STATEMENT

This project will facilitate the production and utilization of biomass as a source of renewable energy while providing economic and environmental benefits to the citizens and industry of St. Louis County.

St. Louis County manages approximately 890,000 acres of state tax forfeited land for the economic, social and environmental benefit of its citizens and taxing districts. These lands are managed to provide an optimal combination of available resources by establishing practical resource management programs based on responsible stewardship and sustainability.

The use of forest residue has great potential to provide a renewable, clean source of energy while investing in rural economies. Biomass production and utilization is important to St. Louis County's sustainable forest management program by providing an outlet for non-marketable wood products, diseased, dead and dying timber, and wind storm debris. Utilization of biomass improves forest health and productivity and reduces the risk of wildfire in the region.

Biomass production is important to area loggers who have significant financial investment in equipment and personnel to harvest and deliver biomass to local markets; to local businesses which supply and maintain biomass equipment, and to local facilities which consume biomass for energy.

The goals for this project are to develop and implement sustainable forest management practices and stand level treatments for the purpose of producing woody biomass to generate energy; to improve public safety by identifying areas for treatment to reduce the risk for high intensity wildfires in the region. The acquisition of updated Lidar data will provide St. Louis County with a comprehensive inventory for estimating biomass volume, and may identify new biomass harvesting opportunities.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Inventory, analysis and modeling

Budget: \$1,565,700

Collecting forest inventory and remotely sensed information in St. Louis County and analyzing the data to ensure sustainable forest management for biomass production.

Outcome	Completion Date
1. Acquire county-wide coverage of Lidar and DEM data (existing Lidar data is outdated).	07/01/2019
2. Update forest inventory and estimate biomass volumes using Lidar.	07/01/2020
3. Determine sustainable harvest levels and harvest scheduling models.	07/01/2020
4. Develop and implement a system to quickly and inexpensively assess and respond to storm damaged forests and insect and disease outbreaks using drones and other remote sensing technology.	07/01/2020



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Activity 2: Develop and implement landscape and stand-level treatments for biomass production, fuels reduction, and forest restoration.

Budget: \$720,000

Develop and implement silvicultural prescriptions and stand-level treatments for biomass production on several forest cover types including aspen, red pine, balsam fir, black ash and tamarack to utilize dead and dying material, reduce fire hazard, and balance age class structure.

Outcome	Completion Date
1. Harvest and regenerate stands of black ash, tamarack and other forest types that are dead and dying due to insect and disease outbreaks over a 3 year period.	07/01/2021
2. Identify and treat (thin) young, unmerchantable aspen stands and pine plantations to promote growth and balance age class structure over a 3 year period.	07/01/2021
3. Identify, treat, and restore unmerchantable forest stands having high fuel loads to reduce the risk of wildfire over a 3 year period.	07/01/2021

III. PROJECT STRATEGY

A. Project Team/Partners

The project team will consist of staff from St. Louis County Land and Minerals Department. The Land and Minerals Department will receive funding and implement Activities one and two.

St. Louis County will partner with the University of Minnesota Duluth's Natural Resources Research Institute (NRRI) which will contribute to processing Lidar data and modeling forest structural attributes. The proposed project builds on the recent ENRTF-funded project to the DNR "Development of Innovative Cost-saving Methodology for Forest Inventory". The DNR project is collecting single photon Lidar in and around Cass County and a section of the Superior National Forest. Our work with NRRI will complement this collection. The DNR is also conducting field inventories to build statistical models to predict forest characteristics. Our work with NRRI will be able to capitalize on these models as well.

St. Louis County will also partner with the Association of Contract Loggers and Truckers (ACLT) to facilitate the production and utilization of biomass. ACLT represents more than 150 timber industry companies working together for the prosperity of the entire industry.

B. Project Impact and Long-Term Strategy

The long term strategy of this project is to increase the supply and availability of woody material for biomass in a sustainable manner and to expand the utilization of biomass as a source of clean renewable energy in local facilities. The project will have a positive impact on the local forest products industry and will promote forest and fuels management practices on state tax forfeited lands in St. Louis County.

C. Timeline Requirements

The proposed project will require two years to analyze and model forest cover type data to determine sustainable harvest levels and stand treatment opportunities.

2018 Detailed Project Budget

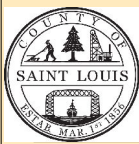
Project Title: Production and utilization of biomass in St. Louis County

IV. TOTAL ENRTF REQUEST BUDGET: 3 years

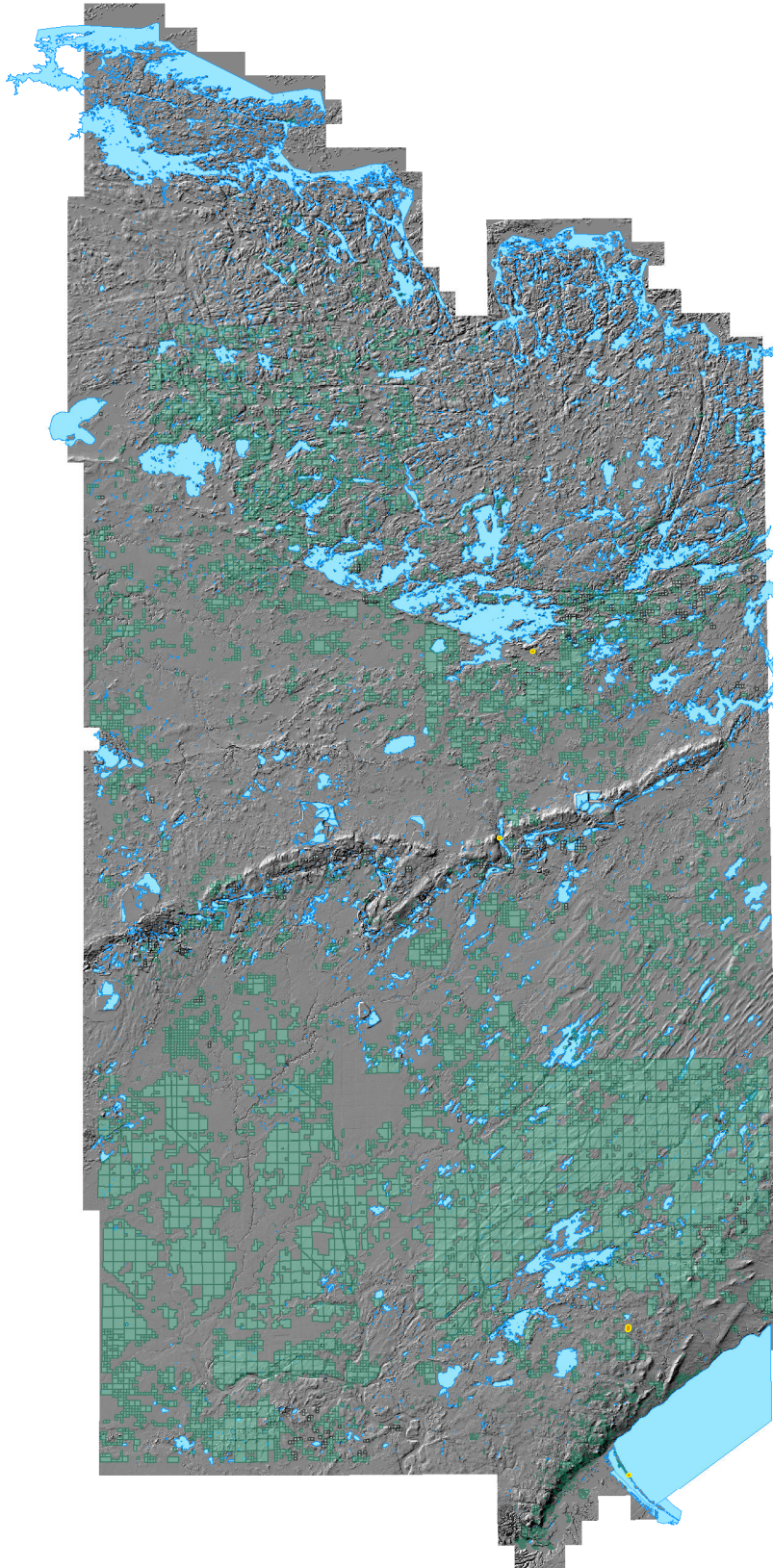
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Personnel:	N/A
Professional/Technical/Service Contracts:	
One set of Lidar classified tiles, and one Digital Elevation Model for St. Louis County	\$ 1,337,700
Data analysis and forest modeling contractors	\$ 200,000.00
Aerial and drone survey contractor	\$ 28,000.00
Site preparation and tree planting contractors	\$ 300,000.00
Thinning and fuels treatment contractors	\$ 300,000.00
Equipment/Tools/Supplies:	
tree seedlings	\$ 120,000
Acquisition (Fee Title or Permanent Easements):	N/A
Travel:	N/A
Additional Budget Items:	N/A
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 2,285,700

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period:	N/A	
Other State \$ To Be Applied To Project During Project Period:	N/A	
In-kind Services To Be Applied To Project During Project Period: St. Louis County Land and Minerals Department forestry staff: Assistance with harvest scheduling and biomass data analysis and modeling; stand treatment design and contract administration; assistance with storm damage response plan.	\$ 250,000	Secured
Past and Current ENRTF Appropriation:	N/A	
Other Funding History:	N/A	





St. Louis County Land and Minerals Department Tax Forfeited Lands



This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. This drawing is a compilation of recorded information and data located in various city, county, state and federal offices. St. Louis County is not responsible for any incorrectness herein.

Tax Forfeited Lands

-  Full Interest
-  Undivided Interest



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1. PROJECT MANAGER – Mr. Mark Weber

Mr. Weber is the Land Commissioner for the St. Louis County Land and Minerals Department. He is responsible for the management of approximately 890,000 acres of state tax forfeited land and a staff of 64 employees. Mr. Weber received a Bachelor of Science degree in Forestry from the University of Minnesota, and a Master of Science degree in Forest Ecology and Silviculture also from the University of Minnesota.

Mr. Weber's role in this proposal is to be the point of contact for the project as it moves forward. He will rely on his project team and partners for support, especially the Natural Resources Research Institute. Mr. Weber will maintain reporting requirements and contact with the LCCMR.

2. ORGANIZATIONAL INFORMATION

St. Louis County is home to 200,226 people, living in small mining towns, farm communities, and in busy cities. The population is concentrated along the Mesabi and Vermilion Iron Ranges and in the Duluth area on the western tip of Lake Superior. The major industries in St. Louis County are mining, wood and paper products, aviation, higher education, shipping and transportation, health care, and tourism.

The mission of St. Louis County is to promote health and safety, ensure sound infrastructure, embrace our natural resources, and support an environment where communities prosper. We serve the public in a manner that earns trust by incorporating these values: people focused; stewardship; integrity; fairness; innovation.

The Land and Minerals Department is dedicated to the long-term management of the tax forfeited Trust for the economic, social, and ecological benefit of the people in St. Louis County. The Department manages approximately 890,000 acres of state tax forfeited land. The Land Commissioner has a fiduciary responsibility to ensure that 'Trust' lands are managed for the benefit of the citizens and taxing districts of St. Louis County. The Department's mission is to encourage the best use of tax forfeited lands, recognizing that some lands in public ownership should be retained and managed for public benefits, while other lands should be returned to private ownership. All net receipts from the sale and rental of tax forfeited lands are apportioned to the local taxing districts as required by Minnesota Statute 282.08.