



# Environment and Natural Resources Trust Fund (ENRTF) M.L. 2015 Work Plan

**Date of Report:** January 1, 2015  
**Date of Next Status Update Report:** January 2016  
**Date of Work Plan Approval:**  
**Project Completion Date:** December 31, 2017  
**Does this submission include an amendment request?** No

**PROJECT TITLE:** Conservation Easement Assessment and Valuation System Development

**Project Manager:** Bonnie Keeler

**Organization:** Natural Capital Project, Institute on the Environment, University of Minnesota

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**Location:** Statewide

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

**Legal Citation:** M.L. 2015, Chp. 76, Sec. 2, Subd. 09k

**Appropriation Language:**

\$250,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota to assess the effectiveness of existing conservation easements acquired through state expenditures at achieving their intended outcomes of public value and ecological benefits and to develop a standardized, objective conservation easement valuation system for guiding future state investments in conservation easements in order to ensure the proposed environmental benefits are being achieved in a cost effective manner. This appropriation is available until June 30, 2018, by which time the project must be completed and final products delivered. This appropriation is available until June 30, 2018, by which time the project must be completed and final products delivered.

**I. PROJECT TITLE:** Conservation Easement Assessment and Valuation System Development

**II. PROJECT STATEMENT:**

An easement is a legal instrument that transfers one or more property rights to a third party, thereby imposing restrictions on the future uses of the property, typically in perpetuity. On rural lands, most permanent easements are conveyed for conservation purposes. Such easements commonly prohibit certain land-use practices (e.g., agricultural crop production, development), require the maintenance of specific vegetative cover conditions (e.g., grassland, wetland, forest), and/or restrict future land sale conditions (e.g., prohibit parcel subdivision).

The state of Minnesota has made a significant investment in using permanent conservation easements to further the public's interest in private land conservation. To date, state-funded conservation easements protect approximately 600,000 acres in Minnesota. Based on their size, location, and management, easements will vary in the ecological, social, and economic benefits they provide. Requests for easements often exceed the resources available to pay for them. More efficient and effective screening of easements depends on information about the magnitude of all public benefits and all costs associated with specific parcels protected by permanent conservation easements.

The goals of this project are to assess the benefits and costs of past investments in easements funded by the Natural Resources Trust Fund, and to develop a tool to score future proposed easements or acquisitions based on their potential to provide public benefits. Such estimates will provide information that should be helpful in prioritizing easements to pursue and, in some cases, might lead to no longer pursuing a potential easement that does not measure up as well. *The focus of this study will be on permanent conservation easements* funded by the Natural Resources Trust Fund. The tool has the potential to inform other types of easements and acquisitions including Reinvest in Minnesota (RIM) and working forest easements. The project will achieve this goal by carrying out the following tasks: 1) acquire data on existing easements from relevant state agencies, non-profit conservation easement program managers, and LCCMR staff, 2) determine the types of easements evaluated and the public benefits and costs to be estimated, 3) assess the benefits and costs associated with a subset of existing permanent conservation easements acquired with Environmental Trust Fund proceeds; and 4) develop a web-based tool that can be used to score specific parcels of land under consideration for permanent conservation easement based on their potential benefits and costs.

**III. OVERALL PROJECT STATUS UPDATES:**

**Project Status as of [January 2016]:**

**Project Status as of [July 2016]:**

**Project Status as of [January 2017]:**

**Project Status as of [July 2017]:**

**Project Status as of [December 2017]:**

**Overall Project Outcomes and Results:**

**IV. PROJECT ACTIVITIES AND OUTCOMES:**

**ACTIVITY 1:** Identify easements, benefits and costs

**Description:** We will first review existing spatial targeting or scoring systems for restoration or conservation (e.g. Conservation Reserve Program Benefits Estimators, Ecological Benefits Index, Air and Water Economic Decisions Tool). This review of existing tools will ensure our work is leveraging the best available science and adding value

above and beyond existing scoring systems. We will also review the literature and identify potential data sources documenting the types of ecosystem services (e.g., increased/improved wildlife habitat, reduced soil erosion, improved water quality) generated by land use and management in Minnesota, as well as studies that estimate the value of these ecosystem services. We will consult with relevant state agencies, non-profit conservation easement program managers, LCCMR staff, and other data providers to determine the types of easements to evaluate and the types of public benefits and costs to be estimated. For example, the project team will request parcel-specific easement data on easement terms, location, and aerial extent, parcel land cover and habitat conditions (on both the eased land and adjacent lands), and easement acquisition, maintenance, and monitoring costs. The project team will then identify the appropriate subset of easements to evaluate and the costs and benefits to include in the study.

**Summary Budget Information for Activity 1:**

**ENRTF Budget: \$ 40,400**  
**Amount Spent: \$ 0**  
**Balance: \$ 40,400**

<b>Outcome</b>	<b>Completion Date</b>
<i>1. Project team will review existing scoring systems, data resources, and previous studies on the costs and benefits of easements.</i>	September 2015
<i>2. Project team will acquire data on a subset of existing easements, including costs, location, and other attributes of each parcel.</i>	September 2015
<i>3. Project team will identify the types of conservation easements that will be evaluated and the ecosystem service benefits and costs that will be included in the final scoring tool.</i>	December 2015

**Activity Status as of [January 2016]:**

**Activity Status as of [July 2016]:**

**Activity Status as of [January 2017]:**

**Activity Status as of [July 2017]:**

**Activity Status as of [December 2017]:**

**Final Report Summary:**

**ACTIVITY 2:** Assess the benefits and costs of existing easements.

**Description:** Based on the types of conservation easements and public benefits and costs to be evaluated as identified in Activity 1, the project team will assess the public benefits and costs of existing conservation easements will using data, models, and tools available through the University of Minnesota-affiliated Natural Capital Project (<http://naturalcapitalproject.org>) and other sources. The models will be spatially explicit and incorporate easement cost data (i.e., easement acquisition, on-going maintenance, monitoring costs). We will apply the models to existing parcels from a subset of permanent conservation easements that were acquired with Environmental Trust Fund proceeds. Model refinements will be made, as necessary, based on the types of easements and benefits outlined in Activity 1.

**Summary Budget Information for Activity 2:**

**ENRTF Budget: \$ 121,700**  
**Amount Spent: \$ 0**  
**Balance: \$ 121,700**

<b>Outcome</b>	<b>Completion Date</b>
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1. Identify existing models and data that can be used to score easements.	January 2016
2. Apply the models to the subset of existing easements to estimate benefits and costs.	December 2016
3. Expand modeling approach to develop a generalized model that can be applied to score future easements.	June 2017

Activity Status as of [January 2016]:

Activity Status as of [July 2016]:

Activity Status as of [January 2017]:

Activity Status as of [July 2017]:

Activity Status as of [December 2017]:

**Final Report Summary:**

**ACTIVITY 3:** Develop a web-based easement benefits tool

**Description:** We will work with software developers and experts in user-interface design to develop a web-based tool that operationalizes the easement valuation model developed in Activity 2. Once developed, the tool will be demonstrated and made available to LCCMR staff and conservation easement program managers.

**Summary Budget Information for Activity 3:**

**ENRTF Budget: \$ 87,900**  
**Amount Spent: \$ 0**  
**Balance: \$ 87,900**

Outcome	Completion Date
1. Public benefits models developed in Activity 2 will be converted into a user-facing web-based conservation easement screening tool.	December 2017
2. Tool demonstrated and made available to LCCMR and conservation easement program managers for testing and refinement.	December 2017

Activity Status as of [January 2016]:

Activity Status as of [July 2016]:

Activity Status as of [January 2017]:

Activity Status as of [July 2017]:

Activity Status as of [December 2017]:

**Final Report Summary:**

**V. DISSEMINATION:**

**Description:**

After co-development and iteration on the tool design and user interface with LCCMR members and staff, the conservation easement valuation tool will be made publicly available online to LCCMR, its staff, conservation easement program managers, and others as requested.

Status as of [January 2016]:

Status as of [July 2016]:

Status as of [January 2017]:

Status as of [July 2017]:

Status as of [December 2017]:

**Final Report Summary:**

**VI. PROJECT BUDGET SUMMARY:**

**A. ENRTF Budget Overview:**

Budget Category	\$ Amount	Overview Explanation
Personnel:	\$ 197,000	1 scientist at 12% FTE per year for 2.5 years; 2 scientists at 4% FTE per year (each) for 2.5 years; 1 scientist at 2% FTE per year for 2.5 years; 2 assistant scientists at .4 FTE per year (each) for 2.5 years
Professional/Technical/Service Contracts:	\$50,000	1 contract for software development / programming (TBD) through competitive bid
Printing:	\$500	Printing of reports and project materials
Travel Expenses in MN:	\$2,500	Mileage, lodging, meals
<b>TOTAL ENRTF BUDGET:</b>	<b>\$250,000</b>	

**Explanation of Use of Classified Staff: NA**

**Explanation of Capital Expenditures Greater Than \$5,000: NA**

**Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 2.95 FTEs**

**Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: NA**

**B. Other Funds:**

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
<b>Non-state</b>			
	\$	\$	
<b>State</b>			
	\$	\$	
<b>TOTAL OTHER FUNDS:</b>	<b>\$</b>	<b>\$</b>	

**VII. PROJECT STRATEGY:**

**A. Project Partners: (not receiving funds)**

- MN DNR
- MN Board of Water and Soil Resources
- US Fish and Wildlife Service
- MN Land Trust
- Ducks Unlimited
- Local government representatives

- Other land trusts and conservation organizations that acquire permanent conservation easements

**B. Project Impact and Long-term Strategy:**

The project will result in the development of a tool that can be used by land management and conservation organizations to prospectively estimate the public benefits and costs associated with acquiring a permanent conservation easement on specific parcels in Minnesota. The tool will help these organizations better identify and prioritize resources permanent conservation easement opportunities that will produce the greatest net public benefits.

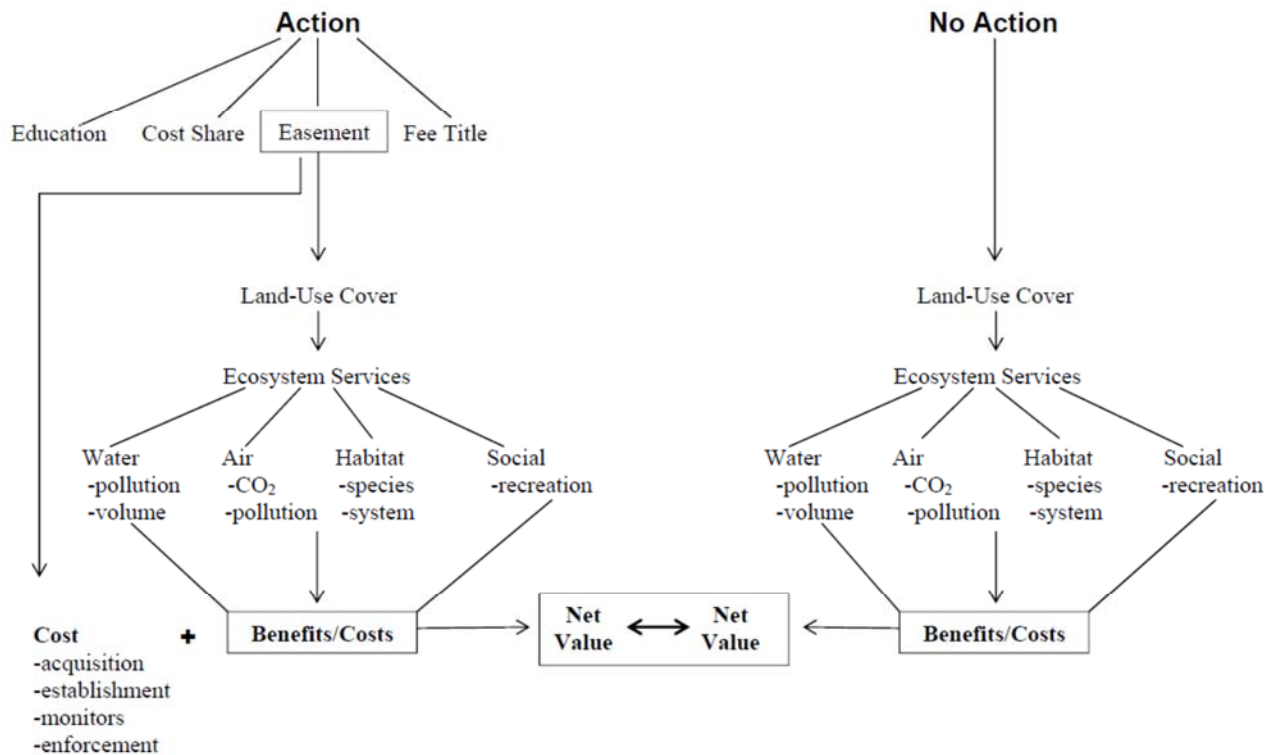
**C. Funding History:**

Funding Source and Use of Funds	Funding Timeframe	\$ Amount
LCCMR pending project 33-B “Informed Water Management: Mapping Scarcity, Threats, and Values”	Pending legislative approval, starting July 1 2015, ending June 30 2018.	\$234,000
Sub-award to co-investigator Steve Polasky as part of LCCMR 2010 project 04i “Reconnecting Fragmented Prairie Landscapes” led by the Nature Conservancy. Funds to Polasky were used to estimate the goods and services provided by grasslands in western MN.	Project began in July 2010 and was completed in June 2014	\$380,000
		\$

**VIII. FEE TITLE ACQUISITION/CONSERVATION EASEMENT/RESTORATION REQUIREMENTS: NA**

**IX. VISUAL COMPONENT or MAP(S):**

**Public Benefits/Costs of Conservation Easements**



**Figure Caption:** There are multiple actions or interventions that can be taken that affect land-use cover including easements, education, cost share, and fee title. This project will focus on easements as the action under investigation. For each easement we will assemble data on the costs (acquisition, establishment, monitoring, enforcement) and the ecosystem service benefits (water, air, habitat, recreation). This will facilitate a comparison of benefits and costs under scenarios of action (easements) vs. non-action (baseline or business-as-usual).

**X. RESEARCH ADDENDUM:** NA

**XI. REPORTING REQUIREMENTS:**

Periodic work plan status update reports will be submitted no later than *January 2016*, *July 2016*, *January 2017*, *July 2017*, and *December 2017*. A final report and associated products will be submitted between *June 30* and *August 15, 2018*.

**Environment and Natural Resources Trust Fund  
M.L. 2015 Project Budget**



**Project Title:** Conservation Easement Assessment and Valuation System Development

**Legal Citation:** Fill in your project's legal citation from the appropriation language - this will occur after the 2015 legislative session.

**Project Manager:** Bonnie Keeler

**Organization:** Natural Capital Project, IonE, University of Minnesota

**M.L. 2015 ENRTF Appropriation:** \$ 250,000

**Project Length and Completion Date:** 2.5 Years, December 31, 2017

**Date of Report:** April 27, 2015

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	Activity 3 Budget	Amount Spent	Activity 3 Balance	TOTAL BUDGET	TOTAL BALANCE
<b>BUDGET ITEM</b>	<i>Identify easements, benefits, and costs</i>			<i>Assess the benefits and costs of existing easements</i>			<i>Deploy and test a web-based easement benefits tool</i>				
<b>Personnel (Wages and Benefits)</b>	\$40,000	\$0	\$40,000	\$120,000	\$0	\$120,000	\$37,000	\$0	\$37,000	\$197,000	\$197,000
<i>Bonnie Keeler, Project Manager and Scientist, \$30,000 (67% salary, 33% benefits) 12% FTE per year for 2.5 years.</i>											
<i>Mike Kilgore, Scientist, \$19,000 (67% salary, 33% benefits) 4% FTE each year for 2.5 years</i>											
<i>Steve Taff, Scientist, \$19,000 (67% salary, 33% fringe) 4% FTE each year for 2.5 years.</i>											
<i>Steve Polasky, Scientist, \$19,000 (67% salary, 33% fringe) 2% FTE each year for 2.5 years.</i>											
<i>2 Assistant Scientists, \$110,000 (74% salary, 26% fringe) 40% FTE per year (each) for 2.5 years.</i>											
<b>Professional/Technical/Service Contracts</b>							\$50,000		\$50,000	\$50,000	\$50,000
<i>Software professional services (development and programming), \$50,000.</i>											
<b>Printing</b>											
<i>Report and project material printing.</i>	\$75	\$0	\$75	\$225	\$0	\$225	\$200	\$0	\$200	\$500	\$500
<b>Travel expenses in Minnesota</b>											
<i>In-state travel to meet with project partners and field visits. Mileage: \$1,700; lodging: \$500; meals: \$300</i>	\$325	\$0	\$325	\$1,475	\$0	\$1,475	\$700	\$0	\$700	\$2,500	\$2,500
<b>COLUMN TOTAL</b>	<b>\$40,400</b>	<b>\$0</b>	<b>\$40,400</b>	<b>\$121,700</b>	<b>\$0</b>	<b>\$121,700</b>	<b>\$87,900</b>	<b>\$0</b>	<b>\$87,900</b>	<b>\$250,000</b>	<b>\$250,000</b>