

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

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**Project Title:**

**ENRTF ID: 122-C**

Online Training for Front Line Water Quality Protectors

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**Category:** C. Environmental Education

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**Total Project Budget:** \$ 322,175

**Proposed Project Time Period for the Funding Requested:** 2 years, July 2018 to June 2020

**Summary:**

This project will construct an online training course for county and state staff enabling them to prevent the incidence of manure and or nutrients from entering surface and ground water.

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**Location**

**Region:** Statewide

**County Name:** Statewide

**City / Township:**

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**Alternate Text for Visual:**

Visual is of a farmstead with potential runoff issues and several suggestions to reduce the incidence of manure and nutrient runoff.

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



**PROJECT TITLE: Online Training for Front Line Water Quality Protectors**

**I. PROJECT STATEMENT**

This project is to develop an online training course for county feedlot officers and MPCA staffs, which provides basic information on manure and nutrient management and Minnesota regulations. Manure and nutrient runoff from feedlots and farm fields is a significant threat to water quality across the state. Currently 51 of Minnesota’s counties are delegated counties and employ County Feedlot Officers totaling about 65 staff doing the field work. Feedlot officers are the first contact for farmers dealing with livestock, manure and nutrient management issues. Providing the proper guidance to farmers is extremely important to eliminating the threat of manure and nutrient losses into surface and ground waters.

There is no single comprehensive curriculum developed to provide new feedlot officers and MPCA staffs training around the core responsibilities of their positions. Additionally, there are no college or university courses which provide this training. The MPCA and MN Association of Feedlot Officers have asked the University of Minnesota Extension to use their educational expertise to develop this course. This course will allow staff to:

- learn on-demand and at their own pace
- test their level of comprehension
- review information when needed
- delve deeper in references and research

***The goal is to prevent the incidence of manure and or nutrients from entering surface and ground water.***

Objectives/Activities:

- 1) Develop a detailed online course outline and work plan for feedlot officer training to encompass
- 2) Write the feedlot officer curriculum and produce narrated video segments around:
  - a. Registration
  - b. Permitting
  - c. Compliance
  - d. Enforcement
  - e. Program Administration

3) Test/pilot curriculum with feedlot officers and MPCA staff and incorporate changes in final online course. The curriculum will be an online on-demand class. In the future, this curriculum may be adapted to be used by farmers and the general public. The Association of Minnesota Counties has reviewed this proposal and endorses this project to provide a consistent tool to enhance training for county employees.

Video will be collected or developed by a variety of videographers as needed for the project. Once completed, testing with a group of Feedlot Officers and MPCA staff will be completed prior to posting as an active site for use. We anticipate that this project will take 24 months to complete.

**II. PROJECT ACTIVITIES AND OUTCOMES**

**Activity 1:** *Develop a detailed course outline & work plan for feedlot officer training*

**Budget: \$108,076**

<b>Outcome: Finalize curriculum outline and develop lists of content needed</b>	<b>Completion Date</b>
<i>1. Inventory and finalize content available through MPCA or U of M</i>	<i>October 2018</i>
<i>2. Finalize Chapter descriptions and content outlines with details</i>	<i>December 2018</i>
<i>3. Develop list of needed videos, pictures, presentations</i>	<i>January 2019</i>
<i>4. Secure videographers and begin collecting needed video and pictures</i>	<i>March 2019</i>
<i>Etc.</i>	



**Activity 2: Write curriculum, develop narrated video segments and build the course** **Budget: \$138,745**

<b>Outcome: Written curriculum, add video, photos, and narrated discussions</b>	<b>Completion Date</b>
1. Write contents for the 5 units and load into platform	September 2019
2. Shoot video segment, photos and narrated discussions	September 2019
3. Load all materials into the platform to run initial tests	November 2019
Etc.	

**Activity 3: Test and finalize course** **Budget: \$75,354**

<b>Outcome: Test curriculum, use feedback to make changes and post final version</b>	<b>Completion Date</b>
1. Run initial tests with new and tenured feedlot officers & MPCA staff	Dec-Feb 2019-20
2. Gather feedback from test participants and review with advisory committee	March 2020
3. Incorporate changes into the curriculum, advertise site and post final version	June 2020
Etc.	

**III. PROJECT STRATEGY**

**A. Project Team/Partners**

**Paid staff from this project**

**Timothy Arlt**, Program Leader, UMN Extension Agriculture, Food and Natural Resources (.10 FTE) - Principle investigator, coordinate work of the team, oversee development, budget and complete reports.

**UMN Extension Educator(s)** will be assigned or hired as needed to complete the necessary tasks. Since we are far out from the start of this project it is difficult to know who may be available for this project work. (1.0 FTE)

**Lynne Hagen**, UMN Extension Program Coordinator (.15 FTE)-Load curriculum into platform, assist in testing, revisions and final edits

**Karl Hakanson**, UMN Extension educator (.10 FTE) - Provide content and design assistance to ensure continuity of curriculum.

Other educators and specialist as needed to complete the curriculum, narrate videos or other sections, and assist with testing & final review (approximately .25 FTE)

**Non-Paid Partners**

**Dan Vermilyea**, County Feedlot Officer, Steele County – Advise on curriculum components, review curriculum and assist with testing & final review.

**Steven Schmidt**, East Unit Feedlot Supervisor, Watershed Division, Minnesota Pollution Control Agency - Advise on curriculum components, review curriculum and assist with testing & final review.

**Michelle Oie**, County Feedlot Program Development Lead, Minnesota Pollution Control Agency - Advise on curriculum components, review curriculum and assist with testing & final review.

Other members from MACFO or MPCA as needed based on their expertise.

**B. Project Impact and Long-Term Strategy**

Long term water quality will be preserved and improved through manure and nutrient management plans that meet state standards, and which are implemented correctly and effectively,

**C. Timeline Requirements**

This project will take two years to complete. The first nine months will be to inventory U of M and MPCA information, define and detail the curriculum outline, and write the chapter descriptions. The next nine months will be spent writing the curriculum, shooting videos and photos as needed, and loading the curriculum into the on-line platform. The final six months will be a testing period and feedback gathering with final modifications and edits made to the curriculum. The curriculum will go live in June of the final year (2020).

## 2018 Detailed Project Budget

**Project Title: Building an On-line Curriculum to Train Front Line Water Quality Protectors**

### IV. TOTAL ENRTF REQUEST BUDGET 2 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
<b>Personnel:</b>	
Timothy Arlt, PI - .10 FTE manage workflow, reporting and final product development; \$18,418 for Salary, \$5,340 fringe; 2 yrs , 1 person	\$ 23,758.00
Lynne Hagen, Program Coordinator - .15 FTE -Review curriculum, load materials into the platform, managemnt of platform. \$16,289 Salary, \$4,431 fringe	\$ 20,720.00
1.0 FTE Extension educator or equivalent time from educators - write curriculum, collect video and assist with online content design and development - \$141,750 salary, \$47,486 fringe	\$ 189,236.00
Karl Hakanson, Extension Educator, .10 FTE, provide content and design assistance to maintain continuity with other MACFO curricula, \$13,839 Salary and \$4,636 Fringe	\$ 18,475.00
Content Specialist - .04 FTE Advise on specific content related to UMN Extension developed software used by CFOs. Make sure this part of curriculum is correct and properly designed. Salary \$ 7,709, Fringe \$ 2,582.	\$ 10,291.00
<b>Professional/Technical/Service Contracts:</b>	
Videography - shoot specific video content for chapters of the curriculum. Open bidding process.	\$ 15,000.00
Video Editing - edit video content to design specifications and format for platform. Open bidding	\$ 10,000.00
Narration - narrate portions of the curriculum to design specifications and content needs	\$ 25,000.00
<b>Equipment/Tools/Supplies:</b>	
Printing necessary for design & development	\$ 600.00
Supplies - USB or SD card storage, possible software liscense for recording narration, other supplies as necessary to complete project	\$ 1,000.00
<b>Travel:</b> reimbursement following University of Minnesota policies	\$ 8,095.00
<b>TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =</b>	<b>\$ 322,175.00</b>

### V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
<b>Other Non-State \$ To Be Applied To Project During Project Period:</b>	N/A	
<b>Other State \$ To Be Applied To Project During Project Period:</b>	N/A	
<b>In-kind Services To Be Applied To Project During Project Period:</b>	N/A	
<b>Past and Current ENRTF Appropriation:</b>	N/A	
<b>Other Funding History:</b>	N/A	

# Online Curriculum to Train Front Line Water Quality Protectors

To prevent and remediate water quality concerns from feedlots across Minnesota.



Use directed flow to a holding/settling pond  
to catch manure and filter feedlot runoff

Control water from drive with S curve dams.

## **Building an On-line Curriculum to Train Front Line Water Quality Protectors**

Timothy Arlt is a Program Leader in the Extension Center for Agriculture, Food and Natural Resources (AFNR), with the University of Minnesota Extension. He has been a program leader for the past 13 years, supervising Extension Educators across southern Minnesota and with various programmatic responsibilities. He started with Extension in 1980 as an Extension educator in Steele County. He was in that position for 24 ½ years working in crop production and farm business management – some of this time as a regional assignment. A graduate of the University of Minnesota-College of Agriculture, Tim holds B.S. degrees in Agronomy and Plant Health Technology and an MS in Agricultural and Applied Economics. Tim has managed projects and grants since 1993 and since 2004, has managed grant funded projects and contracted positions within AFNR. These projects have included contracts for educators working with a non-profit corporation and projects sponsored by the Minnesota Department of Agriculture (two projects involving Nitrogen Management), MPCA (Feedlot Education), and the Minnesota Board of Water & Soil Resources (Cover Crops). He is currently supervising a project to move Youth Tractor Driver Safety Training onto a hybrid platform involving online education and hands on education for youth age 14-16 that need to be certified to operate tractors off their family farm.

**The University of Minnesota Extension** is the educational outreach arm of the University of Minnesota. University of Minnesota Extension discovers science-based solutions, delivers practical education and engages Minnesotans to build a better future. Minnesotans have turned to Extension since 1909 for practical, research-based information to help improve their lives. As a result, Minnesota communities are stronger and more vibrant, today's youth are prepared to be tomorrow's leaders, Minnesota farms are more profitable, the food we eat is safer, and the quality of Minnesota's lakes and rivers is improved. Within the Center for Agriculture, Food and Natural Resources we provide training for farmers, agribusiness professionals, educators and public agencies staff. Educational services include public events and programs, contracted educational services for businesses and agencies and on-line education for both the public and business sectors.

### **University of Minnesota Extension mission:**

Making a difference by connecting community needs and University resources to address critical issues in Minnesota