

**Environment and Natural Resources Trust Fund
2015 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 029-A

Cooperative Public Land Survey/Cadastral Spatial Data Management

Category: A. Foundational Natural Resource Data and Information

Total Project Budget: \$ 500,000

Proposed Project Time Period for the Funding Requested: 2 years, July 2015 - June 2017

Summary:

The Cooperative Public Land Survey/Cadastral Spatial Data Management Project facilitates useful public ownership maps by building a collaborative Public Land Survey GIS for Cook, Lake and St. Louis Counties.

Name: Renee Johnson

Sponsoring Organization: MN DNR

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St. Paul MN 55044

Telephone Number: (651) 259-5396

Email renee.johnson@state.mn.us

Web Address _____

Location

Region: NE

County Name: Cook, Lake, St. Louis

City / Township:

Alternate Text for Visual:

The counties of Cook, Lake and St. Louis are outlined for emphasis within a map of Minnesota.

_____ 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)
2015 Main Proposal**

Project Title: Cooperative Public Land Survey/Cadastral Spatial Data Management

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I. PROJECT STATEMENT

It is difficult to publish useful maps depicting public ownership in northeastern Minnesota because the land-owning county, state, and federal agencies use conflicting ownership boundaries. The Cooperative Public Land Survey/Cadastral Spatial Data Management Project proposes to fix this by building a collaborative, common Public Land Survey System (PLSS) geographic information system (GIS) for lands in Cook, Lake and St. Louis Counties. The project begins with analysis of current survey resources and 6-9 pilot areas to be defined within the three counties. The project will be expanded to the entirety of the three counties following completion of the pilots.

The citizens of the State of Minnesota are fortunate to have access to a wealth of public lands, including vast areas of lands managed by Federal, State, County and local municipalities. This quilt of public ownership is most complex in the northeastern part of the state where large areas of state forest, national forest, state parks, wildlife management areas and county administered lands are intermingled. Accurate maps showing public land ownership are essential tools for communicating recreational and conservation resource opportunities to the public. These maps also play a crucial role in effective land management and policy debate.

Public land ownership maps and data are mapped on a survey framework called the Public Land Survey System (or PLSS). Unfortunately, land ownership information is not attached to a shared PLSS framework but to different PLSS frameworks which have been created by each entity. The results are map products such as public recreation maps which contradict each other and are not spatially accurate. In many cases, ownership information is specifically excluded from map products because including the contradictory boundaries would create confusion. In other cases, gaps or overlaps in the depictions may discourage access to public lands or, worse yet, encourage trespass.

This project will create a cooperative and integrated PLSS, leveraging existing efforts among Cook County, Lake County, St. Louis County, and the U.S. Forest Service to reconcile survey boundaries. The participants will collaborate to build a shared GIS database of survey information as a reference for making and updating parcel maps. The project includes a \$50,000 grant to the Cook, Lake, and St. Louis County Parcel Reconciliation Program to leverage enhanced results from integrated information resources.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Project Organization and Pilot Areas

Budget: \$250,000

The initial project activity will determine available resources in each participating agency and then collaborate on: 1) evaluating the resources and determining the level of participation of each stakeholder agency; and 2) determining a PLSS Implementation Plan by which participants select common property corner points and follow survey practices to build a digital public land survey using geographic information systems (GIS). Selection criteria will be developed to identify 6-9 pilot areas wherein the PLSS Implementation Plan will be tested, modified as necessary, and then used to complete the entire 3-county area in the second year of the project.

Outcome	Completion Date
1. Resource collection: survey information, geodatabases, documentation, technology	December 31, 2015
2. Collaborative evaluation of available survey information including control points	December 31, 2015
3. Method developed for determining stakeholder-participants for given areas of interest	December 31, 2015
4. Selection criteria for pilot areas developed and pilot areas selected	December 31, 2015
5. Initial public land survey layer development plan tested and adapted	June 30, 2016
6. Completed common public land survey GIS layer for 6-9 pilot areas	June 30, 2016



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Activity 2: Construct County Public Land Survey Layers

Budget: \$250,000

The outcomes listed in activity one provide necessary elements for the completion of full county Public Land Survey (PLSS) layers. Interested stakeholders will work rigorously through each county, most likely township by township, collaborating on constructing integrated, county-wide GIS public land survey layers using an established plan. As new issues are encountered and resolved, solutions will be added to the PLSS Implementation Plan for future reference. The result will be an integrated 3-county public land survey layer constructed from shared control points and other shared decisions. In addition, the project will determine processes for maintaining the collection of shared points and maintaining and updating the shared digital map as new control points are added.

Outcome	Completion Date
1. Published common PLSS layers useful to citizens	June 30, 2017
2. Shared PLSS layers for specialized use and maintenance plan	June 30, 2017
3. Common shared survey information, including control points with maintenance plan	June 30, 2017
4. PLSS Implementation Plan that may expand for use in additional counties	June 30, 2017

III. PROJECT STRATEGY

A. Project Team/Partners

The project team will be a collaboration of at least five primary interested stakeholders in northeastern Minnesota: Cook County, Lake County, St. Louis County, the United States Forest Service, and the Minnesota Department of Natural Resources. Participants will consist of surveyors and GIS professionals in addition to an analyst and additional technical support. Project Partners Receiving Funds are MN.IT @DNR, St. Louis County, Lake County, and Cook County. Project Partners Not Receiving Funds are Superior National Forest, United States Forest Service and Minnesota Geospatial Information Office.

B. Project Impact and Long-Term Strategy

The project provides immediate impact for resource managers and citizens in the form of data and maps that are consistent in showing a single view of land ownership. This view will be provided by collaboration between public agencies of different levels of government leveraging a tremendous wealth of survey information. In the long term, the project serves as a pilot project for larger common Public Land Survey GIS development projects which may be scaled to include more counties and/or a wider range of participants.

C. Timeline Requirements

There are several task-ordering dependencies within the project. Selection of the pilot areas will depend on the resource collection and analysis and on the development of a preliminary PLSS Development Plan. Completion of the county PLS layers will depend upon successful completion of the pilot areas. There are no additional date-specific dependencies for the project.

IV. Request for Approval for the Use of Classified Staff

The Cooperative Public Lands Survey/Cadastral Spatial Data Management includes a contract item for staff time, contracted from MN.IT services, for .5FTE of a GIS specialist for 2 years. We propose to contract Renee Johnson, a GIS specialist with MN.IT Services @ DNR at professional services rates to be established, to manage the cooperative project and provide GIS/PLSS consultation services. The remainder of Renee’s time will be contracted from MN.IT@DNR by DNR Division of Lands and Minerals, under the terms of their ongoing service level agreement, to provide GIS services to the division directly serving the needs of DNR. Any required backfilling of GIS services will be provided under the provisions of service level and maintenance agreements charged at professional services rates, between the DNR Lands and Minerals Division and MN.IT services.

2015 Detailed Project Budget

Project Title: Cooperative Public Land Survey/Cadastral Spatial Data Management

IV. TOTAL ENRTF REQUEST BUDGET 2 years

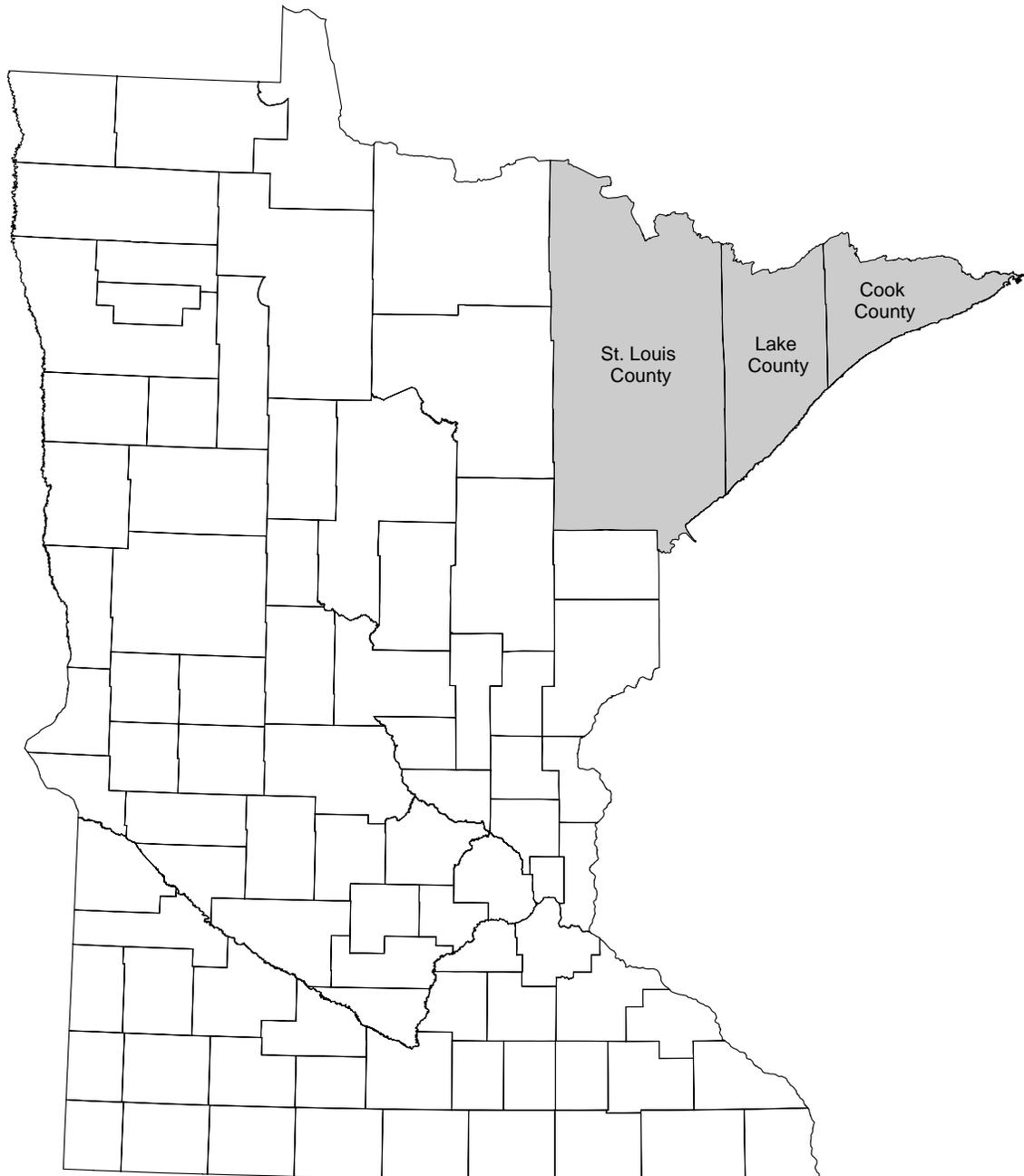
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Personnel:	\$ -
Surveyor 1 FTE x 2 years (75% salary, 25% benefits)	\$ 200,000
Research Analyst .75 FTE x 2 years (75% salary, 25% benefits)	\$ 100,000
Contracts:	\$ -
MN.IT Services, Personnel, GIS Specialist .5 FTE x 2 years	\$ 100,000
MN.IT Services, Personnel, Project Manager .25 FTE x 2 years	\$ 50,000
Equipment/Tools/Supplies:	NA
Acquisition (Fee Title or Permanent Easements):	NA
Travel:	\$ -
In-state travel, St. Paul to, from, and between Cook, Lake, and St. Louis Counties	\$ 10,000
Additional Budget Items: pass-through Grant: Cook, Lake and St. Louis County Parcel Reconciliation Program	\$ 50,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 500,000

V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period:	NA	
Other State \$ To Be Applied To Project During Project Period:	NA	
In-kind Services To Be Applied To Project During Project Period:	NA	
Direct support services. DNR's direct and necessary costs pay for activities that are directly related to and necessary for accomplishing appropriated programs/projects. In addition to itemized costs captured in our proposal budget, direct and necessary costs cover hiring needs, contract and other payment processing and reporting, division and regional program management, and other activities that are necessary to accomplishing funded programs/projects.	\$ 33,084	Secured
Funding History:	NA	
Remaining \$ From Current ENRTF Appropriation:	NA	

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2015**

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Cooperative Public Land Survey Cadastral Spatial Data Management

2014 LCCMR Project Manager Qualifications and Organization Description

Renee Johnson, GIS Specialist, MN.IT Services@ Minnesota DNR/Lands and Minerals Division

Key Qualifications

Ms. Johnson is GIS Specialist working with the Minnesota DNR and the Land Management Information Center (now MNGEO) for 35 years. She has extensive experience leading GIS data development efforts including peat inventories and aggregate resources programs. She has been the lead developer of Public Land Survey System (PLSS) GIS products for DNR and the steward of DNR's PLSS information for over 12 years. She has extensive experience working with surveyors and resource management staff, integrating PLSS data with natural resource and recreation-oriented cartographic products. Ms. Johnson is currently engaged on the DNR Land Records Project leading GIS integration, collaborating on detailed business analyses, and collaborating with natural resources staff on foundational IT/GIS product development efforts.

Education

University of Minnesota, Geography, M.A. 1982

University of Minnesota, History, B.A. 1977

Organization

The Minnesota Department of Natural Resources mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.