

2007 Project Abstract

For the Period Ending June 30, 2009

PROJECT TITLE: Field Guide to Minnesota Wetland and Buffer Plant Seedlings

PROJECT MANAGER: Paul Bockenstedt

AFFILIATION: Bonestroo, Inc.

MAILING ADDRESS: 2335 West Highway 36

CITY/STATE/ZIP: St. Paul, MN 55113

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E-MAIL: paul.bockenstedt@bonestroo.com

WEBSITE: www.bonestroo.com

FUNDING SOURCE: Environment and Natural Resources Trust Fund

LEGAL CITATION: (c) *Field Guide for Evaluating Vegetation of Restored Wetlands*

\$53,000 is from the trust fund to the Board of Water and Soil Resources for an agreement with Bonestroo, Rosene, Anderlik, & Associates to develop a printed and Web-based field guide to assist the evaluation of the quality of wetland restorations in Minnesota. This wetland guide must be available for downloading free of charge on the Internet.

APPROPRIATION AMOUNT: \$ 53,000

Overall Project Outcome and Results

Wetland mitigations in Minnesota are expected to be required to meet minimum native vegetation requirements for approval in the near future. The *Minnesota Field Guide to Wetland & Buffer Plant Seedlings* was developed as an easy-to-use guide to assist in evaluation of the quality of vegetation in wetland restorations in Minnesota.

Bonestroo staff gathered necessary graphic resources for the guide and met with BWSR and MPCA staff to discuss and refine the project layout and contents. Bonestroo graphic designers developed a layout template for the guide. Plant drawings and art were purchased from artist Mark Muller, and additional photos/graphics for native plant seeds and seedlings gathered by Bonestroo staff. Michael Bourdaghs of MPCA assisted with preparation of an abbreviated description of the Floristic Quality Assessment Index (FQAI) process for inclusion as the field methodology for evaluating wetlands.

A total of 2,450 guides were printed (original proposed 2,000) by Modern Press of St. Paul following a competitive bid process. These were distributed to a variety of state and county agencies, as well as federal agencies with Minnesota offices, professional organizations, and educational groups/institutions. A small number of printed guides and the final print-ready version of the guide were provided to Dan Shaw of BWSR. This project created the first guide of its kind for identifying wetland plants, their seeds and seedlings, as well as information on the wetland vegetation evaluation methodology being developed by MPCA. Printed guides were distributed to wetland professionals through a broad network of groups, professional organizations, and local, state and federal agencies. The *Minnesota Field Guide to Wetland and Buffer Plant Seedlings* is also available as a free of charge downloadable PDF on Bonestroo's website at www.bonestroo.com. It is also available to State agencies for posting to their websites, should they choose to do so in the future.

Project Results Use and Dissemination

The *Minnesota Field Guide to Wetland and Buffer Plant Seedlings* is being used as both a printed and online resource by wetland professionals. The guide has been distributed at wetland delineators training sessions, as well as by other wetland and natural resource professional groups. The guide is intended to be a supporting reference for plant identification for the wetland evaluation methodology (FQAI) being developed by the Minnesota Pollution Control Agency. This MPCA-developed methodology is anticipated for completion in 2010. The Guide to Minnesota Wetland and Buffer Plant Seedlings is being promoted both through word of mouth, as well as announcements at meetings, workshops, and conferences, by Bonestroo, agency, and nonprofit staff. A distribution list for printed guides was provided to LCCMR staff along with the final project report in July/August 2009.

Trust Fund 2007 Work Program Final Report

Date of Report: 29 July 2009
Trust Fund 2007 Work Program Final Report
Date of Next Status Report: N/A
Date of Work program Approval: 5 June 2007
Project Completion Date: September 2009

I. PROJECT TITLE: *Field Guide for Evaluating Vegetation of Restored Wetlands*

Project Manager: Paul Bockenstedt
Affiliation: Bonestroo
Mailing Address: 2335 West Highway 36
City / State / Zip: St. Paul, MN 55113
Telephone Number: 651.604.4812 Mobile 651.775.5331
E-mail Address: paul.bockenstedt@bonestroo.com
FAX Number: 651.636.1311
Web Page address: www.bonestroo.com

Location: *Statewide*

Total Trust Fund Project Budget:	Trust Fund Appropriation:	\$53,000
	Minus Amount Spent:	\$53,000
	Equal Balance:	\$ 0

Legal Citation: 1. M.L. 2007, Chp. 30, Sec. 2, Subd. 6(c) titled "Field Guide for Evaluating Vegetation of Restored Wetlands".

Appropriation Language:

(c) Field Guide for Evaluating Vegetation of Restored Wetlands

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II. and III. FINAL PROJECT SUMMARY:

Wetland mitigations in Minnesota are expected to be required to meet minimum native vegetation requirements for approval in the near future. The *Minnesota Guide to Wetland & Buffer Plant Seedlings* was developed as an easy-to-use guide to assist in evaluation of the quality of vegetation in wetland restorations in Minnesota.

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IV. OUTLINE OF PROJECT RESULTS:

Result 1: "Develop *Field Guide for Evaluating Vegetation of Restored Wetlands*"

Description:

Bonestroo ecologist and graphic designer completed a draft version of the guide in mid-April 2009. The draft guide was distributed to select state agency staff for review, including Dan Shaw of BWSR and Michael Bourdaghs of MPCA. Comments were received from reviewers in early May.

The original proposal was for the guide to be 125-150 pages in length (actual 130 pages). The final guide included full-color photos and drawings of native plant seed seedlings, and seedling specific descriptions. The proposed number of native plants proposed for the guide was 50-60 (actual 75). The guide was proposed to include a minimum of 20 problem weeds common to restored wetlands in Minnesota and the Upper Midwest (actual 27).

The guide included a summary-level section on the practical field review of native plant restoration describing the Floristic Quality Assessment Index (FQAI) method that is in the process of being developed by MPCA and other Wetland Conservation Act stakeholders. Bonestroo anticipates having a downloadable pdf version of the guide available on their internet site by mid-August 2009. State agencies may also make this publication available through their internet sites, but no word was available as to the status of such an effort at the time of this report.

The original proposal was to include a wetland vegetation assessment procedure in the guide. The wetland vegetation procedure that was proposed for inclusion in the guide had not been completed by MPCA staff at the time the guide went to the printer. Therefore, this section included a basic description of the anticipated methodology. The wetland plant guide for this project may be updated in the future to include a more complete treatment of the FQAI method, when it is completed by MPCA.

Budget: \$42,250

Summary Budget Information for Result 1: Trust Fund Budget: \$42,250
Amount Spent: \$42,250
Balance: \$ 0

Deliverable	Completion Date	Budget	Status
1. <i>Development and layout of guide</i>	<i>March 2008</i>	<i>\$35,500</i>	
2. <i>Draft printing/review</i>	<i>April 2008</i>	<i>\$ 4,500</i>	
3. <i>Incorporate Edits and Final Draft</i>	<i>June 2008</i>	<i>\$ 2,250</i>	

Result 2: “Printing and guide distribution”

Description:

Competitive bids were accepted for printing of the final guide and the final draft sent to Modern Press of St. Paul in mid-May 2009. A total of 2,450 guides were printed. A draft distribution plan was submitted to Dan Shaw of BWSR and Michael Bourdaghs of MPCA, as well as other select professionals active in the wetland regulation and restoration community in April 2009. A final distribution plan was arrived at in May 2009. After the guides were returned from the printer, distribution was accomplished (final distribution list provided to LCCMR as an MS Excel spreadsheet). A small number of surplus guides (approximately 200) are being stored by Dan Shaw of BWSR and will be distributed based on requests, and additional distribution at conferences and wetland professionals meetings.

Budget: \$10,750

Summary Budget Information for Result 2: Trust Fund Budget: \$10,750
Amount Spent: \$10,750
Balance: \$ 0

Deliverable	Completion Date	Budget	Status
1. <i>Printing of Guide</i>	<i>June 2009</i>	<i>\$10,000</i>	
2. <i>Provide Guides to Agencies for distribution</i>	<i>June 2009</i>	<i>\$ 550</i>	
3. <i>Make guide available on internet as pdf (free, downloadable)</i>	<i>June '09</i>	<i>\$ 200</i>	
<i>downloadable from www.bonestroo.com , and perhaps State agencies</i>			

V. TOTAL TRUST FUND PROJECT BUDGET:

Staff or Contract Services: \$53,000 (Bonestroo, & a printing company to be determined based on best value/bid)

Equipment: *Not applicable for this project*

Development: \$ *Not applicable for this project*

Restoration: \$ *Not applicable for this project*

Acquisition, including easements: *Not applicable for this project*

TOTAL TRUST FUND PROJECT BUDGET: \$53,000

Explanation of Capital Expenditures Greater Than \$3,500: *None*

VI. OTHER FUNDS & PARTNERS:

A. Project Partners:

BWSR, Dan Shaw – photos, guide content advisor/reviewer

MPCA, Michael Bourdaghs, Wetland Biologist, - guide content advisor/reviewer. FOAI method development project manager

St. Croix Watershed Research Station, Science Museum of MN, Dr. Shawn Schottler, – photos of native plant seeds

Iowa DNR, Bill Johnson - photos of native plants and seedlings

Mark Müller, Independent Graphic Artist – artwork of native and nonnative plants for guide.

Ramsey County Corrections Greenhouse (Sean Uslabar) – growing of seedlings to photograph

Minnesota Department of Natural Resources – Doug Norris time for review/distribution

Wetland Professionals Association – guide content advisor/reviewer, distribute guides

Prairie Moon Nursery – supplied seed for photos of some seed

USDA NRCS PLANTS Database – photos of plants/seeds for use in guide

MN Department of Agriculture – photos of weeds, weed seedlings and weed seed

Ion Exchange – Making seedlings available for photos at their native plant greenhouses

MN Waterfowl Association – Guide distribution

Ducks Unlimited – Guide distribution

U.S. Corp of Engineers – Guide distribution

Modern Press of St. Paul, printing of guide, following a competitive bid process.

The Ohio State University – photos for select weed seedlings

B. Other Funds Proposed to be Spent during the Project Period:

Not applicable

C. Past Spending:

Not applicable

D. Time:

- July 2007 – January 2009 – development and layout of guide
- May 2009 – Completion of Draft Guide and peer review
- June 2009 – Final Guide printing and distribution to partnering agencies
- July 2009 – Guide available on Bonestroo website www.bonestroo.com as a free, downloadable PDF document

VII. DISSEMINATION:

A total of 2,450 guides were printed and distributed. The guide is available for free downloading from the Bonestroo website as a pdf file. It may also be hosted on the internet in the future by one or several state agencies such as BWSR and/or MPCA.

VIII. REPORTING REQUIREMENTS:

Periodic work program progress reports were submitted:

- March 2008
- March 2009

A final work program report and associated products were submitted between June 30 and August 1, 2009, as requested by the LCCMR

IX. RESEARCH PROJECTS: *Not applicable for this project*

Attachment A: Budget Detail for 2007 Projects											
Project Title: <i>Field Guide for Evaluating Vegetation of Restored Wetlands</i>											
Project Manager Name: <i>Paul Bockenstedt; Bonestroo, 2335 West Highway 36, St. Paul, MN 55113 ; 651.604.4812</i>											
Trust Fund Appropriation: \$ 53,000											
1) See list of non-eligible expenses, do not include any of these items in your budget sheet											
2) Remove any budget item lines not applicable											
2007 Trust Fund Budget	Result 1 Budget:	Amount Spent (date)	Balance (date)	Result 2 Budget:	Amount Spent (date)	Balance (date)	Result 3 Budget:	Amount Spent (date)	Balance (date)	TOTAL BUDGET	TOTAL BALANCE
	<i>Develop Field Guide</i>			<i>Printing and guide distribution</i>			<i>Not Applicable for this project</i>				
BUDGET ITEM			0			0			0	0	0
PERSONNEL: wages and benefits	41,500	41,636	-136	750	750	0			0	42,250	-136
Printing	200	186	14	10,000	10,640	-640	0	0	0	10,200	-626
Travel expenses in Minnesota	550	338	212	550	0	550	0	0	0	1,100	762
COLUMN TOTAL	\$42,250	\$42,160	\$90	\$11,300	\$11,390	-\$90	\$0	\$0	\$0	\$53,550	\$0

Wetland Guide FINAL Distribution List				
Agency/Group	Contact Name	# of copies?	Phone	email
BWSR	Dan Shaw, Vegetation Specialist/Landscape Ecologist	500	651.296.0644	Dan.Shaw@state.mn.us
MPCA (MN Native Plant Society)	Michael Bourdaghs	100	651.757-2239	Michael.Bourdaghs@state.mn.us
MnDOT	Ken Graeve, Botanist	250	651.366.3613	Kenneth.Graeve@dot.state.mn.us
USACE	Tom Mings, Senior Ecologis - Banking	75	651.290.5365	Thomas.S.Mings@usace.army.mil
MN Wetland Professionals Ass'n	Rich Davis, President	150	507.380.6859	wetlandman34@yahoo.com
MN Association of SWCDs	LeAnn Buck, Executive Director	300	651.690.9028	leann.buck@maswcd.org
MN DNR	Doug Norris	150	651.259.5125	doug.norris@dnr.state.mn.us
NRCS	Paul Flynn, Wetland	200	651-602-7870	paul.flynn@mn.usda.gov
Ducks Unlimited	Jon Schneider, Bob Usgaard, or Ryan Heineger	100	320.762.9916	jschneider@ducks.org
MN Association of Watershed Districts	Ray Bohn	75	651.905.4948	raybohnmq@aol.com
MN Waterfowl Association	Brad Nylin, Executive Director	100	952.767.0320	brad.nylin@mnwaterfowl.com
Pheasants Forever	Matt Holland, Biologist	100	320.354.4377	mholland@pheasantsforever.org
Minnehaha Creek WD	Julie Westerlund	75		
LCCMR	Distributed at field day 16 June, 2009	35		
WCA Rule Training 7-23-09	General Distribution	78		
	<i>Bonestroo</i>	62		
	TOTAL	2350		
*anticipated 2,000 copies for printing and distribution in June 2009				
Institution	Name	Number	AddressLine1	AddressLine2
Legislative Reference Library	Jess Hopeman	5		100 Rev. Dr. Martin Luther King Jr. Blvd.
University of Minnesota Twin Cities	Aquisitions	5	McGrath Library	1984 Buford Ave
University of Minnesota Duluth	Bill Sozansky	5	Library	10 University Dr
University of Minnesota Crookston	Owen Williams	5	Library	2900 University Ave.
University of Minnesota	Erin Fider	5	Itasca Biological Station & Laboratories	28131 University Circle
Bemidji State University	Aquisitions Librarian	5	A.C. Clark Library	1500 Birchmont Dr. NE
St. Cloud State University	Aquisitions Librarian	5	Library	720 Fourth Avenue South
Southwest Minnesota State University	Aquisitions Librarian	5	Library	1501 State St.
Minnesota State University, Mankato	Aquisitions Librarian	5	Memorial Library	PO Box 8419-ML 3097
Winona State University	Aquisitions Librarian	5	Darrell W. Krueger Library	PO 5838, 175 West Mark St
Natural Resources Research Institute	Susan Hendrickson	5		5013 Miller Trunk Highway
US Army Corps of Engineers	Tom Mings	5	Sibley Square at Mears Park	190 5th St. E., Suite 401
US Army Corps of Engineers	Tim Smith	5	Sibley Square at Mears Park	190 5th St. E., Suite 401
Iowa DNR	Vince Evelsizer	2		109 Trowbridge Hall
Wisconsin DNR	Tom Bernthal	3		101 S. Webster
Fond du Lac Environmental Dept.	Ric Gitar	5		1720 Big Lake Rd
Hennepin County	David Thill	5	Environmental Services Dept.	417 N. 5th St., Suite 200
Minnesota State University Mankato	Brad Cook	5		242 Trafton Science Center South (Office-T
Ramsey Washington Metro Watershed	Bill Bartodziej	5		2665 Noel Drive
University of Minnesota Crookston	Rhett Johnson	5	Natural Resources Dept.	2900 University Ave.
University of Minnesota Twin Cities	Susan Galatowitsch	5	260 Alderman Hall	1970 Folwell Ave.
		100		
	TOTAL	2450		