



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2013 Work Plan

Date of Status Update Report: October 2, 2012
Date of Next Status Update Report: January 31, 2014
Date of Work Plan Approval:
Project Completion Date: June 30, 2016 **Is this an amendment request?** No

PROJECT TITLE: Updating the National Wetland Inventory for Minnesota - Phase 4

Project Manager: Steve Kloiber

Affiliation: Minnesota DNR

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Web Address: http://www.dnr.state.mn.us/eco/wetlands/nwi_proj.html

Location: Lake, Cook, and St. Louis Counties

Total ENRTF Project Budget:	ENRTF Appropriation:	\$1,000,000
	Amount Spent:	\$0
	Balance:	\$1,000,000

Legal Citation: M.L. 2013, Chp. xx, Sec. xx, Subd. xx

Appropriation Language:

DRAFT

I. PROJECT TITLE: Updating the National Wetland Inventory for Minnesota - Phase 4

II. PROJECT STATEMENT:

Over the past 100 years, about half of Minnesota’s original 22 million acres of wetlands have been drained or filled. Some regions of the State have lost more than 90 percent of their original wetlands. Urban development, agricultural drainage, mining, road construction, and utility projects result in additional losses each year (attached figure). The function and quality of remaining wetlands are often impaired. Updating the NWI is a key component of the State’s strategy to monitor and assess wetlands in support of efforts to assure healthy wetlands and clean water for Minnesota.

- NWI is the only comprehensive inventory of wetlands for Minnesota. To protect wetlands, we need to know how many wetland acres we have and where they are. We can’t manage what we don’t measure. Unfortunately, the current NWI is inaccurate in many places because it is 25-30 years out-of-date and some of the original imagery used was relatively coarse scale.
- NWI is an important screening tool for land use planning and for identifying potential wetland impacts. State, regional and local agencies use the NWI for making land use decisions, including planning for transportation and utility services. Wetland programs such as Minnesota’s Wetland Conservation Act and the US Army Corps’ Clean Water Act Permit Program rely on the NWI as the initial resource for identifying potential impacts of proposed projects. Having accurate maps upfront prevents problems later on; saving time and money for permit applicants and wetland program managers as well as preventing wetland impacts.
- NWI is useful for strategic wetland restoration planning. Funds for wetland restoration are limited; therefore, it is important to get the most benefit possible for our restoration dollars. Wetland maps provide useful information for strategic wetland restoration planning. The NWI includes information about partly drained and ditched wetlands that may be potential wetland restoration opportunities. In addition, the updated NWI will provide enhanced attributes to support assessment of wetland function. The updated and enhanced NWI will also help target wetland restoration in a way that complements the functions and values of existing wetlands.

This is the fourth phase of a six-phase project to update the National Wetland Inventory (NWI) maps for Minnesota using modern, high-resolution imagery and elevation data. This project phase will: 1) update NWI maps for 569 USGS quarter quadrangles of Lake, Cook, and St. Louis Counties in northeastern Minnesota. The data required for updating the NWI maps in this proposal was already acquired through a previously funded project phase. High-resolution elevation data were also acquired through a separate project. Wetland maps and aerial imagery will be produced by contractors under the supervision of the DNR. All wetland map data and aerial imagery will be available free of charge to the public.

III. PROJECT STATUS UPDATES:

Project Status as of January 31, 2014:

Project Status as of July 31, 2014:

Project Status as of January 31, 2015:

Project Status as of July 31, 2015:

Project Status as of January 31, 2016:

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Updated Wetland Maps for Northeastern Minnesota

Description:

Produce updated wetland maps for 569 USGS quarter quadrangles of Lake, Cook, and St. Louis Counties in northeastern MN (see attached map for detail). The map production will be conducted by contractors under the supervision of the DNR and will be based on recommendations for wetland mapping methods developed by the UMN through a previous phase of this project. This work will consist of digital photo-interpretation, topographic analysis of LiDAR data, and analysis of ancillary data such as soils maps and forest inventory maps, as well as quality control review. Completed digital map data will be available to the public through several websites, including the DNR and the U.S. Fish and Wildlife Service.

Summary Budget Information for Activity 1:

ENRTF Budget: \$1,000,000

Amount Spent: \$0

Balance: \$1,000,000

Activity Completion Date:

Outcome	Completion Date	Budget
1. Updated wetland inventory maps for portions of Lake, Cook, and St. Louis Counties	12/31/15	\$1,000,000

Activity Status as of January 31, 2014:

Activity Status as of July 31, 2014:

Activity Status as of January 31, 2015:

Activity Status as of July 31, 2015:

Activity Status as of January 31, 2016:

Final Report Summary:

V. DISSEMINATION:

Description: The plan for disseminating the project results primarily relies on distribution of the wetland maps through web-based data distribution hubs and online viewing of wetland maps through web mapping applications. Primary data access websites for the State of Minnesota include the [DNR Data Deli](#) and the [MN Geographic Data Clearinghouse](#). The primary online mapping application for viewing the data will be [DNR Landview](#). Furthermore, the data are likely to be picked up and served by other sites and applications beyond the ones listed here. Publicity for this effort will include presentations at professional conferences as well as publication in selected newsletters and journals. Conference presentations will include at least two of the following venues; the Minnesota Water Resources Conference, the Minnesota GIS/LIS Conference, the Annual Minnesota Wetlands Conference, and the Conference of the Minnesota Association of Watershed Districts.

Status as of January 31, 2014:

Status as of July 31, 2014:

Status as of January 31, 2015:

Status as of July 31, 2015:

Status as of January 31, 2016:

Final Report Summary:

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget:

Budget Category	\$ Amount	Explanation
Personnel	\$157,000	Project manager at 0.65 FTE for 2-years.
Professional/Technical/Service Contracts:	\$755,095	One service level agreement with DNR Resource Assessment Office for data processing, field work, quality assurance, and other support, and one competitive bid contract for wetland mapping services.
DNR Direct & Necessary Support	\$82,905	DNR's direct and necessary business services required to support this proposal
Equipment/Tools/Supplies:	\$2,000	Field supplies; GPS batteries, insect repellent, sunscreen, protective equipment, and paint for photo control points. Office supplies and equipment: printing, shipping, and digital storage media.
Travel Expenses in MN:	\$3,000	In-state mileage, lodging and travel expenses for project coordination, field reconnaissance, and outreach meetings.
TOTAL ENRTF BUDGET:	\$1,000,000	

Explanation of Use of Classified Staff: NA

Explanation of Capital Expenditures Greater Than \$3,500: NA

Number of Full-time Equivalent (FTE) funded with this ENRTF appropriation: 0.65 FTE for 2-years (1.3 FTE)

Number of Full-time Equivalent (FTE) estimated to be funded through contracts with this ENRTF appropriation: 7 FTE for two years (14 FTE)

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state			
	\$0	\$0	
State			
	\$0	\$0	
TOTAL OTHER FUNDS:	\$0	\$0	

VII. PROJECT STRATEGY:

A. Project Partners: Partners providing in-kind services for this project include the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the Minnesota Board of Water and Soil Resources, the U.S. Fish and Wildlife Service, and the Minnesota Dept. of Administration’s Geographic Information Office.

B. Project Impact and Long-term Strategy: This is the fourth phase of a multi-phase project to update the NWI for the entire state of Minnesota. The estimated total budget for the project is \$7.5 million. With this appropriation, the total amount received from ENTRF to date will be \$4,150,000 (55% of the total estimated cost). Upon completion of this phase, our estimated progress will be approximately 75% completion for imagery and field data acquisition and approximately 47% completion for wetland mapping.

C. Spending History:

Funding Source	M.L. 2008 or FY09-10	M.L. 2010 or FY11-12	M.L. 2011 or FY12-13
ENTRF	\$550,000 Chap. 367, Sec. 2, Subd. 5a	\$1,100,000 Chap. 362, Sec. 2, Subd. 3b	\$1,500,000 First Special Session, Chp. 2, Art.3, Sec. 2, Subd. 03d
USGS/NGA	\$25,000		
St. Louis County	\$24,999		
MPCA Clean Water Legacy	\$111,000		
DNR – Heritage Enhancement Fund	\$ 181,064		
DNR/NOAA – Coastal Zone Program	\$ 24,227		
USGS/NGA	\$75,000		
Metropolitan Council	\$ 65,750		
Metropolitan Mosquito Control District	\$ 7,000		
McLeod County		\$24,000	
Sibley County		\$29,000	
Murray County		\$35,000	
US Fish and Wildlife Service		\$75,000	

VIII. ACQUISITION/ RESTORATION LIST: N/A

IX. MAP(S): SEE MAP ATTACHMENT

X. RESEARCH ADDENDUM: N/A

IX. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted not later than January 31, 2014, July 31, 2014, January 31, 2015, July 31, 2015 and January 31, 2016. A final report and associated products will be submitted between June 30 and August 15, 2016 as requested by the LCCMR.

Attachment A: Budget Detail for M.L. 2013 Environment and Natural Resources Trust Fund Projects

Project Title: *Updating the National Wetland Inventory for Minnesota - Phase 4*

Legal Citation: *M.L. 2013, Chp. xx, Sec. xx, Subd. Xx*

Project Manager: *Steve Kloiber*

M.L. 2013 ENRTF Appropriation: *\$ 1,000,000*

Project Length and Completion Date: *3 years, June 30, 2016*

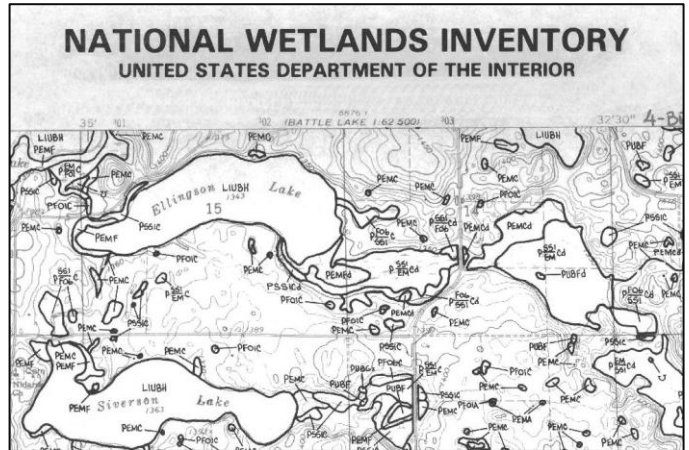
Date of Update: *September 12, 2012*

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	<i>Wetland Mapping</i>				
Personnel (Wages & Benefits) <i>Project Manager (78% salary, 22% benefits); 0.65FTE for 2 years</i>	157,000	0	157,000	157,000	157,000
Professional/Technical/Service Contracts <i>Wetland Mapping Service - TBD through competitive bid contract</i>	654,150	0	654,150	654,150	654,150
Professional/Technical/Service Contracts <i>Service Level Agreement with DNR Resource Assessment Office for data processing and quality assurance support</i>	93,450	0	93,450	93,450	93,450
DNR direct and necessary support	90,400	0	90,400	90,400	90,400
Equipment/Tools/Supplies <i>Field supplies; GPS batteries, insect repellent, sunscreen, protective equipment, and paint for photo control points. Office supplies and equipment; printing, shipping, and digital storage media.</i>	2,000	0	2,000	2,000	2,000
Travel expenses in Minnesota <i>In-state mileage, lodging and travel expenses for project coordination, field reconnaissance, and outreach meetings.</i>	3,000	0	3,000	3,000	3,000
COLUMN TOTAL	\$1,000,000	\$0	\$1,000,000	1,000,000	1,000,000

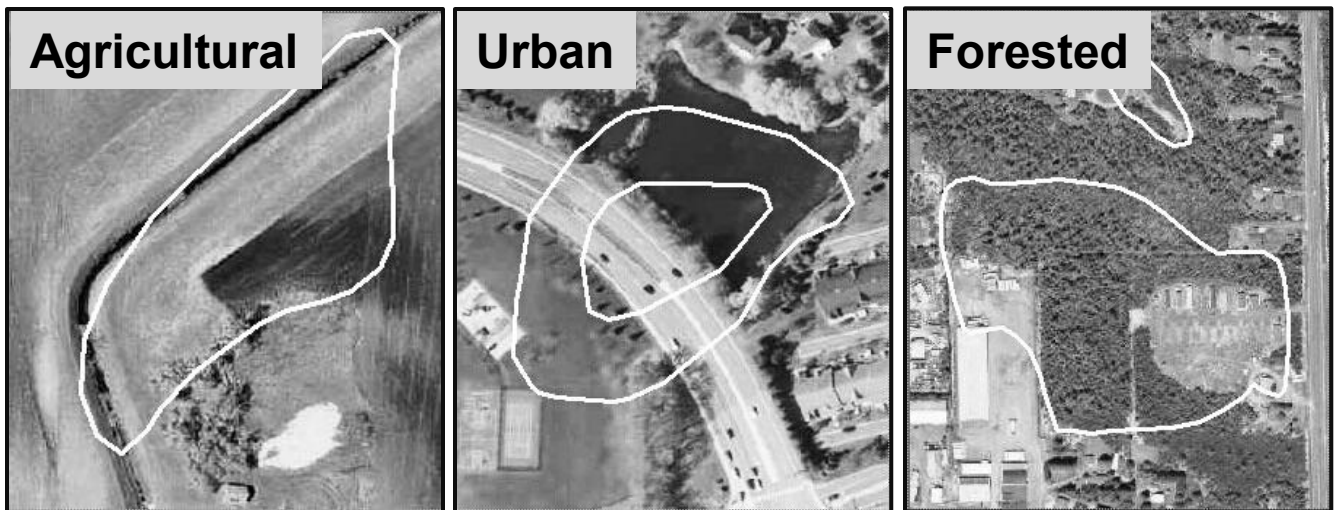
The National Wetland Inventory Update for Minnesota

The NWI is being updated using modern, high-resolution digital imagery, digital elevation data from LiDAR, and the best-available ancillary GIS data including digital soil surveys and other aerial imagery.

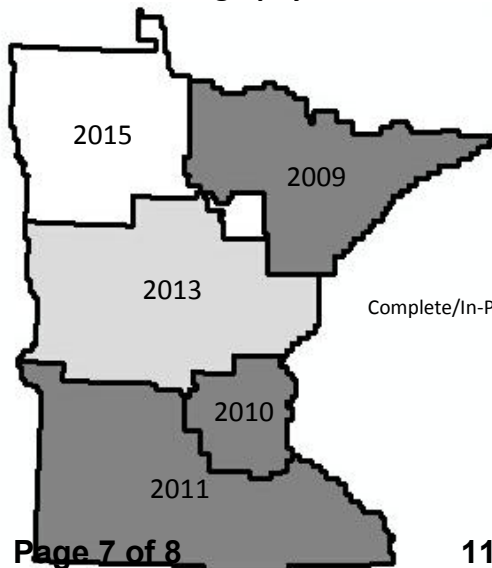
The original NWI maps for Minnesota were developed 25 to 30 years ago as paper maps.



Examples of inaccuracies in the original NWI maps resulting from land use changes. The white outlines indicate wetlands from the original NWI superimposed on modern aerial photos.

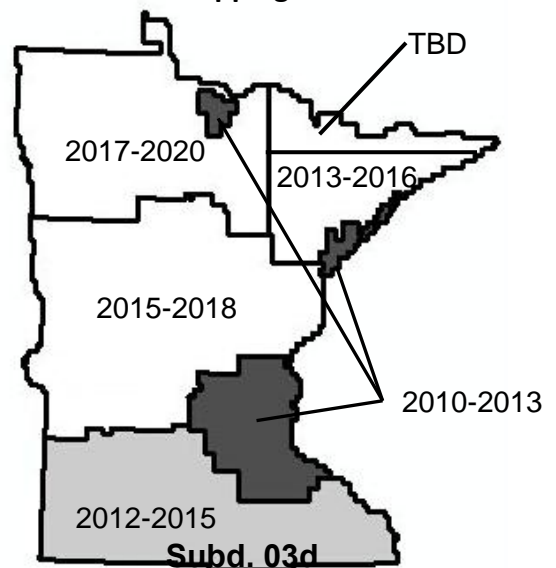


Aerial Photography Status



Complete/In-Progress
 Funded
 Future

Wetland Mapping Status



Schedule for the National Wetland Inventory Update

