



Environment and Natural Resources Trust Fund (ENRTF)

M.L. 2015 Work Plan

Date of Report: December 15, 2014

Date of Next Status Update Report: December 15, 2015

Date of Work Plan Approval:

Project Completion Date: August 30, 2016

Does this submission include an amendment request? No

PROJECT TITLE: Mississippi River Water Journey Camps

Project Manager: Beth Mercer-Taylor

Organization: Sustainability Education, Institute on the Environment, University of Minnesota-- Twin Cities

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Location:

St. Paul Gym, St. Paul Campus, University of Minnesota, -- Twin Cities, Ramsey County, Minnesota. (With travel to surrounding areas.)

This project is expected to impact the seven-county Twin Cities metro area, including Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington.

Total ENRTF Project Budget:	ENRTF Appropriation:	\$ 25,000
	Amount Spent:	\$0
	Balance:	\$ 25,000

Legal Citation: M.L. 2015, Chp. 76, Sec. 2, Subd. 05e

Appropriation Language:

\$25,000 the first year is from the trust fund to the Board of Regents of the University of Minnesota to design and pilot two week-long summer camps for youth ages 6-11 focused around clean water and the Mississippi River and designed to get children outdoors exploring and engaged with the natural environment and creating educational materials to help their communities protect water quality.

I. PROJECT TITLE: Mississippi River Water Journey Camps

II. PROJECT STATEMENT:

“Water Journey Camps” get children outdoors exploring the natural environment, doing service plantings, and teaching the public how to conserve water and improve water quality to help protect natural areas. Two different one-week summer camps: “Water Journey: Drink” and “Water Journey: Rain,” will be held twice each (a total of four camps) at the St. Paul campus of the University of Minnesota. The camps will be offered as one of the specialized programs available for children to attend during the University of Minnesota Recreation & Wellness Summer Youth Program (more information at <http://www.recwell.umn.edu/youth/structure.php>). “Water Journey Camps” will serve youth in ages 6-8 in one set of the camp offerings and age 9-11 in the other set.

The camps use an engaging arts/science adventure approach to bridge a gap between environmental education focused on conservation behavior and environmental education focused on downstream impacts of conservation. By revealing the water infrastructure that connects daily use of water with what happens at the other end of the pipes, conservation lessons can be made more relevant to students’ experience. The camps are designed to address four areas that research indicates enhance stewardship behavior. (1) Children need more opportunities for outdoor experiential environmental education to form bonds with nature. (2) People must see the connection between their actions in the human-built environment and the associated impacts in the natural environment. (3) Children need opportunities to contribute through service activities and using their learning to help others in order to enhance their stewardship competence and identity. (4) Children and the public they will help educate need to have local, place-based examples of how their actions affect the natural areas in their community to increase the immediacy and relevance of stewardship.

The goals and outcomes of Water Journey Camps are:

- 1) Participants (the children who are campers) will gain first-hand knowledge of how they depend on and impact freshwater, the way that infrastructure carries water into and away from their homes and schools, the benefits of healthy wetlands, lakes and rivers, and will develop inspiration and skills for stewardship. This will impact 32-56 campers in the project period, with an estimated additional 128-224 campers affected in the four years of camp this project makes possible after the project period.
- 2) Water Journeys will serve as a demonstration to formal and informal educators for how integrating STEM skills, arts, storytelling and experiential learning develops in children an awareness of water and of how to live more sustainably by conserving and keeping water clean. The project will be shared to educators through targeted outreach and dissemination, including a website and short video that will be created.
- 3) Through the work of Institute on the Environment’s communications team—who will make use of participants’ artwork, stories and service projects—the public, and particularly the St. Paul campus and its immediate neighborhood will become a more water-aware, sustainable community through the Water Journeys programs taking place in indoor recreational spaces, outdoor classroom spaces, field trip locations and at the St. Paul campus Sarita wetland and pond, which is also a location for service learning.

There are three main activities to implement the project: (1) Plan and Prepare Water Journey Camps Toolkit and Documentation, (2) Conduct Four Water Journey Camps for Environmental Education, and (3) Conduct Community Outreach and Education. After the project period, the ENRTF project will be used as a foundation for extending the Water Journey camps and associated community water stewardship education and outreach four (4) or more years. The ongoing camps will be funded through the cost structure of the youth programs, supplemented by additional support from Institute on the Environment. The camp model will be shared with the wider community through a website and presentations to inspire and assist others to create similar programs. Future funding requests to ENRTF are not anticipated for Water Journey Camps.

III. OVERALL PROJECT STATUS UPDATES:

Project Status as of December 15, 2015:

Project Status as of June 15, 2016:

Project Status as of December 15, 2016:

Overall Project Outcomes and Results:

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Plan and Prepare Water Journey Camps Toolkit and Documentation

Description: Adapt existing (Earth Systems Journey) place-based curriculum framework to the Summer Youth Program camp context, adjusting it for: the two different age groups participating, the camp time frame and format, specific way water flows at the building, local ecological and infrastructure systems that serve that building, the resources and opportunities from community partners, service project opportunities and needs, and learning communication methods.

This work involves working with Summer Youth Program staff, facility managers, utility representatives, land care staff, park rangers, and others to identify the water pathways, create kid-friendly maps, plan tour logistics and content of the water infrastructure and natural areas, and arrange permissions, guidance and materials for the service plantings. There is also work to assemble the nature photography toolkit and set up the digital mapping system and online communication channels that will highlight student work.

Digital Mapping: The University of Minnesota has access to an advanced online mapping tool called ArcGIS Online. With ArcGIS Online, participants will be able to create their own maps to share what they have learned with the rest of the class and beyond. These story maps will take advantage of a wealth of spatial information available for the St. Paul campus and surrounding metro area, and allow students to collect their own observational data out in the field and communicate their exploration with the public online. The work to set up the digital mapping includes setting up the story map template, customizing the base map, setting up fields for campers’ content (text and images), and refining the interface to result in an easy and engaging online experience for intended audiences.

Documentation for how to run the curriculum in the Summer Youth Program camp context will be created and refined after implementation, and the project staff will conduct a project evaluation. The evaluation will include feedback from project partners, camp staff, advisory group members, and the public on project effectiveness for student learning, and public education. The students will participate in a simple pre-post survey to assess changes in their awareness, skills and concern related to the water issues they have explored. These materials help in future implementation of the camp, both in future iterations within the Summer Youth Program, as well as in dissemination of the camp as a model for other educators in informal or in school settings.

In addition to ENRTF funds, this activity will be supported by in kind time and expertise of partners to help plan the activities such as the local watershed district and the national park service.

Summary Budget Information for Activity 1:

ENRTF Budget: \$ 19, 600
Amount Spent: \$ 0
Balance: \$ 19,600

Outcome	Completion Date
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1. Camp Toolkit including physical maps, camp outline, information resources, contacts, camera equipment, digital mapping system, website, and service planting guide	August 30, 2016
2. Project reporting including project evaluation	September 30, 2016

Activity Status as of December 15, 2015:

Activity Status as of June 15, 2016:

Activity Status as of December 15, 2016:

Final Report Summary:

ACTIVITY 2: Conduct Four Water Journey Camps for Environmental Education

Camp 1: “Water Journey: Drink” This camp is held twice, once for each of two age groups, consisting of: 6-8 and 9-11 year old children exploring and documenting potable water uses at camp, learning about visual nature journals and photography, and going on a journey. First they journey from a camp drinking fountain upstream to the Mississippi River to visit a stormwater demonstration park across the river from where St. Paul collects water for treatment, then they follow water infrastructure to the treatment plant, the water tower on campus, the water meter in their camp building, and the pipes leading to the camp’s drinking fountain. Campers then travel downstream from the drinking fountain, peering into manholes, visiting the wastewater treatment plant, and traveling on a riverboat downriver to where the treatment plant returns water to the Mississippi River.

Camp 2: “Water Journey: Rain” This camp is held twice, once for each of for two different age groups, consisting of: 6-8 and 9-11 year old children exploring and documenting the flow of rain water at camp, learning about visual nature journals and photography, and going on a journey. First they see a downspout and follow it to where rain goes into a storm sewer, then follow storm sewer maps that lead to Sarita Wetland and pond on the campus where they will learn about its plants, animals and how it helps manage stormwater flows. Then campers follow a map of the stormwater pipes and take a bus to the Mississippi River. Here they see the outfall where their rain water flows into the river near the Lake Street Bridge. They will go to the nearby Mississippi River Gorge Park where they explore a prairie and learn about its ecology and how stormwater is handled in that environment.

Both Camps: Students conduct a service planting at Sarita Wetland and pond, learning about its connection to clean water, the river and habitat, use photography and observational skills to create visual nature journals. These journals will become part of public educational materials, described in activity 3.

Project personnel will assist and observe as camp staff implement the curriculum and use the toolkit. This information will be used for refining the documentation and informing the evaluation described in Activity 1.

ENRTF Budget for this activity is for printing the visual nature journals, a cost which is beyond the normal camp supplies budgets. The visual journal printing serves two purposes: as a student learning product, and as visual material to be exhibited as part of community outreach, education and dissemination activities.

The “Water Journey Camp Toolkit” developed under Activity 1 provide the content and equipment for implementing the Water Journey Camps in activity 2.

Other expenses needed to conduct the camps are provided by partner support from the University of Minnesota Recreation and Wellness Youth Program. This program provides the camp infrastructure for the Water Journey

Camps through the normal camp cost structure. University Recreation and Wellness Youth Programs will be providing the programming space for these camps (classrooms and buildings as needed), along with the recruitment, hiring and training (15 hours in person group leader training, covered cost of background checks, First Aid & CPR certifications, Blood borne Pathogen, Belay Certification, Concussion Training, and Safety of Minors on Campus Policy/Mandatory Reporter training) of Group Leader Staff (2 staff per group at a total of 320 hours over the 4 camps) who will lead and attend the Water Journeys camps with the participants. Youth Programs has a 27 year camp history of providing gold standard summer day camp opportunities for youth ages 5-15, with a mailing list of over 25,000 that receive our marketing materials each year, and will be providing the recruitment of, and all administrative duties for, program registrants. Along with partnering to provide the Water Journeys instructional components of the camp, Youth Programs day camps also feature rock climbing, swimming, art instruction, physical education & nutrition instruction, and tours & demos for all of the camp participants for one affordable fee. The kids spend the entire day with us (up to 50 hours per week) for a high quality, well rounded academic and recreational experience. These covered expenses also include management of the need-based scholarship program, bus trips, field trip fees, and a modest supply budget.

Summary Budget Information for Activity 2:

ENRTF Budget: \$ 1,400
Amount Spent: \$ 0
Balance: \$ 1,400

Outcome	Completion Date
1. 32-56 kids, ages 6-11, complete outdoor water journey experience and create water journey books to document that experience	July 31, 2016
2. Four Service plantings sessions completed at Sarita Wetland	July 31, 2016
3. Students give presentations of their water journey to parents and public for each camp	July 31, 2016

Activity Status as of December 15, 2015:

Activity Status as of June 15, 2016:

Activity Status as of December 15, 2016:

Final Report Summary:

ACTIVITY 3: Conduct Community Outreach and Education

Description: Create environmental education materials for use in a public website and presentations in which children’s explorations and creative work are featured. The website about the project will feature student photography and observations tied to an interactive online map showing where photos were taken. This “storymap,” which uses GIS software, will create an expandable framework so that student work in future camps can be added. The website will also present the public with the environmental education video from the project. See the dissemination section of this work plan for more information on public presentations and displays.

Environmental Education Video:

A 3-5 minute video will be created to educate the public about local watershed and water conservation issues. The video will use the student experience at the camps and make use of student photography and interviews as a way to use the human story of student experience to engage the public in the environmental story of local water issues. In addition to public stewardship education, the video will also be used for recruiting students to future camps and to share the model with other educators.

The narrative of the video will be about the campers’ journey alongside water flows through their camp. In the beginning, camp leaders and students start with rain and drinking water and trace the water cycle all the way to the Mississippi River. The video will document highlights of youth experiences with the Water Journey Camps by shooting youth action segments outdoors as they’re happening and incorporate youth photography and candid comments of reflection in a wide range of forms. As the camps unfold and we witness creative expressions about what the Water Journey Campers are observing and learning, we’ll capture these moments and build a video that tells the human and environmental story of Water Journey Camps.

Steps of video production:

- Preproduction planning: Prioritize most important activities to shoot, and explore the best way to shoot video and capture audio. Craft a preliminary narrative of the video.
- Production: Capture video, audio and photography of the Water Journey Camps.
- Post production: Organize and log digital assets. Create a rough edit, gain collaborative feedback from team. Revise and finalize edit. Upon approval of final, output and upload video to website and/or social media destinations.

The ENRTF funds under Activity 3 Community Outreach and Education support creation of the educational video. The creation of and updates to the website are from cash support by Institute on the Environment for a designated communications student position managed by Institute staff. The education and outreach also makes use of the GIS Map funded under Activity 1. Project partners will also support community outreach and education through their communication channels.

Summary Budget Information for Activity 3:

ENRTF Budget: \$ 4,000

Amount Spent: \$ 0

Balance: \$ 4,000

Outcome	Completion Date
1. Public website with interactive maps documenting the water flows through the camp location on St. Paul Campus and Sarita Wetland to the landscapes beyond the campus.	August 15, 2016
2. 3-5 minute educational video about water journey camps, featuring campers and their work	August 15, 2016

Activity Status as of December 15, 2015:

Activity Status as of June 15, 2016:

Activity Status as of December 15, 2016:

Final Report Summary:

V. DISSEMINATION:

Description: The project will have a web page that is part of or linked from the University of Minnesota’s Institute on the Environment web page (at environment.umn.edu). The exact URL will be provided in a status update once it is determined. The web page audience will include participants and their families, the public, particularly those living near the area studied, and educators interested in this as a model. Targeted announcements directing audience to the web page will be made to participant families, local leaders, the Institute on the Environment community, University of Minnesota media resources, and organizations interested in environmental education. Selected presentations will be made to environmental and education groups. For example, the outreach materials, including children’s photography, the story maps and the short video will be featured at events such as those hosted by SciMath MN, which is a professional and networking organization for teachers, and could be offered as a professional development workshops and an annual STEM day at the Minnesota State Fair.

Status as of December 15, 2015:

Status as of June 15, 2016:

Status as of December 15, 2016:

Final Report Summary:

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget Overview:

Budget Category	\$ Amount	Overview Explanation
Personnel:	\$ 18,122	1 project manager at 3.8% FTE each year for 1 year; 1 project designer/leader at 10.1% FTE each year for 1 year; 1 digital mapping coordinator at 1% FTE each year for 1 year; 1 student at 50% FTE for (1) 8 week summer session.
Professional/Technical/Service Contracts:	\$ 4,000	1 contract with Favorito Media for production of educational video.
Equipment/Tools/Supplies:	\$ 1,277	Nature photography tool kit suitable for young children: Fifteen (15) digital kid-friendly cameras, associated USB cords for downloading photos, and rechargeable batteries and rechargers for cameras. [Camera toolkit becomes part of the camp toolkit for repeats of camp in future years.]
Printing:	\$ 1,462	\$ 62 of general project printing needs and \$ 1,400 for children's water journey books
Travel Expenses in MN:	\$ 139	Mileage for field trip site planning visits
TOTAL ENRTF BUDGET:	\$ 25,000	

Explanation of Use of Classified Staff: N/A

Explanation of Capital Expenditures Greater Than \$5,000: N/A

Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: 0.23 FTEs

Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: 0.05 FTEs

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state			
Institute on the Environment (Cash Support)	\$ 2,400	\$	Committed summer student to do public communications on the project. (Undergrad student in summer for 12 weeks x 20hrs/wk x \$10/hr = \$2400).
U of MN Recreation and Wellness Youth Camp (In-kind Support)	\$ 3,120		Contributed costs via camp fees for camp class instructor, bus trips, admission for riverboat, and miscellaneous supplies. Camp promotion and recruiting, and management of the need-based scholarship program are also provided by this partner.
The University of Minnesota (In-kind Support)	\$ 10,117		The University of Minnesota's Facilities and Administrative rate is 33% of modified total direct costs. The amount, if F&A expenses would have been allowed on the project, would be \$10,117. The University will provide office space, IT services, and administrative / financial services in support of the project.
State: N/A			
TOTAL OTHER FUNDS:	\$ 15,637	\$	

VII. PROJECT STRATEGY:

A. Project Partners:

Project Partners Receiving ENRTF Funds:

- University of Minnesota's (UMN) Institute on the Environment: \$ 16,637 for
 - Beth Mercer-Taylor and graduate student to manage the project
 - Jonee Kulman Brigham (currently in the Department of Curriculum and Instruction, and recently at the UMN Center for Sustainable Building Research) to join Institute on the Environment to lead the implementation of the project with the pilot participants
 - Associated travel, printing, and equipment for the toolkit
- UMN U-Spatial: \$ 4,441 for Len Kne and a graduate student to lead the set up and use of digital mapping resources for learning and public educational outreach
- Favorito Media: \$ 4,000 for Video Producer, Audrey Favorito, to create the educational video for the project.

Project Partners Not Receiving ENRTF Funds:

- U of MN Recreation & Wellness Department: coordinating camp recruitment, logistics, and general camp support activities
- Capitol Regional Watershed District: providing educational support and co-coordination of service plantings at Sarita Wetland
- St. Paul Regional Water Services: providing tours of their facilities
- National Park Service, Brian Goodspeed, Park Ranger: providing interpretation as a guide to the natural features of the Mississippi in a riverboat ride
- An advisory group of experts (TBD): providing advice and connections to inform the project and assist with outreach.

B. Project Impact and Long-term Strategy:

The project aims to impact Minnesota's environment and natural resources through creating awareness and stewardship attitudes about water resources that help lead to positive water behaviors. Specifically, this project is designed to inspire a sense of interconnection between daily water impacting activities and downstream water bodies and the Mississippi River. While the lessons of water flows are similar in many areas, focusing on a particular place, leads to more relevance to the learners and a more interesting story of water exploration for local and regional audiences. In addition to their own experience, the student's exploration makes for an engaging way to tell others' about water flows and what they can do to improve water quality.

Water Journey Camps is part of a larger effort of applying the Earth Systems Journey approach to a variety of locations and communities. A pilot has been completed, centered in Little Canada for preschoolers, and another project is underway south of the river in St. Paul at a high school. The camp format of this project gives the opportunity for students particularly interested in water and the environment to have the same experience, whatever school they normally go to. The University of Minnesota Summer Youth Programs has a need-based scholarship component, increasing access for students who might not otherwise be able to attend a camp program.

The project will be used as a foundation for extending the camps and associated community water stewardship education and outreach four (4) or more years. The ongoing camps will be funded through the cost structure of the youth programs, supplemented by additional support from Institute on the Environment. The camp model will be shared with the wider community through a website and presentations to inspire and assist others to create similar programs. Future funding requests to ENRTF are not anticipated for Water Journey Camps.

C. Funding History: N/A

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

A. Parcel List: N/A

B. Acquisition/Restoration Information: N/A

IX. VISUAL COMPONENT or MAP(S): *See attached illustration.*

X. RESEARCH ADDENDUM: N/A

XI. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted no later than December 15, 2015, June 15, 2016, and December 15, 2016. A final report and associated products will be submitted between June 30 and August 15, 2017.

Environment and Natural Resources Trust Fund

M.L. 2015 Project Budget



Project Title: Mississippi River Water Journey Camps

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

Project Manager: Beth Mercer-Taylor

Organization: University of Minnesota, Institute on the Environment

M.L. 2015 ENRTF Appropriation: \$ 25,000

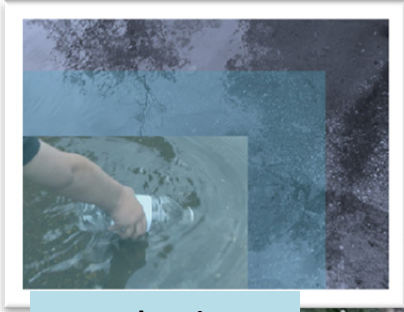
Project Length and Completion Date: 2 Years, June 30, 2017

Date of Report: December 15, 2014

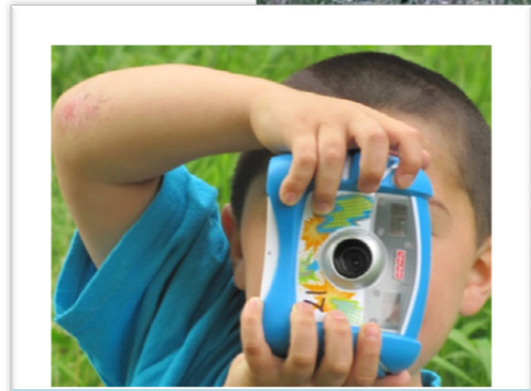
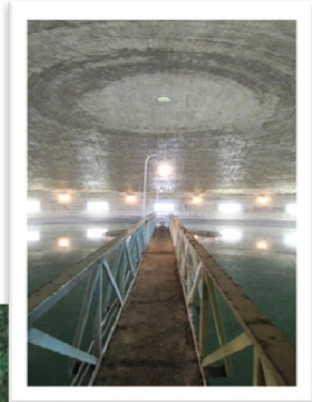
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	Activity 3 Budget	Amount Spent	Activity 3 Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	Plan and Prepare Water Journey Camps Toolkit and Documentation			Conduct Four Water Journey Camps for Environmental Education			Conduct Community Outreach and Education				
Personnel (Wages and Benefits)	\$18,122	\$0	\$18,122	\$0	\$0	\$0	\$0	\$0	\$0	\$18,122	\$18,122
Personnel: Beth Mercer-Taylor, Institute on the Environment, UMN Role: Project Management (Principal Investigator) Percent FTE on project: 3.8%; at salary of \$72,263, Time period: 1 year Of total: 75% dollars is salary and 25% dollars is benefits											
Personnel: Jonee Kulman Brigham, to be hired as part time Institute on the Environment staff for project Role: Project Designer/Leader (Co-Principal Investigator) Percent FTE on project: 10.1%; at salary of of \$74,225, Time period: 1 year Of total: 75% dollars is salary and 25% dollars is benefits											
Personnel: Len Kne, U Spatial, UMN Role: Coordinate Digital Mapping Percent FTE on project: 1%; at salary of of \$54,636, Time period: 1 year Of total: 75% dollars is salary and 25% dollars is benefits											
Personnel: Student TBD, U Spatial, UMN Role: Set up Digital Mapping Percent FTE on project: 50%; at \$18.84 per hour. Time period: 8 weeks (summer) Of total: 81% dollars is salary and 19% dollars is benefits											
Professional/Technical/Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000	\$0	\$4,000	\$4,000	\$4,000
Video Producer: Audrey Favorito to create a 3-5 minute educational outreach video documenting the camp and featuring the children teaching the public about environmental issues.											
Equipment/Tools/Supplies	\$1,277	\$0	\$1,277	\$0	\$0	\$0	\$0	\$0	\$0	\$1,277	\$1,277
Nature photography tool kit suitable for young children: Fifteen (15) digital kid-friendly cameras, associated USB cords for downloading photos, and rechargeable batteries and rechargers for cameras. Camera toolkit becomes part of the camp toolkit for repeats of camp in future years.											
Printing	\$62	\$0	\$62	\$1,400	\$0	\$1,400	\$0	\$0	\$0	\$1,462	\$1,462
Printing costs for reports and for camp activities, based on 62\$ of general project printing needs and \$1400 for children's water journey books											
Travel expenses in Minnesota	\$139	\$0	\$139	\$0	\$0	\$0	\$0	\$0	\$0	\$139	\$139
Field Trip site planning visits (one visit each location) and travel to field trip sites during camp for adults not included in covered bus travel. Total of 252 miles @ \$0.55 per mile. Based on distance from St. Paul Campus of University of Minnesota, location of camps as well as managing department.											
COLUMN TOTAL	\$19,600	\$0	\$19,600	\$1,400	\$0	\$1,400	\$4,000	\$0	\$4,000	\$25,000.00	\$25,000.00

Visual for: Water Journey Camps

Children discovering how everything is connected as they touch the river, help the wetland, and tell their story.



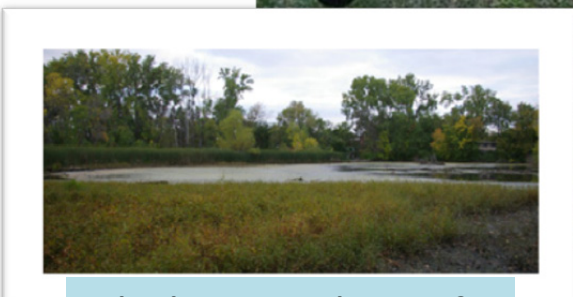
From the River....



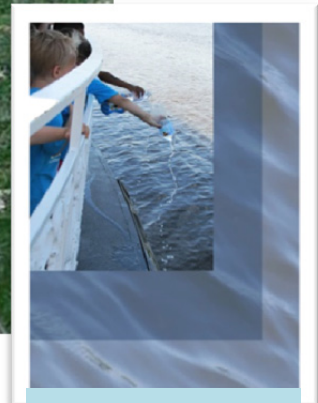
Where does the water come from?
Where does the water go?
[visual nature journals]



How can I help?
[service planting]



What happens to the water?
[wetland ecology exploration]



Back to the River.