



## Environment and Natural Resources Trust Fund (ENRTF) M.L. 2011 Work Plan

**Date of Status Update:**

**Date of Next Status Update:** 1/1/2012

**Date of Work Plan Approval:** 6/23/2011

**Project Completion Date:** 6/30/2014

**Is this an amendment request?** \_\_\_\_\_

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**Project Title:** Northeast Minnesota White Cedar Plant Community Restoration

**Project Manager:** Dale Krystosek

**Affiliation:** Board of Water and Soil Resources

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**Location:**

**Counties Impacted:** Aitkin, Beltrami, Carlton, Cass, Clearwater, Cook, Crow Wing, Hubbard, Isanti, Itasca, Kanabec, Koochiching, Lake, Lake of the Woods, Mille Lacs, Pine, St. Louis, Wadena

**Ecological Section Impacted:** Northern Minnesota and Ontario Peatlands (212M), Northern Minnesota Drift and Lake Plains (212N), Northern Superior Uplands (212L), Western Superior Uplands (212K)

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<b>Total ENRTF Project Budget:</b>	<b>ENRTF Appropriation \$:</b>	250,000
	<b>Amount Spent \$:</b>	<u>0</u>
	<b>Balance \$:</b>	250,000

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**Legal Citation:** M.L. 2011, First Special Session, Chp. 2, Art.3, Sec. 2, Subd. 04r

**Appropriation Language:**

\$125,000 for the first year and \$125,000 the second year are from the trust fund to the Board of Water and Soil Resources to assess the decline of northern white cedar plant communities in northeast Minnesota, prioritize cedar sites for restoration, and provide cedar restoration training to local units of government.

## I. PROJECT TITLE: Northeast Minnesota White Cedar Plant Community Restoration

**II. PROJECT SUMMARY:** Northern white cedar (*Thuja occidentalis*) wetland plant communities have been declining in Minnesota for decades. One of the goals of this project will be to reverse the decline of northern white cedar wetland plant communities in Minnesota through establishment of restoration and preservation demonstration projects and training local and state government land managers on restoration and protection techniques. Currently white cedar regeneration success is extremely rare in Minnesota due to seedling damage from deer, snow shoe hare and rodents and unsuitable seedbed conditions. Many mature white cedar stands have been lost due to high water levels caused by poorly designed road crossings in wetlands. *Northern White cedar provides unique wetland functions in Minnesota including:*

- *Thermal cover for white tailed deer and other wildlife during winter*
- *Critical habitat for pine marten, fisher, songbirds*
- *Provide thermal buffering for cold water fisheries (brook trout streams)*

### Project Goals:

**The first goal of the project will be to reverse the decline of northern white cedar wetland plant communities in Minnesota.** The project will achieve its goals by evaluating and prioritizing white cedar stands for restoration and preservation and through the establishment of demonstration restoration and preservation projects. The project will restore and preserve critical wildlife habitat and winter thermal cover for white tailed deer, black bear, fisher, marten and many songbirds in northeastern and north central Minnesota.

**The second goal of the project will be to improve the quantity and quality of white cedar plant communities in northeast and north central Minnesota.** The project will accomplish this by development of a training program for local government resource managers regarding:

- *Restoration techniques for white cedar plant communities regarding site preparation and revegetation techniques and*
- *Protecting white cedar from damage by poorly designed wetland crossings for roads and trails.*

## III. PROJECT STATUS UPDATES:

**Project Status as of January, 2012:**

**Project Status as of September 2012:**

**Project Status as of March 2013:**

**Final Project Report by August 1, 2013:**

## IV. PROJECT ACTIVITIES AND OUTCOMES:

**ACTIVITY 1: Identify High Priority White Cedar Restoration and Preservation Sites** - Three sources of data will be used to review and prioritize sites: 1) *Northeast Minnesota Wetland Inventory and Assessment Project (BWSR and Barr Engineering, 2009)*, 2) *Land Type Associations (Minnesota DNR Ecological Classification System)*, 3) *forest inventory data sets (DNR Forestry and county)*. BWSR will contract with Soil and Water Conservation Districts in northeast and north central Minnesota to evaluate and prioritize northern white cedar sites for restoration and preservation. An interagency technical team will establish criteria for prioritizing these sites. The data would be used to target potential sites for restoration and high priority ecologically sensitive sites that would benefit from preservation. Projects will be targeted on county or state lands and be protected by a long term vegetation agreement. (Projects on private land would be protected by a permanent easement granted to a public entity with details to be developed later, if necessary). SWCDs would field check and prioritize potential sites within the region. The project will review several seedbed preparation treatments where regeneration has not occurred to determine the most effective white cedar restoration

techniques. Design and management of restoration projects would involve DNR, BWSR, county land departments, and the interagency technical team. Budget for this component would be for a ½ time BWSR Wetland Specialist to coordinate the effort for two years and also contracts with SWCDs. Sites identified through review of the three data sets will be field checked, evaluated and prioritized. Based on criteria, priorities and targeted areas established by the interagency technical team. This field work would be to complete field investigations and prioritization of white cedar sites for restoration and preservation. This work will include inspection of a minimum of 100 potential sites.

**Activity 1: Identify High Priority White Cedar Restoration and Preservation Sites**

**Summary Budget Information for Activity 1:**

**ENRTF Budget: \$ 82,125.00**  
**Amount Spent: \$ 0**  
**Balance: \$ 82,125.00**

**Activity Completion Date: 7/12**

<b>Outcome for Activity 1:</b>	<b>Completion Date</b>	<b>Budget</b>
<b>1. Identify High Priority White Cedar Restoration and Preservation Sites using NE Wetland Mitigation Inventory, and Land Type Association data and forest inventory data.</b>	3/12	\$ 36,625.00
<b>2. Up to 12 Soil and Water Conservation Districts within the project area will inspect and prioritize sites</b> (Sites identified through review of the three data sets will be field checked, evaluated, and prioritized.)	5/12	\$ 30,000.00
<b>3. Potential white cedar plant community restoration and preservation sites will be prioritized based on results of outcomes 1 and 2 above.</b>	7/12	\$ 17,500.00

**Activity 2: Establish 5 white cedar restoration and preservation projects** - A minimum of 5 projects will be established with a goal of 400 acres restored or preserved. The University of Minnesota, Duluth Natural Resource Research Institute will provide technical expertise in designing white cedar restoration projects. This work will include literature reviews, field data collection and project design. The sites selected for restoration or preservation will be based on criteria developed by the interagency technical team for demonstration of white cedar plant community restoration. Up to 5 contracts with county land departments will be implemented for restoration or preservation of high priority sites. These contracts would be to develop a minimum of 5 demonstration white cedar restoration or preservation projects totaling a minimum of 400 acres. This work will include site preparation, tree planting, installation of deer browse protection, and management of demonstration sites during project duration (2 years).

**Summary Budget Information for Activity 2:**

**ENRTF Budget: \$ 146,125.00**  
**Amount Spent: \$ 0**  
**Balance: \$ 146,125.00**

**Activity Completion Date: 5/13**

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
<b>1. BWSR staff will develop agreements with County Land</b>	9/12	\$ 9,500.00

<b>Departments with high priority sites to implement projects</b>		
<b>2. Restoration or preservation plans for selected priority sites will be developed and implemented for a minimum of 5 sites.</b> (A minimum of 5 projects will be established with a goal of 400 acres restored or preserved.)	5/13	\$ 135,125.00
<b>3. A minimum of 2 Field Tours and a workshop will be held for local and state land managers and interested groups.</b>	5/13	\$ 1,500.00

**Activity 3: Develop and deliver training for at least 30 local & state land managers and road authority staff regarding northern white cedar plant community restoration and minimizing wetland impacts by roads and trails.** This activity would develop training materials and conduct training for local and state road authorities regarding 1) minimizing impacts to natural hydrology where roads cross forested wetlands and 2) site preparation and revegetation techniques for restoration of northern white cedar plant communities. This training initiative will target road authority staff to improve road project design to reduce hydrologic impacts to adjacent forested wetland plant communities, and land managers regarding site preparation and revegetation techniques for white cedar restoration.

**Summary Budget Information for Activity 3:**

**ENRTF Budget: \$ 21,750.00**  
**Amount Spent: \$ 0**  
**Balance: \$ 21,750.00**

**Activity Completion Date: 6/13**

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
<b>1. Develop training materials for northern white cedar plant community restoration and minimizing wetland impacts</b>	3/13	\$ 19,000.00
<b>2. Develop and deliver training for at least 30 local &amp; state land managers and road authority staff regarding northern white cedar plant community restoration and minimizing wetland impacts by roads and trails.</b> (This training initiative will target road authority staff for improved design to reduce hydrologic impacts to forested wetland plant communities adjacent to road projects and land managers regarding site preparation and revegetation techniques for white cedar restoration)	6/13	\$ 2,750.00

**Activity Status as of January, 2012:**

**Activity Status as of September 2012:**

**Activity Status as of March 2013:**

**Final Report Summary:**

**V. DISSEMINATION:**

- **Field tours of white cedar restoration sites**
- **Training Session**
- **Final Report**

**Description:**

**Status as of January, 2012:**

**Status as of September 2012:**

**Status as of March 2013:**

**Final Report Summary:**

**VI. PROJECT BUDGET SUMMARY:**

**A. ENRTF Budget: \$250,000.00**

<b>Budget Category</b>	<b>\$ Amount</b>	<b>Explanation</b>
Personnel:	\$ 74,250	Unclassified (50% time) Wetland Specialist (Board of Water and Soil Resources for 2 years) Salary - 74% Benefits - 26%
Professional/Technical Contracts:	\$137,500	<b>Soil and Water Conservation Districts (\$30,000)</b> Up to 12 contracts with SWCDs based on criteria, priorities and targeted areas established by the interagency technical team. This field work would be to complete field investigations and prioritization of white cedar sites for restoration and preservation. This work will include inspection of a minimum of 100 potential sites. <b>Natural Resource Research Institute (\$45,000)</b> to provide technical expertise in designing white cedar restoration projects. This work will include evaluation of white cedar restoration field techniques in other states, field data collection and project design. This contract will also include providing assistance in development and delivery of training on white cedar restoration. <b>County Land Departments (\$61,500)</b> - Up to 5 contracts with county land departments based on selection of highest priority sites by the interagency technical team for demonstration of white cedar plant community restoration. These contracts would be to develop a minimum of 5 demonstration white cedar restoration or preservation projects totaling a minimum of 400 acres. This work will include site preparation of demonstration sites, tree planting, installation of deer browse protection, and management of site during project duration (2 years).
Equipment/Tools/Supplies:	\$29,250	Field supplies including costs for field demonstration of restoration techniques (fencing, plant materials, deer repellants, tree protection devices).
Travel Expenses in MN:	\$9,000	This budget item is to cover BWSR staff travel costs including mileage, meals, lodging costs for Interagency coordination meetings, field site visits and training. For example: a) travel from Bemidji BWSR office to Duluth for interagency technical team meetings, b) travel costs for BWSR Wetland Specialists from office (Duluth) to field and demonstration sites within 18 county project area, c) Travel for BWSR staff to training sessions (Grand Rapids, Duluth, International Falls, etc.)
<b>TOTAL ENRTF BUDGET:</b>	<b>\$250,000</b>	

**Explanation of Capital Expenditures Greater Than \$3,500: N/A**

**Number of Full-time Equivalent (FTE) funded with this ENRTF appropriation: 1.0 (1/2 time unclassified position for 2 years)**

**B. Other Funds:** No cash match, however there will be in-kind contributions.

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
<b>Non-state</b>			
	\$	\$	
<b>State</b>			
15% of BWSR Senior Wetland Specialist (In-kind staff time)	\$12,000.00	\$ 0	
<b>TOTAL OTHER FUNDS:</b>	<b>\$12,000.00</b>	<b>\$</b>	

**VII. PROJECT STRATEGY:**

**A. Project Partners:** The overall project will be managed by the Minnesota Board of Water and Soil Resources. Project partners that will be paid from ENRTF funds include: BWSR, NRRI, SWCDs and County land Departments. Project partners that will not receive ENRTF funds include DNR, MPCA, USF&WS, US Army Corps of Engineers and local government units. Design and management of restoration projects would involve Natural Resource Research Institute (NRRI), DNR, BWSR, several county land commissioners and other local, state and federal agencies. Technical oversight will be accomplished by a regional inter-agency Northeast Wetland Restoration Committee made up of technical staff of NRRI, University of Minnesota, DNR, MPCA, BWSR, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and LGUs. Technical review will occur during late winter, 2011.

**B. Project Impact and Long-term Strategy:** The project will result in substantially improved northern white cedar wetland plant communities in the northeast and north central regions of Minnesota. Project benefits will include improved understanding of white cedar plant community restoration techniques and demonstration sites and training that will improve management of this important resource in the state.

**C. Spending History: N/A**

Funding Source	M.L. 2005 or FY 2006-07	M.L. 2007 or FY 2008	M.L. 2008 or FY 2009	M.L. 2009 or FY 2010	M.L. 2010 or FY 2011
2007 General Fund Appropriation for the Northeast Wetland Mitigation Inventory	\$375,000.00				

**VIII. ACQUISITION/RESTORATION LIST: N/A**

**IX. MAP(S): See Attachment**

**X. RESEARCH ADDENDUM: N/A**

**XI. REPORTING REQUIREMENTS:**

**Periodic work plan status update reports will be submitted not later than January 30 2012, September 30, 2012, and March 30, 2013. A final report and associated products will be submitted between June 30 and August 1, 2013 as requested by the LCCMR.**

Attachment A: Budget Detail for M.L. 2011 (FY 2012-13) Environment and Natural Resources Trust Fund Projects											
<b>Project Title:</b> Northeast Minnesota White Cedar Plant Community Restoration											
<b>Legal Citation:</b> \$125,000 for the first year and \$125,000 the second year are from the trust fund to the Board of Water and Soil Resources to assess the decline of northern white cedar plant communities in northeast Minnesota, prioritize cedar sites for restoration, and provide cedar restoration training to local units of government											
<b>Project Manager:</b> Dale Krystosek, BWSR Senior Wetland Specialist											
<b>M.L. 2011 (FY 2012-13) ENRTF Appropriation:</b> \$250,000											
<b>Project Length and Completion Date:</b> 2 years, June30, 2013 Completion date											
<b>Date of Update:</b> June, 2011											
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET											
BUDGET ITEM	Activity 1 Budget	Amount Spent	Balance	Activity 2 Budget	Amount Spent	Balance	Activity 3 Budget	Amount Spent	Balance	TOTAL BUDGET	TOTAL BALANCE
	<i>Activity 1: Identify High Priority White Cedar Restoration and preservation Sites</i>			<i>Activity 2: Establish 5 white cedar restoration and preservation projects</i>			<i>Activity 3: Develop and deliver training for at least 30 local and state land managers and road authority staff regarding northern white cedar plant community restoration and minimizing wetland impacts by roads and trails</i>				
<b>Personnel (Wages and Benefits)</b> BWSR Wetland Specialist (50% fulltime employment) 74% Salary, 26% for benefits - one person will fill this position through an unclassified position	34,625	0	34,625	28,075	0	28,075	11,550	0	11,550	74,250	74,250
<b>Professional/Technical Contracts - 1) Soil and Water Conservation Districts</b> -Up to 12 contracts with SWCDs for additional staff based on criteria, priorities and targeted areas established by the interagency technical team. This field work would be to complete field investigations and prioritization of white cedar sites for restoration and preservation. This work will include inspection of a minimum of 100 potential sites.	30,000	0	30,000							30,000	30,000
<b>Professional/Technical Contracts - 2) Natural Resource Research Insitiute</b> - Contract to provide technical expertise in designing white cedar restoration projects. Work will include review and evaluation of techniques in other states, field data collection and project design. This contract will also development and delivery of training on white cedar restoration.	15,000	0	15,000	21,000	0	21,000	9,000	0	9,000	45,000	45,000
<b>Professional/Technical Contracts - 3) County Land Departments</b> - Up to 5 contracts with county land departments based on selection of highest priority sites by the interagency technical team for demonstration of white cedar plant community restoration. These contracts would be to develop a minimum of 5 demonstration white cedar restoration or preservation projects totaling a minimum of 400 acres. This work will include site preparation of demonstration sites, tree planting, installation of deer brouse protection, and management of site during project duration (2 years).				62,500	0	62,500				62,500	62,500
<b>Equipment/Tools/Supplies</b> - Field supplies including costs for field demonstration of restoration techniques (fencing, plant materials, deer repellants, tree protection devices).				29,250	0	29,250				29,250	29,250
<b>Travel expenses in Minnesota</b> - This budget item is to cover BWSR staff costs for Interagency coordination meetings, field site visits and training. For example: a) travel from Bemidji BWSR office to Duluth for interagency technical team meetings, b) travel costs for BWSR Wetland Specialists from office (Duluth) to field and demonstration sites within 18 county project area, c) Travel for BWSR staff to training sessions (Grand Rapids, Duluth, International Falls, etc.)	2,500	0	2,500	5,300	0	5,300	1,200	0	1,200	9,000	9,000
<b>COLUMN TOTAL</b>	<b>\$82,125</b>	<b>\$0</b>	<b>\$82,125</b>	<b>\$146,125</b>	<b>\$0</b>	<b>\$146,125</b>	<b>\$21,750</b>	<b>\$0</b>	<b>\$21,750</b>	<b>\$250,000</b>	<b>\$250,000</b>