

Trust Fund 2008 Work Program

Date of Report: May 7, 2009

Date of Next Status Report: July 2009

M.L. 2007

M.L. 2008

M.L. 2009

Date of Work program Approval:

June xx, 2009

Project Completion Date:

June 30, 2009

June, 30 2010

June 30, 2011

I. PROJECT TITLE: Statewide Ecological Ranking CRP and Other Critical Lands

Project Manager: Greg Larson
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Location: Statewide

Total Trust Fund Project Budget:

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$13,000	\$155,000	107,000	\$275,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$13,000	\$155,000	\$107,000	\$275,000

Legal Citation: M.L. 2007, Chap. 30, Sec. 2, Subd. 7

Appropriation Language:

\$160,000 is from the trust fund to an emerging issues account as authorized in Minnesota Statutes, section 116P.08, subdivision 4, paragraph (d).[\$13,000 of the total \$160,000 was allocated toward this project]

Legal Citation: M.L. 2008, Chap. 367, Sec. 2, Subd. 7

Appropriation Language:

\$155,000 is from the trust fund for an emerging issues account as authorized under Minnesota Statutes, section 116P.08, subdivision 4, paragraph (d).

Legal Citation: M.L. 2009, Chp. 143, Sec. 2, Subd. 4g

Appropriation Language:

\$107,000 is from the trust fund to the Board of Water and Soil Resources to continue the efforts funded by the emerging issues account allocation to identify and rank the ecological value of conservation reserve program (CRP) and other critical lands throughout Minnesota using a multiple parameter approach including soil productivity, landscape, water, and wildlife factors.

II. PROJECT SUMMARY AND RESULTS: This project will identify and rank the ecological value of CRP and other critical lands throughout Minnesota using soil productivity, landscape, water, wildlife and other relevant natural resource factors. This will be done using a multiple parameter, additive approach for the purposes of prioritizing conservation program efforts based on these factors and the relationship of the critical land's position in the landscape.

There are two distinct products and outcomes from this effort. The first product will be available upon completion of Results 1 and 2 and is funded by the emerging issues account. Upon completion of these results, CRP lands will be prioritized based on soil productivity and environmental vulnerability as determined using soil erosion and crop productivity analysis. The resulting map, GIS data layers with the highest ranked areas, and recommendations on conservation program priorities will be delivered upon completion of these two results. This information will be shared with the LCCMR, Lessard-Sams Outdoor Heritage Council, the BWSR Board and others.

The second product builds on the first by adding terrain analysis, proximity to water bodies, and biological resources as mechanisms for prioritizing conservation efforts. The resulting information will provide a state-wide analysis of land areas that provide the greatest environmental benefit for targeted conservation efforts. The resulting GIS information and data layers will be available to conservation program partners and supported through specialized training. At that point, landowner parcel information can be used as a method of outreach for targeting conservation programs.

III. PROGRESS SUMMARY AS OF February 25, 2009: NA.

IV. OUTLINE OF PROJECT RESULTS:

Result 1: Prioritize statewide CRP lands that will expire by 2014 according to soil productivity.

Description: The potential for growing annual crops on CRP lands will be assessed. Because of their ability to produce agricultural crops, expiring CRP lands with the highest soil productivity would be difficult to acquire or convert to long term conservation cover. This GIS analysis will identify the location of expiring CRP lands and their soil productivity rating. The location of each CRP project will be mapped. The premise is that expiring CRP lands with low soil productivity may be candidates for continued protection through conservation programs. For this result, the University of Minnesota will develop the Crop Productivity Index which will be provided to BWSR and BWSR will conduct the analysis to determine which expiring CRP lands fall within the target range of soil productivity.

Summary Budget Information for Result 1: (Amendment approved 5/7/09)

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$13,000	\$3,000	\$0	\$16,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$13,000	\$3,000	\$0	\$16,000

<u>Deliverable</u>	<u>Completion Date</u>	<u>Budget</u>
1. Economic analysis and identifying yields based on soil productivity	March 30, 2009	\$8,000
2. Estimated potential loss and location of CRP acreage	March 30, 2009	\$8,000

Completion Date: April 1, 2009

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

Result 2: Determining which of the CRP parcels identified in Result 1 that have low productivity and high potential erosion rates.

Description: This analysis included taking the CRP parcels that meet the CPI criteria from Result 1 and intersect them with soils that have high potential erosion rates to determine CRP parcels that have both low productivity and high potential erosion rates. In order to determine the value for “high erosion” a panel of experts from BWSR, USDA, FSA, MN Dept of Ag, and the University of Minnesota will be formed to establish the breakpoint erosion rates. Once these critical erosion rates have been determined, low productivity expiring CRP parcels will be identified. CRP parcels will then be subdivided into groups based on contract expiration dates and type of conservation practice (permanent wildlife habitat, wetland restoration, perennial grass, buffer strips, etc). Expiring CRP parcels will be ranked according to environmental vulnerability, crop productivity, erosion potential and critical habitat identified in the Statewide Conservation Plan. The highest ranked CRP parcels will be identified and mapped. BWSR will develop recommendations for the LCCMR concerning which expiring CRP lands are most deserving of protection. This information will be shared with the LCCMR, Lessard Outdoor Heritage Council, the BWSR Board and others through presentation formats and the data and information will be available through appropriate GIS data portals.

Summary Budget Information for Result 2: (Amendment approved 5/7/09)

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$0	\$55,000	\$0	\$55,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$0	\$55,000	\$0	\$55,000

Deliverable	Completion Date	Budget
1. Recommendations on the expiring CPR lands ranked as the highest priority for continued protection through conservation programs.	September 30, 2009	\$55,000

Completion Date: September 30, 2009

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

Result 3: Identify and prioritize other critical lands on a statewide basis by land and surface water features and overlay the CRP critical lands identified in Results 1 and 2.

Description: The University of Minnesota and NRRI (Natural Resources Research Institute) will use terrain analysis of statewide digital elevation models and surface hydrologic features, such as impaired waters, to identify lands that are not currently enrolled in the CRP program but are critical for

maintaining and improving wildlife habitat and water quality. The results of conservation efforts will be improved by targeting these critical lands with conservation projects such as riparian buffer strips, perennial or cover crop plantings, and wetland restoration.

Summary Budget Information for Result 3: (Amendment approved 5/7/09)

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$0	\$53,000	\$8,000	\$61,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$0	\$53,000	\$8,000	\$61,000

Deliverable	Completion Date	Budget
1. Ranking of CRP and other critical lands according to erosion, proximity to water, and potential for delivery of sediment and nutrients to surface waters.	December 1, 2010	\$61,000

Completion Date: December 1, 2010

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

Result 4: Further identify and prioritize the expiring CRP and other critical lands mapped in Results 1, 2 and 3 with biological and other habitat criteria.

Description: The University of Minnesota and NRR1 will overlay the lands identified in Results 2 and 3 with GIS data for wildlife management areas, scientific and natural areas, biological indices, other sites of significant biodiversity, forest resources, and integrated terrestrial and aquatic habitat scores. This final iteration will provide a comprehensive map and corresponding GIS layers that will greatly improve the targeting of conservation program funds and therefore will result in better environmental outcomes including improved water quality and wildlife habitat.

Summary Budget Information for Result 4:

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$0	\$44,000	\$17,000	\$61,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$0	\$44,000	\$17,000	\$61,000

Deliverable	Completion Date	Budget
1. Maps and GIS data of expiring CRP and other critical lands according to soil productivity, erosion, proximity to water, potential for delivery of sediment to surface waters, and relevant natural resource features potential will be produced.	February 1, 2011	\$61,000

Completion Date: February 1, 2011

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

Result 5: Promotion and providing hands-on training with the conservation program delivery system partners and staff.

Description: BWSR project development staff will develop appropriate materials and provide hands-on training to BWSR field staff and conservation field staff in other agencies, such as the DNR and Dept of Ag, and conservation project organizations, such as Ducks Unlimited and Pheasants Forever and those engaged in the Working Lands Initiative. The training will provide background information on the development of this information and how it can best be applied and used for targeting conservation program decisions at the local level. These professionals will then work one-on-one with their LGUs in order to custom fit the data and information available from this project to the local needs, priorities and funding available.

Summary Budget Information for Result 5 (Amendment Approved 5/7/09)

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$0	\$0	\$62,000	\$62,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$0	\$0	\$62,000	\$62,000

Deliverable	Completion Date	Budget
1. Training and education of Soil and Water Conservation District and other appropriate program implementers of conservation programs on the conservation targeting tools developed above.	June 30, 2011	\$62,000

Completion Date: June 30, 2011

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

Result 6: Develop and deliver recommendations for acquisition and protection of CRP and other critical lands.

Description: A final report will be prepared that reviews this project and project results, including case study information if available, along with policy and funding recommendations for future conservation program efforts. Presentations of the project and project results will be provided to the LCCMR, Lessard Outdoor Heritage Council, Legislative Committees, BWSR Board and others, such as professional and scientific conferences, as appropriate. GIS data will be available and provided through the appropriate GIS portals, such as the DNR Data Deli. Reports and other pertinent summary materials will be available on the BWSR website.

Summary Budget Information for Result 6:

	M.L. 2007	M.L. 2008	M.L. 2009	Total
Trust Fund Appropriation:	\$0	\$0	\$20,000	\$20,000
Minus Amount Spent:	\$0	\$0	\$0	\$0
Equal Balance:	\$0	\$0	\$20,000	\$20,000

<u>Deliverable</u>	<u>Completion Date</u>	<u>Budget</u>
1. Completion of Final Report, which will include an example application of the targeting strategy.	June 30, 2011	\$20,000

Completion Date: June 20, 2011

Result Status as of July 2009:

Result Status as of January 2010:

Result Status as of July 2010:

Result Status as of January 2011:

Result Status as of June 30, 2011:

Final Report Summary:

V. TOTAL TRUST FUND PROJECT BUDGET:

Staff: Board of Water and Soil Resources (BWSR): **\$109,000** (Amendment approved 5/7/09)

- GIS Specialist: conduct GIS analysis, manage data, interpret data, assist in overall project coordination, field training, report development, and participate in project meetings. 15%FTE
- Soil Scientist: manage data, interpret data, assist in overall project coordination, field training, report development, and participate in project meetings. 10%FTE
- Training Coordinator: work with the project team to develop training materials and training program, conduct training, provide follow-up assistance as needed. 15% FTE

Contract Services: University of Minnesota: **\$166,000** (Amendment approved 5/7/09)

- Soil, Water & Climate in St. Paul, GIS Specialist: conduct GIS analysis, manage data, interpret data, assist in overall project coordination, report development, and participate in project meetings. 20%FTE
- Soil, Water & Climate in St. Paul, Grad Research Asst: conduct GIS analysis, manage data, interpret data, assist in report development, and participate in project meetings. 50%FTE
- Department of Applied Economics in St. Paul: Economic analysis and identifying yields of comparison crops \$8,000 spread among Results 1, 2 and 3 (Amendment approved 5/7/09)
- NRRI in Duluth, Scientist: analyze and interpret data, assist in overall project coordination, report development, and participate in project meetings. 8.3%FTE
- NRRI in Duluth, Scientist: interpret data, assist in overall project coordination, report development, and participate in project meetings. 25%FTE
- NRRI in Duluth, Info Tech Prof: conduct GIS analysis, manage data, interpret data and participate in project meetings. 15%FTE
- NRRI: Supplies, In-state Travel, and GIS Lab fees (\$4,600 included in contract amount above)

TOTAL TRUST FUND PROJECT BUDGET: \$ 275,000

(M.L. 2007 Emerging Issues= \$13,000; M.L. 2008 Emerging Issues = \$155,000; M.L. 2009 = \$107)

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

VI. PROJECT STRATEGY:

A. Project Partners:

The project team includes Greg Larson, State Soil Specialist, BWSR; Julie Klocker, Assistant Director, BWSR; Aaron Spence, GIS Specialist, BWSR; Professors David Mulla, George Host and Steve Taff, UM, and Joel Nelson, GIS Specialist, UM.

B. Other Funds Proposed to be Spent during 2008 and 2009:

BWSR will provide in-kind contributions of about \$5,000 annually.

C. Spending History:

N/A

D. Time:

2007 funds are to be spent by June 30, 2009

2008 funds are to be spent by June 30, 2010

2009 funds are to be spent by June 30, 2011

E. Project Impact and Long-Term Strategy:

It is hoped that the data and recommendations from this project will provide a statewide analysis and ranking of CRP and other environmentally sensitive lands for use in targeting conservation efforts.

VII. DISSEMINATION: See results 5 and 6.

VIII. REPORTING REQUIREMENTS:

Periodic work program progress reports will be submitted not later than July 2009, January 2010, July 2010, January 2011 and June 30, 2011. A final work program report and associated products will be submitted between June 30 and August 1, 2011 as requested by the LCCMR

IX. RESEARCH PROJECTS: NA

Attachment A: Budget Detail for 2008 Projects (May 7,2009)

Project Title: Statewide Ecological Ranking CRP and Other Critical Lands

Project Manager Name: Julie Klocker

Emerging Issues Acct 2007: \$ 13,000

Emerging Issues Acct 2008: \$ 155,000

Trust Fund Appropriation: \$ 107,000

2008 Trust Fund Budget	<u>Result 1 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	<u>Result 2 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	<u>Result 3 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	<u>Result 4 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	<u>Result 5 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	<u>Result 6 Budget:</u>	<u>Amount Spent (date)</u>	<u>Balance (5/7/09)</u>	TOTAL BUDGET	TOTAL BALANCE
	Prioritize CRP lands statewide according to soil productivity.			Determining CRP parcels that have low productivity and high potential erosion rates.			Identify and prioritize CRP and other critical lands by land and surface water features			Further identify and prioritize CRP and other critical lands with wildlife and other habitat criteria. lands			Promoting the product with the implementers.			Develop recommendations for acquisition and protection of CRP and other critical lands				
BUDGET ITEM																				
PERSONNEL: wages and benefits	11,000		11,000	21,000		21,000							62,000		62,000	20,000		20,000	114,000	114,000
Contracts																				
University of Minnesota/NRRI: Personnel, supplies, in-state travel and GIS lab fees.	5,000		5,000	34,000		34,000	61,000		61,000	61,000		61,000							161,000	161,000
COLUMN TOTAL	\$16,000	\$0	\$16,000	\$55,000	\$0	\$55,000	\$61,000	\$0	\$61,000	\$61,000	\$0	\$61,000	\$62,000	\$0	\$62,000	\$20,000	\$0	\$20,000	\$275,000	\$275,000

Emerging Issues Account	16,000			55,000			53,000			44,000			0			0			168000	
2009 Trust Fund Account	0			0			8,000			17,000			62,000			20,000			107,000	
																				275000

