Environment and Natural Resources Trust Fund
2010 Request for Proposals (RFP)

LCCMR ID: 124-D

Project Title:

Invasive Species Control for Watershed Protection

LCCMR 2010 Funding Priority:

D. Invasive Species

Total Project Budget: $ $93,400

Proposed Project Time Period for the Funding Requested: 3 years, 2010 - 2013

Other Non-State Funds: $ $3,000

Summary:

This project documents the effectiveness of using managed grazing of livestock to control the spread of invasive species of vegetation. Educational field days will be used to disseminate information.

Name: Howard Moechnig

Sponsoring Organization: Belle Creek Watershed District

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Goodhue MN 55027

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Fax:

Web Address:

Location:

Region: SE

County Name: Goodhue

City / Township: Belle Creek Twp.

_____ Knowledge Base _____ Broad App. _____ Innovation

_____ Leverage _____ Outcomes

_____ Partnerships _____ Urgency _____ TOTAL

MAIN PROPOSAL

PROJECT TITLE: Invasive Species Control for Watershed Protection

I. PROJECT STATEMENT

This project will demonstrate the reduction of populations of invasive species in locations where they have a detrimental impact on the conservation structures and water resources using grazing livestock to control plant populations and manage the plant community dynamics.

This particular project is on a PL 566 flood control structure (earthen dam), one half mile of stream reach immediately upstream of it and the surrounding landscape. The current issues include damage to the flood control structure by trees invading the site and weakening the integrity of the earthen fill, encroachment of brush (buckthorn, prickly ash) and pioneer species of trees (boxelder) which shade out ground cover leading to increased erosion directly into the pool of the structure, and the predominance of reed canarygrass in the flood plain adjacent to the stream.

This project has wide applicability. Even though one of the primary issues is to prevent encroachment of trees on the earthen structure itself, the method proposed will work any place where grazing livestock can be contained with fences. The control of reed canarygrass by livestock can be done in any circumstance where the soils dry out adequately to allow the movement of grazing livestock.

Using livestock to control plant populations can significantly reduce, or even eliminate, the need to use manufactured herbicides, mowers and other machinery for management of vegetation. This greatly reduces the reliance on petroleum products for maintenance and vegetation control.

This project needs to be done to demonstrate the viability of using grazing livestock to manipulate plant communities and control the spread of invasive species. This is because many land managers have no comfort level with this method. The data from the project is intended to demonstrate the effects of the livestock on the plant communities in an environmentally safe manner.

The project will also incorporate into it an educational component. The landowner to the east (Bruce Waugh), along with the Goodhue Soil & Water Conservation District, hosts an environmental field day every year in September for children from schools in the area. The project will be incorporated into this event.

In this project, livestock will be moved through a series of “paddocks” and allowed to utilize a predetermined amount of the vegetation. The timing, intensity, duration, and season of use along with the stage of growth of target species will be determined and managed by the grazing specialist from Midwest Grasslands. The project will be managed from a plant community point of view, as opposed to a livestock production aspect.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Install Infrastructure.
Budget: $ 55,500
This activity will allow the livestock to be grazed in the manner necessary to provide the desired impact to the plant community. Grazing management can only be effectively done when the livestock can be contained in determined areas to get the proper level of animal impact on the vegetation. This infrastructure allows us to direct the timing, intensity and duration of grazing.

Result 2: Monitor vegetation.
Budget: $ 10,800
This activity provides data with which the success of the treatment by the livestock will be measured. Monitoring sites will be set up, a baseline of the existing plant community will be

determined, and changes documented through the monitoring process. The monitoring will be done using a modified line-transect method for determining species present, and the harvest method for determining production by species within each monitoring site. Using the plant count and the yield, management guidelines for stocking densities and duration will be prepared.

Result 3: Manage grazing.
Budget: $ 9,000
This activity relates to the directing of the movement of the livestock through the system, as well as the actual moving of the livestock. The movement of the livestock will be done by Mr. Waugh who will utilize his livestock in the project.

Result 4: Provide educational opportunities.
Budget: $ 18,000
The farm adjacent to the site, operated by Mr. Waugh, is currently used annually for environmental education activities. This site will be incorporated into the overall activities for that day.

Deliverable	**Completion Date**
1. Install fences (approximately 16,000 lineal feet), stream crossings 3 each), and solar powered livestock watering system.	October 2010
2. Establish monitoring points; conduct initial site monitoring for baseline.	August 2010
3. Monitor sites to collect data. Analyze data to determine trend in plant community composition.	August 2011, 2012, 2013
4. Report on the effects of grazing livestock on the plant community composition in project area.	November 2013
4. Environmental Field Days for area schools.	April 2011, 2012 & 2013

III. PROJECT STRATEGY

A. Project Team/Partners

Belle Creek Watershed District: Primary sponsor and fiscal agent.
Bruce Waugh: Farmer, livestock owner , secondary point of contact.
Midwest Grasslands: Howard Moechnig, Grazing Specialist, will do monitoring and consultation regarding livestock movement based upon plant conditions.
USDA/NRCS: Provides standards & specifications for fence, stream crossings, and solar livestock watering system.
Goodhue Soil & Water Conservation District: Plans & conducts environmental field days at Waugh farm.

B. Timeline Requirements

This project will be done over a 3 year period of time. In the initial year of operation all of the fences and stream crossings need to be constructed and the solar powered livestock watering system will be installed. In addition, monitoring sites will be established and initial baseline data collected. In following years the data will be collected to measure the impact of the livestock on the plant populations and yield.

C. Long-Term Strategy

The Belle Creek watershed District would like to continue gathering additional data for three years beyond this initial project in an effort to draw more finely tuned conclusions from this project. The cost would be approximately $25,000 for this additional 3 years.

Project Budget

IV. TOTAL PROJECT REQUEST BUDGET (*[Insert # of years for project]* years)

BUDGET ITEM *(See list of Eligible & Non-Eligible Costs, p. 13)*	**AMOUNT**
Personnel:	$ -
Contracts: Midwest Grasslands. Will provide consulting relating to overall project management, movement of livestock through the system, and monitoring of the vegetation.	$ 19,800
Equipment/Tools/Supplies:	$ -
Acquisition (Fee Title or Permanent Easements):	$ -
Travel:	$ -
Additional Budget Items: Infrastructure and educational expenses	$ -
Fence: 16,000 lineal feet @ $1.60/ft	$ 25,600
Stream crossings: 3 @ $6,000 each	$ 18,000
Watering system (non-solar): 3,000 lineal feet @ $1 50/ft	$ 4,500
Solar powered livestock watering system	$ 7,500
Educational component: for transporting children from area schools.	18,000
TOTAL PROJECT BUDGET REQUEST TO LCCMR	$ 93,400

V. OTHER FUNDS

SOURCE OF FUNDS	**AMOUNT**	**Status**
Other Non-State $ Being Applied to Project During Project Period:	$ -	
Other State $ Being Applied to Project During Project Period:	$ -	
In-kind Services During Project Period: Bruce Waugh will do actual work of moving livestock. ($150 hrs @ $20/hr)	$ 3,000	
Remaining $ from Current Trust Fund Appropriation (if applicable):		
Funding History:	$ -	

PROJECT MANAGER QUALIFICATIONS

Midwest Grasslands is a private consulting company (sole proprietor) engaged in planning managed rotational grazing systems for farmers and other landowners, and providing consultative services related to management of the systems. The primary focus is with production agriculture, but significant time is spent working on prairie restoration through proper use of livestock in conjunction with other tools, such as fire and soil disturbance. Midwest Grasslands also provides training and instruction to agencies, individuals and groups on subjects related to grazing systems.

Howard Moechnig owns Midwest Grasslands. He has had extensive experience in utilization of livestock for manipulating plant community dynamics. He retired from the USDA Natural Resources Conservation Service in January of 2007 after 35 years of service. The last 10 years with NRCS were as a Grazing Specialist, working in all areas of the state of Minnesota. As the State Grazing Specialist with NRCS he developed and prepared standards for conservation practices that are used in conjunction with grazing systems. He co-authored a publication (Grazing Systems Planning Guide) in 1999, which is still used as the primary reference for planning grazing systems within the agency in Minnesota. In addition, in 2007 he authored a publication through Minnesota Department of Agriculture (Managing Grazing in Stream Corridors) which is also widely utilized.

Howard is a livestock producer (sheep) on a small farm in Goodhue County, Minnesota.