Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)

Project Title: **ENRTF ID: 187-F**

Implementing Novel Market-based Methods for Urban Habitat Restoration

Category: F. Methods to Protect or Restore Land, Water, and Habitat

Total Project Budget: $ 499,900

Proposed Project Time Period for the Funding Requested: 3 years, July 2018 to June 2021

Summary:

The Implementing Novel Market-based Methods for Urban Habitat Restoration is intended to restore native habitat and evaluate methods which incentivize habitat restoration and sustainable conservation in an urban setting.

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Sponsoring Organization: Great River Greening

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Web Address www.greatrivergreening.org

Location

Region: Metro

County Name: Washington

City / Township: Lake Elmo

Alternate Text for Visual:

Site Location Map

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____%

PROJECT TITLE: ***Implementing Novel Market-based Methods for Urban Habitat Restoration***

I. PROJECT STATEMENT

Great River Greening proposes to implement and evaluate a "Working Lands" model of sustainable native habitat restoration by converting retired agricultural fields, pasture, and degraded wetlands back to high quality native prairie and wetland habitats. A research component will evaluate this market-based program that incentivizes habitat restoration and maintenance.

The goals of this model will be generation of revenue from haying/grazing to sustain and move towards a more income neutral and scalable restoration methodology in multiple settings across the region. This research will add to other working lands research in Minnesota (i.e., South Washington Conservation Corridor, Sherburne Nat'l Wildlife Refuge, Seven Mile Creek – Nicollet County, etc.) by focusing on market-based incentives for implementing and sustaining habitat restoration projects.

Greening proposes to:

- Restore at least 450 acres of high quality prairie, wetland, and pollinator habitat,
- Engage 300 volunteers over a 3 year period,
- Perform research to develop a scalable model for implementing "Working Lands" methods and practices to encourage and support sustainable habitat restoration.

Much of our remaining native habitat in Minnesota is threatened by conversion to non-natural uses. Without restoration, these areas will continue to degrade resulting in increased soil erosion, influx of invasive species, loss of habitat, and impairments to water quality. New and sustainable methods of restoring habitat are needed. This project will address the concerns underlying the Minnesota DNR "Working Lands Initiative" Legislative Report (2010), and will support the formation of a Working Lands Watershed Restoration Program (Laws 2016, c. 189, s.4) by MN Board of Soil and Water Resources (BWSR). BWSR has agreed to collaborate on this project as technical advisors. The applied research findings will provide data and on-the-ground evidence to develop innovative, economically feasible, and sustainable methods of habitat restoration.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Working lands restoration (450 acres) **Budget: $457,910**

Greening proposes to develop a management plan for and implement restoration practices on at least 450 acres of retired row crop, pasture, and extant prairie lands located within Lake Elmo Park Reserve in Washington County. The site encompasses 2,165 acres of rolling grassland-savanna parklands, several lakes, agriculture lands (both fallow and active), retired pasture, woodlands, and an operations facility. Our efforts will add to the previously restored 200 acres of native prairie.

By integrating key ecological principles with modern agricultural tools, we aim to develop a novel application of cost-effect conservation tools to create market-based incentives for sustainable restoration and management of native habitats. These include haying, controlled burning, and minimal tillage seeding to restore native prairie and pollinator habitat, and enhance key wetland and riparian features. Conservation grazing will be considered where feasible. These methods emulate natural disturbance, which in turn promotes biodiversity and facilitates establishment and development of extensive, deep-rooted plant populations. This also stimulates soil micro-flora (bacteria, fungi, and macros fauna) in the plant root bio-sphere, which in turn, creates a positive feedback loop that facilities species diversity, habitat quality, and improved water quality.

Outcome	Completion Date
1. Write a comprehensive management plan	June 30, 2019
2. Restore 3 units, at least 450 acres, using a working lands model	June 30, 2021

Activity 2: Evaluation of working lands model **Budget: $36,790**

Implement a research and monitoring program to evaluate prairie restoration efforts and the impacts of conservation haying, and possibly grazing, on native plant population density, distribution, and species richness. Baseline species diversity and richness data will be collected prior to haying/burning, and then, resampling will be completed periodically throughout the project. Greening, with our partner Washington County, will examine the efficacy of utilizing market-based incentives to implement and sustain restoration efforts. Dissemination of findings will be via public presentation, and to prepare for presentations in the future. This information will provide valuable information that may be used to support BWSR's Working Lands Watershed Restoration Program.

Outcome	Completion Date
3. Evaluate the model and identify improvements	June 30, 2021
4. Prepare research for future presentation	June 30, 2021

Activity 3: Engaging 300 volunteers **Budget: $ 5200**

Greening and the landowner partner, Washington County, are committed to engaging the community through innovative demonstration, environmental education, and public outreach. A major component of this outreach will be involvement of citizens and youth through volunteer opportunities, planting, invasive plant removal and environmental education activities.

Outcome	Completion Date
1. Engage 100 volunteers	June 30, 2019
2. Engage 100 additional volunteers (200 cumulative)	June 30, 2020
3. Engage 100 additional volunteers (300 cumulative)	June 30, 2021

III. PROJECT STRATEGY

A. Project Team/Partners

Great River Greening: Principle Investigator; Washington County (Lake Elmo Park Reserve): Non-state funding; MN Board of Water and Soil Resources: In-kind; Private Donors (pursued as the project moves forward): Non-state funding; Volunteers (recruited during implementation): Non-state in-kind services.

B. Project Impact and Long-Term Strategy

Establishment of native prairie to improve biodiversity and increase the ecological services by sequestering nutrients (N, P), reduced soil erosion, increased soil health, and water retention and infiltration. The results from evaluation of this working lands model will guide future habitat management programs at Lake Elmo Park Reserve and elsewhere, using voluntary, market-based incentives for habitat restoration. This proposed work entails an initial restoration and evaluation of the market-based method. Additional funding would enable a second phase of research focusing on the long-term efficacy of the model as well as facilitating enhanced follow up treatments as needed.

C. Timeline Requirements

3 years.

2018 Detailed Project Budget

Project Title: Implementing Novel Market-based Methods for Urban Habitat Restoration

IV. TOTAL ENRTF REQUEST BUDGET $499,900 over *3* years

BUDGET ITEM	AMOUNT
Personnel:	
Steve Huckett, Program Manager, Director of Conservation (85% salary, 15% benefits) 0.05 FTE each year for 3 years	$ 7,500
Katie Brom, Volunteer Manager (85% salary, 15% benefits) 0.01 FTE each year for 3 years	$ 1,000
3 Ecologists: Wiley Buck, Julia Bohnen, Todd Rexine (78% salary, 22% benefits) 1.13 FTE each year for 3 years	$ 23,800
Lisa Strauss, Grants Management Assistant (87% salary, 13% benefits) 0.02 FTE each yaer for 3 years	$ 1,800
David Schmitt, Field Coordinator (80% salary, 20% benefits) 0.01 FTE each year for 3 years	$ 2,400
2 Restoration Technicians (93% salary, 7% benefits) 0.01 FTE each year for 3 years	$ 5,600
Bill Smith, Director of Finance (77% salary, 23% benefits) 0.02 FTE each year for 3 years	$ 4,400
Julia Wells, Financial Operations Manager (84% salary, 16% benefits) 0.02 FTE each year for 3 years	$ 2,700
Professional/Technical/Service Contracts:	
Competitive RFP: site preparation and prairie seeding, invasive species control, woody harvest, thinning, forestry mowing, herbicide treatment, prescribed fire, haying; vegetation monitoring	$ 161,800
Competitive RFP: Data collection, analysis, and reporting.	$ 25,000
Equipment/Tools/Supplies:	
Seed ($247,500 for 415 acres), live stakes ($5,750 for 1000 stakes), herbicide ($3,500)	$ 256,250
Personal protective gear and hand tools for volunteers and technicians; repair and maintenance of mowers, ATV, UTV, chainsaws, and sprayers.	$ 3,800
Travel:	
In-state mileage (~2,000 miles) to/from sites, meetings, purchases.	$ 1,150
Additional Budget Items:	
Volunteer Event Supplies & Rentals: Healthy food, beverages; table/chair/portable toilet/large tent rentals. 300 volunteers @ $9/contact.	$ 2,700
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND $ REQUEST =	$ 499,900

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State $ To Be Applied To Project During Project Period: Washington County	$ 10,000	Pending
Other State $ To Be Applied To Project During Project Period:	$ -	
In-kind Services To Be Applied To Project During Project Period: 900 Vol. hrs @$24/hr	$ 21,600	Pending
In-kind services from Washington County	$ 20,000	Pending
Past and Current ENRTF Appropriation: M.L. 2016 $509K; M.L. 2017 anticipated at $0K (pending).	$ 424,000	
Other Funding History:		ENRTF:
ENRTF: M.L. 2003 Bucks for Buckthorn $255K; M.L. 2003 $124K; M.L. 2005 $100K; M.L. 2007 $60K; M.L. 2008 $111K; M.L. 2009 $155K; M.L. 2011 $400K; M.L. 2013 $208K; M.L. 2014 $300K; M.L. 2015 $400K	$ 2,113,000	Prior
OHF: *Metro Big Rivers (MBR):* M.L. 2010 $170K; M.L. 2011 $150K; M.L. 2012 $375K; M.L. 2013 $210K; M.L. 2014 $400K; M.L. 2015 $400K; M.L. 2016 $1,170K. *Anoka Sand Plain (ASP)* : M.L. 2010 $747K; M.L. 2012 $559K; M.L. 2014 $901K, M.L. 2016 $813K; M.L. 2017 $345K (pending)	OHF: $ 5,760,000 $ 345,000	OHF: Prior Pending

Environment and Natural Resources Trust Fund
2018 Proposed Acquisition/Restoration List

Project Title: Implementing Novel Market-based Methods for Urban Habitat Restoration
Project Manager Name: Steve Huckett
Organization: Great River Greening
ENRTF $ Request: $ 468,000

#	Acquisition or Restoration Parcel Name	Geographic Coordinates Format: [Deg.]° [Min.]' [Sec.]" [Hemis.] Latitude	Longitude	Estimated Cost	County	Ecological Significance	Activity Description	# of Acres	# of Shoreline Miles	Type of Landowner
1	Lake Elmo Park Reserve	44° 58' 56.9" N	-92° 54' 12.9" W	$ 472,194.42	Washington	Grassland-savanna near metro, part of over 2,000 acre park complex.	Restoration of old field and pasture to native prairie and pollinator habitat; prescribed burn, conservation haying, seeding, and maintenance; vegetation monitoring. Research to develop scalable model for implementing "working lands" methods and practices resulting in sustainable habitat restoration.	450		County
2										
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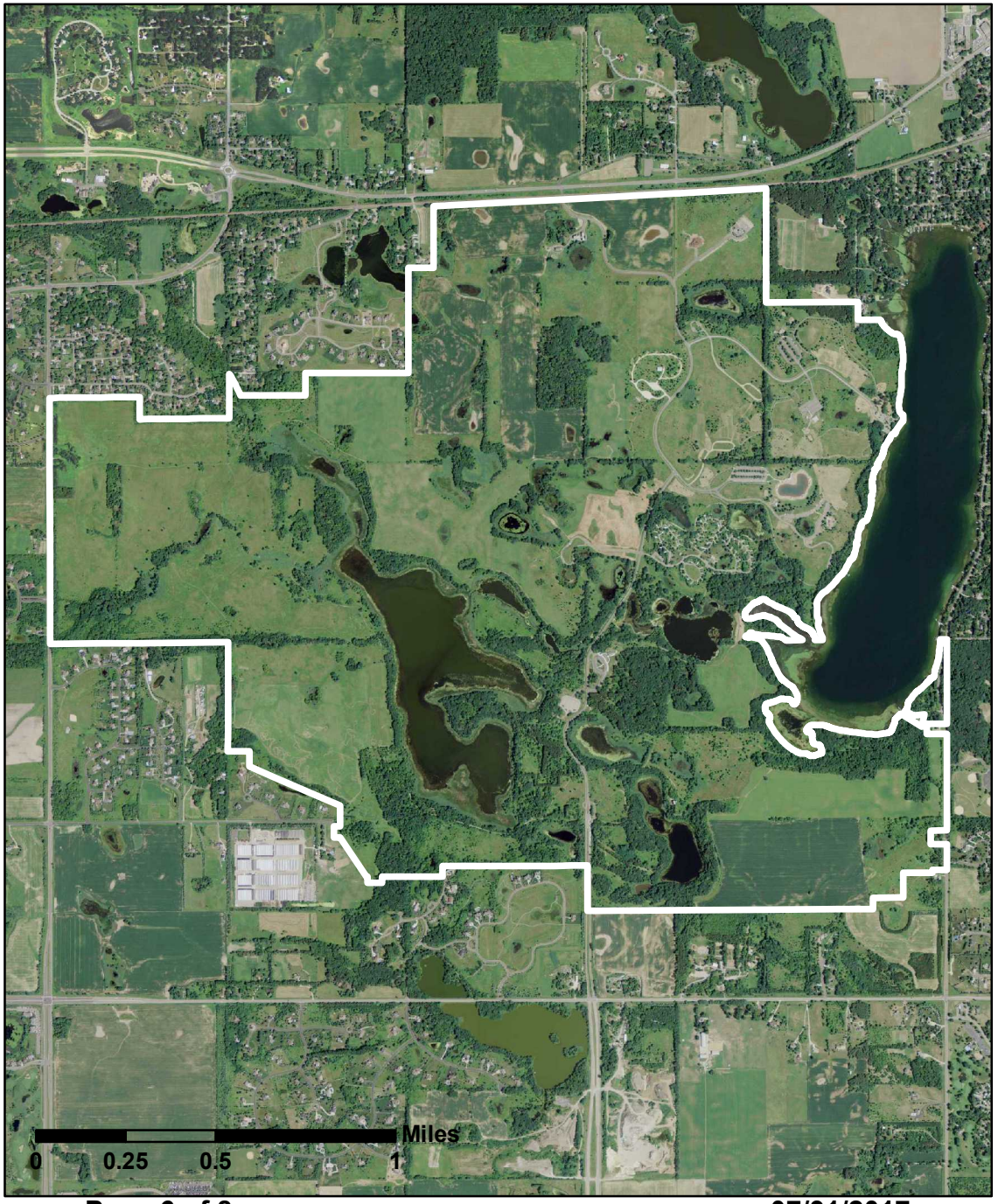
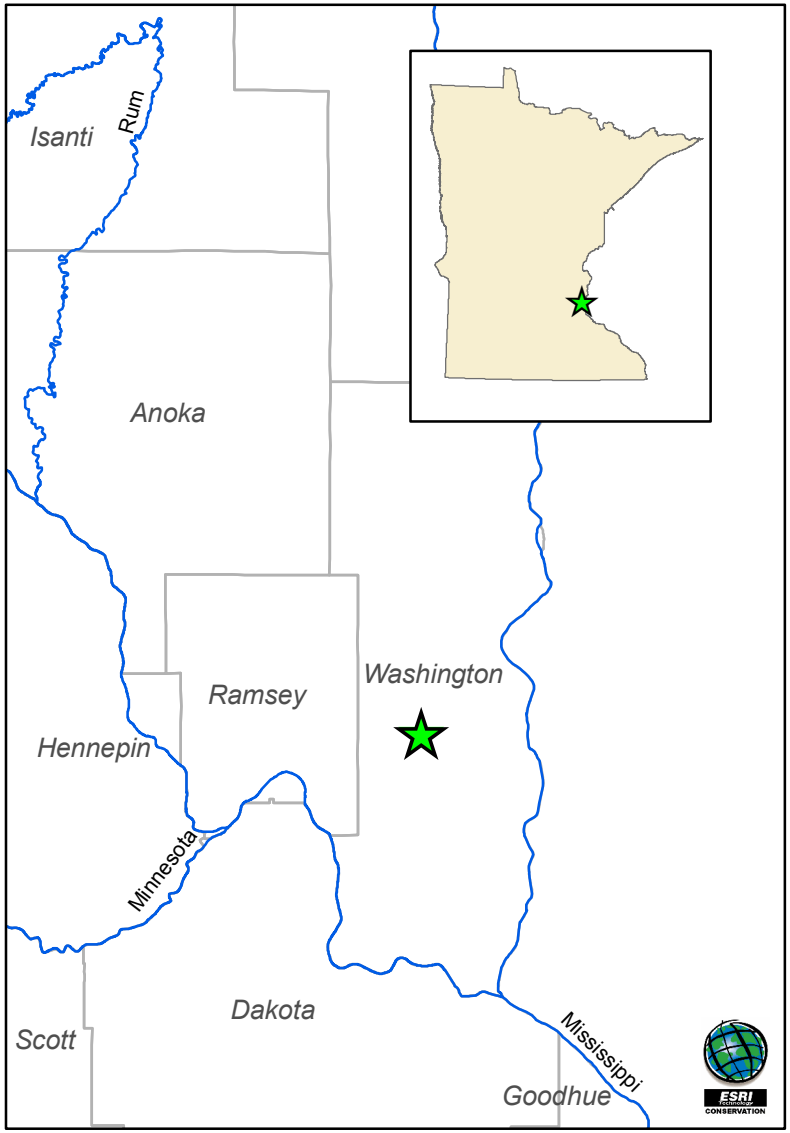
NOTES:

Implementing Novel Market-based Methods for Urban Habitat Restoration; Lake Elmo Park Reserve, Washington County, MN

GREAT RIVER GREENING





Research Site: Lake Elmo Park Reserve

Rivers

County boundaries

N

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND

07/31/2017

ENRTF ID: 187-F

GREAT RIVER GREENING
RESTORING LAND, WATER AND WONDER

Project Manager Qualifications

Steven Huckett is a broadly trained natural resources scientist focused on engaging people in developing sustainable land uses, preserving natural resources and restoring ecosystem services. Steve has degrees in Agronomy (B.S., Kansas State University), M.S. degree in Biology (Ecosystems/Watershed Management, University of New Mexico), and a Ph.D. in Human Dimensions of Ecosystems Science and Management (Utah State University). He gained experience in hybrid maize seed production and environmental consulting before moving to the New Mexico Environment Department's Surface Water Quality Bureau. From there, he transitioned to The Nature Conservancy in Arizona where he converted a working cattle ranch into a functioning protected area focused on restoration of riverine habitat for the endangered Southwestern Willow Flycatcher. Through these experiences, Steve developed a deep-seated belief that development of sustainable resource management practices requires meaningful engagement with all stakeholders (i.e., local communities, policy makers, land owners) in the decision-making and implementation processes. With this in mind, Steve undertook his doctoral research focused on adoption-diffusion behaviors of small-hold farmers and agro-pastoralists in East Africa. He has worked on a number of applied research projects in the U.S. and Africa aimed at poverty alleviation and sustainable land management practices. He also completed a postdoctoral assignment where he led the Human Dimensions research for the University of Illinois on a NSF-funded project in Laikipia, Kenya before undertaking the role of Conservation Programs Director for Greening. His passion is integrating watershed management and ecological restoration with human needs and perspectives. When not at work, Steve enjoys outdoor activities including hiking, camping, fly-fishing, motorcycling, and photography.

Organization Description

Since 1995, Great River Greening has worked to secure the legacy of Minnesota land and water through community-based restoration, stewardship, and partnerships. In 20 years, we have worked side-by-side with 39,000 volunteers to improve, restore and care for Minnesota's natural heritage: 17,000 acres and counting. Our highly experienced, committed ecologists apply state-of-the-art practices to restoration projects, sharing skill and knowledge with landowners, volunteers, students and at-risk youth. We choose our conservation projects based upon conservation need, ecosystem services provided, and community benefits. Current priorities include critical corridors of land and water in the metro area, enhancing the recreational experience of visitors to parks, natural areas, lakes, and rivers, restoration of the globally endangered oak savanna habitat of east central Minnesota; protection of water quality of the Rum River Watershed, and collaborative work with farmers in the Minnesota River to improve water quality.