Environment and Natural Resources Trust Fund (ENRTF)
2010 Work Program

Date of Report: November 24, 2009
Date of Next Progress Report: November 30, 2010
Date of Work Program Approval:
Project Completion Date: June 30, 2012

I. PROJECT TITLE: Online Field Trip of Minnesota River

Project Manager: Kimberly Musser
Affiliation: Minnesota State University, Mankato Water Resources Center
Mailing Address: 184 Trafton Science Center South
City / State / Zip: Mankato, MN 56001
Telephone Number: 507-389-5492
E-mail Address: kimberly.musser@mnsu.edu
Fax Number: 507-390-5493
Web Site Address: http://mrbdc.mnsu.edu

Location: *Regions:* Southwest, Central, Metro and Southeast
Counties within the Minnesota River Basin: Big Stone County, Blue Earth County, Brown County, Carver County, Chippewa County, Cottonwood County, Dakota County, Douglas County, Faribault County, Freeborn County, Grant County, Hennepin County, Jackson County, Kandiyohi County, Lac qui Parle County, Le Sueur County, Lincoln County, Lyon County, Martin County, McLeod County, Murray County, Nicollet County, Otter Tail County, Pipestone County, Pope County, Ramsey County, Redwood County, Renville County, Rice County, Scott County, Sibley County, Stearns County, Steele County, Stevens County, Swift County, Traverse County, Waseca County, Watonwan County, Yellow Medicine County

Total ENRTF Project Budget:	**ENRTF Appropriation**	**$**	**124,000**
	Minus Amount Spent:	**$**	**0**
	Equal Balance:	**$**	**124,000**

Legal Citation: M.L. 2010, Chp. 362, Sec. 2, Subd. 8k

Appropriation Language:
$124,000 is from the trust fund to the commissioner of natural resources for an agreement with Minnesota State University - Mankato to develop online educational materials on the Minnesota River for schools and outreach centers.

II. PROJECT SUMMARY AND RESULTS:

Considerable public funding and effort has gone into better understanding and restoring the Minnesota River. Research about the river is housed in a diverse array of scientific publications not easily accessible or understood by the public. Numerous basin-wide stakeholder meetings have come to the same conclusion: there is a need to bridge the information gap between researchers and the public and to generally improve environmental education about the river. The goal of this project is to increase public awareness about the river's health by using new media techniques to engage students and the public. Citizens will have a unique opportunity to learn directly from natural resource experts across the Minnesota River Basin.

This project will develop an innovative multi-media virtual field trip with accompanying educational materials available online to showcase what scientists are learning about the Minnesota River. Scientists working in the field at different locations across the basin will be videotaped answering key questions about the river's health. Short video clips of these interviews will be available on an interactive web site. Four learning stations (computer kiosks) will be set up at educational centers directly reaching approximately 4,000-8,000 students and citizens. To engage citizens and students, a public event will be held at each of the four educational centers and classroom presentations will occur at three partner schools. This project will explore scientific inquiry, ecological knowledge, problem solving, planning/decision making and stewardship while highlighting the natural resources found in the Minnesota River Basin.

III. PROGRESS SUMMARY AS OF: 11-24-09

IV. OUTLINE OF PROJECT RESULTS*:*

RESULT/ACTIVITY 1: Develop and deliver online educational field trips

Description:
This project will develop an innovative multi-media virtual field trip and educational materials available online to teach the public about the Minnesota River. This interactive web site will enable people to choose from a map or list of key questions about the Minnesota River. Using concise video clips, key questions about the river's health will be answered by scientific experts working in the field. Other interactive features and new media techniques (such as Google-Earth flybys and panoramic images) will be woven into the web site to create a rich, virtual experience for the web site user. The project will be housed on the Minnesota River Basin Data Center web site http://mrbdc.mnsu.edu.

Major steps to develop the online educational field trips include: 1) conduct interviews 2) develop graphics and web site and 3) develop Minnesota River based educational materials.

Deliverable/Outcome 1: Interview Video Clips
The project will commence with the assembly of an advisory group of scientists, high school teachers, agency personnel, and citizens who will help to identify the list of interviewees and key Minnesota River water quality questions. The same group will advise the project throughout and test the final product.

We will conduct 20 video interviews with natural resource scientists focusing on environmental issues affecting the Minnesota River. Interviews will largely take place in the field as researchers, land managers, and conservationists perform research and explain key findings or summarize river conditions or trends. We will strive to capture these charismatic experts immersed in the field as they clearly and concisely explain issues that help people understand major topics about the health of the Minnesota River. Another aim of the project is to help people understand the diverse array of research and restoration activities that are underway across the basin to improve water quality and ecosystem health. Each expert interview will be videotaped and edited to distil key video clips.

Timeline: July 31, 2010 – June 30, 2012
Budget: $23,000

Deliverable/Outcome 2: Graphics and web site
The interactive web site will include expert interview video clips along with maps, graphics, photos, aerial imagery, and access to a rich array of information. Major tasks include: performing graphics research, constructing web pages, creating maps, researching historical photographs, processing aerial imagery, and taking new photos. Google-Earth fly-throughs will also be developed to give people a birds-eye view of the landscape and particular interview sites. Additionally, 360-degree panoramic images of interview or research sites will enable visitors to feel immersed in the location. Other explanatory graphics such as graphs and charts will be included. This array of multimedia graphics will provide a rich site context and additional information to clarify the question or issue at hand.

The web site will be available online at the Minnesota River Basin Data Center web site (http://mrbdc.mnsu.edu). We will also utilize a variety of new media venues (e.g. YouTube, Facebook) to publicize the products. The goal is to make this information readily available to a broader audience and delivered in an engaging format.

Timeline: July 31, 2010 – June 30, 2012
Budget: $40,600

Deliverable/Outcome 3: Minnesota River based educational materials
Educational materials that accompany the online interviews will be developed to further illustrate or explain the "ask-an-expert" questions. Working with the advisory group and especially with the three high school teachers and their students, we will craft educational materials related to particular interview topics that will be suitable for high school students and the general public. To help develop these educational materials, we will draw from existing publications such as the data-rich the Minnesota River Trends Report, an easy-to-read overview summarizing some of the major demographic, land use, water quality, biological and recreational trends in the basin. We will work with team teachers and the broader advisory group to identify a few "ask-an-expert" interview topics to highlight that best fit into existing high school curricula and merge with Minnesota Academic Standards.

Timeline: July 31, 2010 – June 30, 2012
Budget: $20,400

Summary Budget Information for Result/Activity 1:

ENRTF Budget:	**$ 84,000**
Amount Spent:	**$ 0**
Balance:	**$ 84,000**

Deliverable/Outcome	Completion Date	Budget
1. *Interview Video Clips* A series of video clips from each of the 20 natural resource expert interviews.	June 30, 2012	$23,000
2. *Graphics and web site* Web site that contains video clips, maps, graphics, photos, multimedia imagery, and access to a rich array of	June 30, 2012	$40,600

information.		
3. *Educational materials* Educational materials that accompany the online interviews and help to illustrate or clarify the "ask-an-expert" question.	June 30, 2012	$20,400

Result Completion Date: June 30, 2012

Result Status as of: November 30, 2010

Result Status as of: May 31, 2011

Result Status as of: November 30, 2011

Result Status as of: June 30, 2012

Final Report Summary:

RESULT/ACTIVITY 2: Educational Outreach and learning stations

Description:
Interactive, multimedia kiosks will be located in four key history and river interpretive centers across the basin. Visitors will be able to access quick, web-style information about the project. The long-term kiosk installations will provide ongoing outreach for the project. The kiosk's intuitive touch-screen interactivity will make it easy for visitors to navigate through the site and explore questions of interest to them and hear researchers explain key information about the river.

The goal of these learning stations is to introduce visitors to the project, to enable them to explore some of the interviews while at the site, and hopefully return to the web site later (on their own) as questions about the river arise. The ideal outcome after exploring the multimedia kiosk will be to inspire students and the public to want to learn more about the river and to take the next step to explore and protect the dynamic river environment.

We will promote the web site and learning stations with classroom and public presentations and build a richer relationship with the three partner schools. Outreach to promote the web site will include kiosks at key educational centers and public presentations. We will also employ new media techniques to continue the development and delivery of the project including the use of YouTube, Facebook, Twitter, news releases, etc. We will share project information with the public, students and teachers via both traditional and nontraditional outreach.

Deliverable/Outcome 1: Learning Stations/Multimedia kiosks
We will design, develop, and set up four learning stations (multimedia kiosks) at key educational centers across the Basin. A wooden kiosk base will support a large printed map of the Minnesota River Basin in back of a computer touch screen. The kiosk's panel graphics will provide geographic context to the Minnesota River Basin and an overview of the project. It will be done in a format to grab the visitor's attention and spark their interest in exploring the web

site. Based on average annual visitation of 16,000 people for the four educational centers, we estimate 25 to 50 percent of visitors (4,000-8,000 people) per year might use multimedia kiosks.

Learning stations sites include:

- Treaty Site History Center, St. Peter, MN
- Regional River History Center, New Ulm, MN
- Ney Nature Center, Henderson, MN
- Clean Up the River Environment (CURE) Office, Montevideo, MN

Treaty Site History Center: St. Peter, MN
As the headquarters of the Nicollet County Historical Society, the Treaty Site History Center allows visitors to stroll through a restored prairie, discover the historical Traverse des Sioux crossing on an oxbow of the Minnesota River and learn about the history of the region. The Treaty Site History Center holds three exhibit halls with permanent and changing displays along with a research library.
Annual Visitation: 9,100 people

Regional River History Center: New Ulm, MN
Located on the Minnesota River at Riverside Park, the Regional River History Center of New Ulm provides citizen access to the Minnesota River and Cottonwood River watershed basins including online data, along with area historical and cultural artifacts. This history center strives to sponsor presentations related to the historical, cultural and natural aspects of the Minnesota River Basin.
Annual Visitation: 1,200 to 1,500 people

Ney Nature Center: Henderson, MN
The Ney Nature Center is dedicated to establishing a place where time is forgotten and heard only in the echoes of pioneer efforts to sustain themselves in what to them was a wilderness. It allows the land to return to a state where time is measured by the seasons and cycles of the moon, returning to a state once known by the first Americans. It is designed to maintain a safe refuge for native creatures – plant and animal, securing a healthy habitat for their continued survival.
Annual Visitation: 3,000 to 4,000 people

Clean Up the River Environment: Montevideo, MN
Founded in 1992, Clean Up the River Environment (CURE) works to restore, celebrate and protect the Upper Minnesota River Watershed. CURE seeks to inspire area youth and the general public through river trips and field trips. This nonprofit organization has over 500 members advocating for public policy at the local, regional, and national level.
Annual Visitation: 1,300 to 1,500 people

Timeline: July 31, 2010 – June 30, 2012
Budget: $23,700

Deliverable/Outcome 2: School and Public Outreach

Schools:
We will work with three partner schools and teachers to directly reach at least 150 students by conducting hands-on presentations on how the web site can be used both inside and outside of

the classroom. We will develop a richer and on-going relationship with these partner schools to broaden the experience of students by connecting them with existing Minnesota River programs such as river cleanups, surveying for frogs or mussels, etc.

In order to evaluate knowledge gained from using the "ask-an-expert" web site, we will work with teachers and the broader advisory group to construct an evaluative tool that will assess pre- and post knowledge related to the web site and educational materials.

Educational Centers:
We will host a public event/reception at each of the four educational centers after the learning stations have been installed to directly reach approximately 200 -300 citizens. A presentation about the project will be given at each of these events to publicize the web site. The overarching goal of these events is to publicize the project and web site with the broader aim to increase public awareness of river issues and promote environmental stewardship.

Kiosk use will be tracked by a counter on each kiosk. In order to give kiosk users an opportunity to learn more, we will include an e-mail sign up to connect them to upcoming river events across the basin, obtain the Minnesota River Weekly Update and/or River Talk newsletters. Similarly at presentations, we will track attendance and offer participants ways to learn about the river and river events.

Through both traditional and nontraditional outreach, we will share project information with the public, students and teachers. We will employ new media techniques to publicize the web site through use of YouTube, Facebook, Twitter, etc. Web site access will likely exceed many thousand web site visits. Web site use will be monitored by tracking use statistics on the Minnesota River Basin Data Center web site.

Timeline: July 31, 2010 – June 30, 2012
Budget: $16,300

Summary Budget Information for Result/Activity 2:

ENRTF Budget:	**$ 40,000**
Amount Spent:	**$**
Balance:	**$ 40,000**

Deliverable/Outcome	Completion Date	Budget
1. *Design, develop, and install learning stations* Four wooden multimedia kiosk with computer screen and large graphic panel installed at key river educational centers across the basin.	June 30, 2012	$23,700
2. *School and public outreach* Outreach and presentations to three schools and four educational centers directly reaching at least 150 students and 200 citizens. Educational center kiosks will potentially reach 4,000-8,000 people per year while online web site can reach many thousands. Will also include an evaluative tool to assess knowledge gained from use of the project.	June 30, 2012	$16,300

Result Completion Date: June 30, 2012

Result Status as of: November 30, 2010

Result Status as of: May 31, 2011

Result Status as of: November 30, 2011

Result Status as of: June 30, 2012

Final Report Summary:

V. TOTAL ENRTF PROJECT BUDGET:

Personnel: $ 104,100
Kimberly Musser, Assistant Director, Minnesota State University, Mankato Water Resources Center.
Tasks: Project manager; conduct interviews; develop graphics, web site, and education materials, promotion.
Percent full-time employment: 25%

Scott Kudelka, Communications Coordinator, Minnesota State University, Mankato Water Resources Center
Tasks: Conduct interviews, develop education materials, promotion.
Percent full-time employment: 33%

Richard Moore, GIS Specialist, Minnesota State University, Mankato Water Resources Center
Tasks: Conduct interviews; create maps and graphics such as Google Earth fly-throughs.
Percent full-time employment: 14%

Contracts: $4,000 - Friends of the Minnesota Valley
Tasks: A portion (roughly 20 percent) of videography and video editing.

Equipment/Tools/Supplies: $ 13,600

Kiosks - $12,400
Each of the four kiosks will include a computer, touch screen monitor, graphic panels, and wooden kiosk

Camcorder with hard disk/wireless microphone/external hard drive - $1,200
Purchasing new digital video recorder will save time and money. Replacing outdated equipment will enable us to increase efficiency going direct to digital video shortening processing and editing time significantly.

Travel: $2,300 - Travel to interview locations and project meetings.

TOTAL ENRTF PROJECT BUDGET: $124,000

Explanation of Capital Expenditures Greater Than $3,500: N/A

VI. PROJECT STRATEGY:

A. Project Partners:

Minnesota State University, Mankato Water Resources Center Staff
Kimberly Musser, Assistant Director, Minnesota State University, Mankato Water Resources Center.
Scott Kudelka, Communications Coordinator, Minnesota State University, Mankato Water Resources Center
Rick Moore, GIS Specialist, Minnesota State University, Mankato Water Resources Center

Scientists and Citizens
Natural resource scientists and citizen and that will be interviewed, help to develop education materials, and will serve as an advisory team include:

- Bernard Sietman and Mike Davis (mussels), Chris Domier (fisheries) and Bob Beck (state park naturalist) – Minnesota Department of Natural Resources;
- Pat Baskfield, Hydrologist – Minnesota Pollution Control Agency;
- Carrie Jennings, Senior Scientist - Minnesota Geology Survey;
- Joel Wurscher, Project Coordinator - High Island Creek Project;
- Brooke Patterson, Project Coordinator - Rush River Project;
- Tom Kalahar, District Technician - Renville Soil and Water Conservation District;
- Lauren Klement, Le Sueur County Water Planner;
- Paul Wymar, Watershed Scientist - Chippewa River Watershed Project

Teachers, Educational Center, and NonProfit Staff

- Greg Wyum, Science Teacher - Dawson-Boyd Public School;
- Greg Elseth, Science Teacher - Sibley East Public School;
- Anthony Sonnek and Nicole Kotasek, Science Teachers - MN New Country School;
- Becky Pollack, Executive Director - Ney Nature Center;
- Ron Bolduan, Curator - Regional River History Center;
- Ben Leonard, Executive Director - Minnesota River Treaty Center
- Patrick Moore, Executive Director - Clean Up the River Environment (CURE)
- John Hickman - Friends of the Minnesota Valley

B. Project Impact and Long-term Strategy:

This project is part of a larger strategy to increase public awareness about the health of the Minnesota River. The online interviews would offer an innovative way to educate citizens about what scientists are learning about rivers and lakes in the basin. The proposed project would improve information flow, enrich and update the Minnesota River Basin Data Center web site (http://mrbdc.mnsu.edu). This project would also serve as a tool for future efforts to integrate Minnesota River research into the high school science curriculum across the Minnesota River Basin.

In order to move forward with the effort to clean up the Minnesota River, we need to engage and inform citizens about the state of the river. This project will help to bridge the information gap between scientific experts and citizens. After exploring a virtual tour hosted by a variety of

experts, web site users will leave with a richer understanding of this diverse river basin and also gain exposure to many one-of-a-kind places. They will get to experience some of the many rivers, streams and lakes across the basin that await exploration. Exposing people to the river and capturing their interest is an important step in improving and protecting it for today and future generations.

C. Other Funds Proposed to be Spent during the Project Period:

Each of the project partners listed above (citizen, scientists, teachers and educational center staff) will provide in-kind donation of approximately $500.

D. Spending History:

VII. DISSEMINATION:
The main plans for disseminating information include 1) Learning Stations - Multimedia kiosks located in four key river and history centers across the basin 2) School and Public Outreach at three schools and four educational centers involving presentations, open houses, and stewardship projects.

Result number two (deliverable 2) details the dissemination plans for the project. The broad dissemination goals for the project include sharing data with the public, students and teachers by both traditional and nontraditional outreach. The ultimate aim is to increase public awareness about the Minnesota River and promote environmental stewardship.

The web site will be housed on the Minnesota River Basin Data Center web site: (http://mrbdc.mnsu.edu).

VIII. REPORTING REQUIREMENTS: Periodic work program progress reports will be submitted not later than November 30, 2010, May 31, 2011, and November 30, 2011. A final work program report and associated products will be submitted between June 30 and August 1, 2012 as requested by the LCCMR.

Attachment A: Budget Detail for 2010 Projects - Summary and a Budget page for each partner (if applicable)

Project Title: *MN River Experts: An Educational Field Trip On-Line*

Project Manager Name: *Kimberly Musser*

Trust Fund Appropriation: $ *124,000.00*

1) See list of non-eligible expenses, do not include any of these items in your budget sheet
2) Remove any budget item lines not applicable

2010 Trust Fund Budget	Result 1 Budget:	Amount Spent (date)	Balance (date)	Result 2 Budget:	Amount Spent (date)	Balance (date)	TOTAL BUDGET	TOTAL BALANCE
	Develop online educational field trips			*Educational Outreach and learning stations*				
BUDGET ITEM								
PERSONNEL: wages and benefits *(List individual names, amount budgeted and %FTE; add rows as needed)*	$ 77,764.53	$ -	$ 77,764.53	$ 26,369.20	$ -	$ 26,369.20	**$104,133.73**	**$ 104,133.73**
Kimberly Musser -25% FTE (74% salary - 26% benefits)	$ 24,474.93	$ -	$ 24,474.93	$ 5,594.27	$ -	$ 5,594.27	$ 30,069.20	$ 30,069.20
Scott Kudelka - 33.25% FTE (60% salary - 40% benefits)	$ 22,859.65	$ -	$ 22,859.65	$ 14,918.93	$ -	$ 14,918.93	$ 37,778.58	$ 37,778.58
Richard Moore - 13.85% FTE (60% salary - 40% benefits)	$ 14,640.00	$ -	$ 14,640.00	$ 5,856.00	$ -	$ 5,856.00	$ 20,496.00	$ 20,496.00
STUDENT 100% summer employment(8hrs/day, 40 hrs/wk) 45% academic year (20 hrs/wk max allowed)	$ 11,696.26	$ -	$ 11,696.26	$ -	$ -	$ -	$ 11,696.26	$ 11,696.26
STUDENT 100% summer employment(8hrs/day, 40 hrs/wk)	$ 4,093.69	$ -	$ 4,093.69	$ -	$ -	$ -	$ 4,093.69	$ 4,093.69
Contracts	**$ 4,000.00**	$ -	$ 4,000.00	$ -	$ -	$ -	**$ 4,000.00**	**$ 4,000.00**
Professional/technical: Friends of the MN Valley *videography and video editing*	$ 4,000.00	$ -	$ 4,000.00	$ -	$ -	$ -	$ 4,000.00	$ 4,000.00
Supplies	**$ 1,198.00**	$ -	$ 1,198.00	**$ 12,393.96**	$ -	$ 12,393.96	**$ 13,591.96**	**$ 13,591.96**
Graphics Panel (4)	$ -	$ -	$ -	$ 2,733.96	$ -	$ 2,733.96	$ 2,733.96	$ 2,733.96
Touch Screen Monitor (4)	$ -	$ -	$ -	$ 3,760.00	$ -	$ 3,760.00	$ 3,760.00	$ 3,760.00
Computer (4)	$ -	$ -	$ -	$ 3,000.00	$ -	$ 3,000.00	$ 3,000.00	$ 3,000.00
Kiosk (4)	$ -	$ -	$ -	$ 2,900.00	$ -	$ 2,900.00	$ 2,900.00	$ 2,900.00
Camcorder with hard disk/wireless microphone/external hard drive	$ 1,198.00	$ -	$ 1,198.00	$ -	$ -	$ -	$ 1,198.00	$ 1,198.00
Travel expenses in Minnesota	**$ 1,050.00**	$ -	$ 1,050.00	$ 1,224.30	$ -	**$ 1,224.30**	**$ 2,274.30**	**$ 2,274.30**
COLUMN TOTAL	**$ 84,012.53**	**$ -**	**$ 84,012.53**	**$ 39,987.46**	**$ -**	**$ 39,987.46**	**$123,999.99**	**$ 123,999.99**