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February 11, 2019

**Attn: Chris Steller**  
**Legislative Reference Library**  
**645 State Office Bldg.**  
**100 Rev. Dr. MLK Jr. Blvd.**  
**St. Paul, MN 55155**

**Re: Annual Report as per reporting requirements for:**  
**Red River Basin River Watch CWF MPCA Grant #: 136073**

**Dear Mr. Steller,**

Enclosed, please find 2 copies of the annual report for the 2018 - 2019 Red River Basin River Watch project. This report fulfills the interim reporting requirements for the Clean Water Legacy River Watch Project through December 2018. The Red River Watershed Management Board is the project sponsor with lead coordination and project management provided by the International Water Institute.

**Thank you,**

A handwritten signature in cursive script that reads 'Danni Halvorson'.

**Danni Halvorson**  
**Director-Education and Monitoring**  
**International Water Institute**  
**23493 155<sup>th</sup> Ave NW**  
**Viking, MN 56760**  
**218-280-0515**  
[danni@iwinst.org](mailto:danni@iwinst.org)

February 11, 2019

# Red River Basin River Watch Annual Report 2018

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**Red River Basin River Watch** partners with K-12 and community education staff, resource management professionals, higher education institutions and other non-profits to provide direct hands-on, field-based experiential watershed science opportunities for students and citizens that enhance watershed understanding and awareness.

**Danni Halvorson**  
Director - Education  
International Water Institute

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## Program Overview

*More than Water Quality Monitoring*, since its inception in 1995, the Red River Basin River Watch (RW) program has grown to include a wide variety of hands-on opportunities for area youth. The RW program enhances watershed understanding and awareness for tomorrow's decision-makers through field-based experiential watershed science. Schools throughout the Red River of the North Basin participate in a variety of unique and innovative watershed engagement opportunities suited to their school, community, and watershed needs.

**Water Quality Monitoring:** Collect and record conditions at local rivers and streams using state-of-the-art scientific methods and equipment.

**Biological Monitoring:** Macroinvertebrate monitoring provides additional insights on watershed health.

**River Explorers:** Guided kayak excursions on local rivers to observe and document watershed conditions.

Ongoing **Teacher Training** provides access to resources and experts in current watershed issues.

**River Watch Forum:** Annual opportunity for students to share and learn about emerging watershed issues.

**Real-Time Monitoring:** Students build, deploy and maintain real-time water quality monitoring stations. Data analyzed and used to characterize stream water quality.

**River of Dreams:** A cross-curriculum watershed education program tailored to elementary students. Participants learn watershed terminology and how their sub-watershed fits into the Red River Basin through the design and real-life launch of a 14" cedar canoe.



## Project Progress

This report fulfills the interim reporting requirement for the Clean Water Legacy funded River Watch Project from January 2018 through December 2018. The Red River Watershed Management Board is the project sponsor with lead coordination and project management provided by the International Water Institute (IWI). The following is broken down by work plan objective and provides a summary of progress towards meeting the identified outcomes within the 2018 – 2019 Clean Water Fund Work Plan included as *Appendix A*.

**STUDENT ENGAGEMENT:** Engage elementary students in River of Dreams (ROD) a hands-on education program focused on the valuable river resources of the Red River Basin. Provide integrated classroom and outdoor experiences that; build awareness of river ecosystems and watershed connections, increase student capacity to make informed decisions about their environment and instill a sense of place about the uniqueness of their local watershed—historic, economic, and ecological

### River of Dreams

The ROD program was made available to elementary teachers at active River Watch schools within the Minnesota portion of the Red River Basin. In total, 17 schools participated, comprising 29 classrooms and 556 students. Classroom materials, including local sub-watershed maps, Red River Basin maps, writing and design templates were created for each school. Miniature cedar canoes were acquired and assigned unique tracking numbers in the preparation process for each student. Each teacher read the book “Paddle-to-the-Sea” aloud to their class prior to an IWI staff classroom visit. The in-class visit and a suite of activities served to explain watershed concepts introduced in the book, while also connecting these concepts to the local watershed.

Pre- and post-program quizzes were administered to track improvements in understanding of watershed terminology before and after the visit, with an average score improvement of 18% for 2018. Each school was joined again by IWI staff in the spring of 2018 to launch trackable canoes for a journey down the local river. The progress of the canoes can be tracked online at [riverofdreams.org](http://riverofdreams.org). A video with several elementary student interviews was produced and can be [found here](#). Selected examples of classroom activities and photos highlighting the overall program in 2018 are included in *Appendix B*.

**RED RIVER EXPLORERS PADDLING PROGRAM:** Increase awareness and knowledge of local land use and watershed connections through a Red River Explorers Paddling Program to allow RW teams and community members to “water-truth” streams in the Red River Basin, documenting local watershed conditions.

### Red River Explorers

River Explorers activities were limited in 2018 due to low river levels during the prime paddling months (June, July, August) followed by the early onset of cold weather. The majority of river trips that did happen were part of other programming opportunities and our ongoing partnership with Wilderness Inquiry (WI). Ten (10) paddle outings occurred; 2 individual school kayak trips, 3 multiple school canoe trips with WI, 2 community canoe paddle events with WI, and 3 group kayak trips at area summer camps. A total of 440 participants including 390 students and 50 adults paddled in 2018. A summary of events including participants and miles paddled is included in *Appendix C*.

### Watershed Connections

Four macroinvertebrate sampling kits, three stream tables and two ground water models have been made available to the River Watch schools for classroom use. IWI staff assist the schools in their use when requested. Resources and information relating to the watershed connections pieces are available for use by participating schools. Four (4)



newsletters were published and distributed in 2018. River Rendezvous editions can be viewed on the IWI website at <http://iwinst.org/mesmerize/river-rendezvous-newsletter/>.

**STEM ASSISTANCE:** Assist in provision of Science, Technology, Engineering and Math (STEM) education and engagement opportunities through watershed science.

## **Training Sessions and Fall Kick Offs**

The first ever River Watch Camp was held July 17 – 18 at the U of M Crookston. Eleven (11) students participated in events ranging from leadership activities to continuous monitoring station deployment and maintenance. Next summer the plans are being made to hold a similar Teacher Camp. The agenda for the 2018 River Watch camp is included in *Appendix D*.

Three (3) regional fall kick-off events were held across the basin in September 2018. River Watch teams were introduced to the River Watch Forum 2019 Team Challenge and the activities at each kick-off event prepared the attending teams in data driven watershed problem solving and the development of a story map. One-hundred thirty-six (136) MN students and fifteen (15) teachers attended these events. Students and teachers received training on how to identify watershed issues, issue relevant data, how to create an ArcGIS story map and paddled a guided trip on the closest river with Wilderness Inquiry. Information related to the 2018 kick-off events is [online](#) and included in *Appendix D*.

## **River Watch Forum**

The 2018 River Watch Forum was held February 7, 2018 with 315 attendees. The Forum theme was “River Watch in Action”. Each team was challenged to develop a unique service project which benefited their local river in some way and to submit a video about the project. Team resources, forum materials and video submissions can be found [here](#) and the 2018 Forum agenda is included in *Appendix D*.

Brad Durick started off the day talking about his experience on the Red River as a catfish guide and local business owner. From knowing the fish to knowing the river, Brad delivered a great message about the Red River with which we are all familiar. One unique aspect was the technology he uses to locate structure on the channel bottom, which has also revealed many interesting items, including a sunken boat, dump truck, and garage. Students then had the chance to visit with local colleges and universities about programs and discussed career options with area organizations. Other activities included a water activity called ‘What’s in the bucket’ where students used water quality data to guess what each liquid was. A highlight was sitting in on Steve Stark’s illustrated history about the history of the Red River Basin. Each student experienced his message while he illustrated the region’s history right before their eyes on a 20-foot section of paper. Highlights from the proceedings for the day were covered in our [spring 2018 newsletter](#).

## **Real-Time Continuous Data Collection**

The DIY station acquisition was delayed because of component shortage issues. The supplier (Stroud Water Research Center) was unable to get all of the stations built and out to us until late October. A pilot station was deployed in 2018 within the Wild Rice Watershed and we plan on deploying seven (7) stations in the spring of 2019. Proposed station deployment will be within the Tamarac, Snake, Middle, Buffalo, Bois de Sioux, Clearwater and Wild Rice Watersheds. An example station configuration, a snap shot of 2018 data collected and a map showing the proposed 2019 station deployment locations are provided within *Appendix E*.

## **OVERSIGHT:** Project Management and Reporting

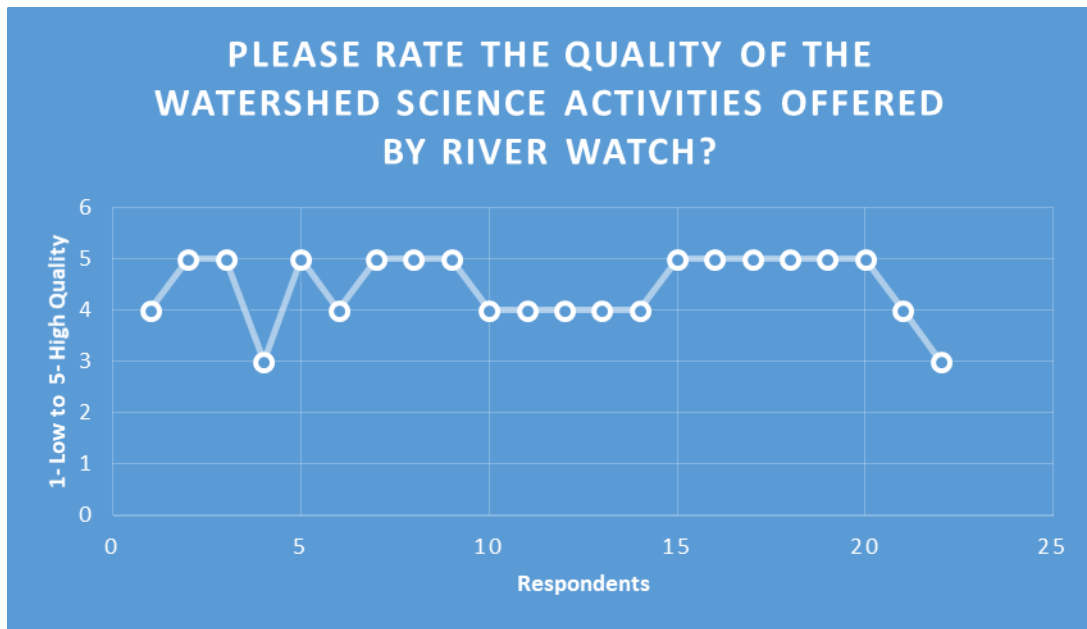
This DRAFT interim report was submitted to the MPCA project manager December 31, 2018. The FINAL Interim report will be submitted in February 2019 to the Commissioners of Education and MPCA and the Legislative and Education

Committees. Invoices have been submitted quarterly and below is a summary of the project budget covering January 2018 through December 2018.

| Project Budget       | MPCA Grant Funds Available | Total MPCA Funds Expended | Total Remaining Balance | % Budget Expended | % Scope Completed |
|----------------------|----------------------------|---------------------------|-------------------------|-------------------|-------------------|
|                      |                            |                           |                         |                   |                   |
|                      |                            |                           |                         |                   |                   |
| Personnel            |                            |                           |                         |                   |                   |
| Staff #1             | \$55,530.00                | \$29,951.55               | \$25,578.45             | 54%               |                   |
| Staff #2             | \$69,025.00                | \$31,611.25               | \$37,413.75             | 46%               |                   |
| Staff #3             | \$80,850.00                | \$36,452.50               | \$44,397.50             | 45%               |                   |
| Mileage              | \$17,816.00                | \$7,388.99                | \$10,427.01             | 41%               |                   |
| Equipment & Supplies | \$26,779.00                | \$14,030.74               | \$12,748.26             | 52%               |                   |
|                      |                            |                           |                         |                   |                   |
| <b>COLUMN TOTAL</b>  | <b>\$250,000.00</b>        | <b>\$119,435.03</b>       | <b>\$130,564.97</b>     |                   | <b>48%</b>        |

## Program Evaluation

Twenty-two (22) educators that were involved with the River Watch program during 2017 were provided an opportunity to give responses to a couple of program evaluation pieces. The first was to provide written responses to questions related to how River Watch programming is used and suggestions for improvement, the second was to complete an online survey. Seventeen (17) educators responded to the written directive and twenty-two (22) completed the online survey. A student written response evaluation piece of the 2018 summer camp and its activities was completed by eleven (11) students. Overall the educators are pleased with the program educational offerings and the students approved of the camp location, activities and educational content. Individual responses to the written surveys and a summary of the online survey are provided in *Appendix F*.



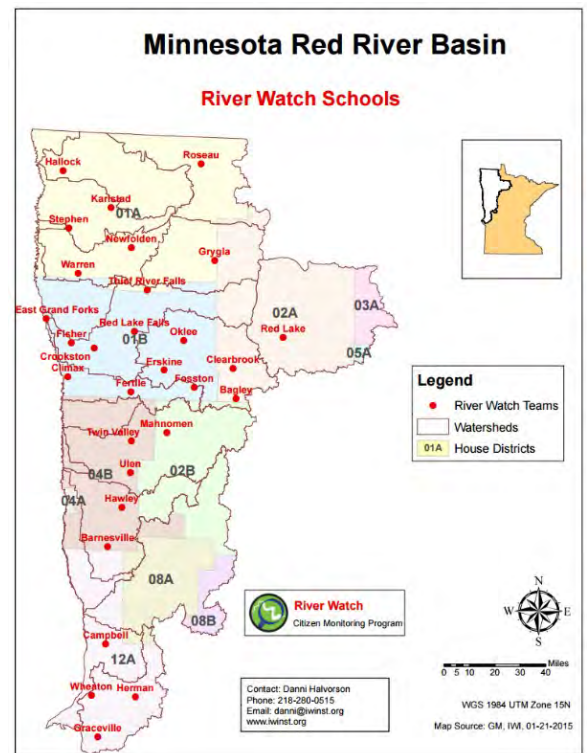
## Summary

Recognizing that our actions have consequences is a huge step toward meeting future water quality objectives. An educated and informed citizenry is required to ensure the protection, enhancement and restoration of MN's impaired waters.

A guiding principle for the Clean Water Council is to "...change individual and institutional behaviors on the landscape to accelerate water quality outcomes." Education is the most effective tool to change attitudes and behaviors. Governor Dayton's 25 by 25 report identified education as our greatest need and a top priority. As a "headwaters state," Minnesotans bear a unique responsibility as watershed stewards. It is imperative that our youth develop an understanding of watershed concepts and have the ability to grasp what this responsibility means. River Watch (RW) accomplishes this through a set of classroom and outdoor activities and experiences that are uniquely suited to prepare tomorrow's watershed stewards.

Support for the Red River Basin RW program is provided by the Red River Watershed Management Board, local watershed districts, and other regional partners. This collaboration has built a sustainable watershed education foundation across the Red River Basin. The RW program provides training to students who monitor physical and chemical conditions of local rivers using standard operating procedures. RW teams have collected data at 150 sites totaling over 10,000 visits to rivers, streams, and agricultural ditches in the Red River Basin. Data are used by the MN Pollution Control Agency to complement the state's assessment of surface waters.

Clean Water funds enable the IWI to build on this watershed education foundation by providing learning opportunities not afforded with traditional funding, specifically Biological Monitoring, River Explorers, Teacher Training, River Watch Forum, River of Dreams and Real-Time Monitoring activities. These activities expand the educational opportunities and provide a more comprehensive understanding of watersheds, promoting land and water stewardship to protect and improve Minnesota's valuable natural resources.





## APPENDICES

Appendix A: 2018 – 2019 Clean Water Fund Work Plan

Appendix B: River Of Dreams Highlights

Appendix C: Red River Explorers Summary

Appendix D: Stem Assistance – Trainings, Workshops, River Watch Forum

Appendix E: Real-Time Data Collection

Appendix F: Program Evaluation

## RED RIVER BASIN RIVER WATCH 2018 - 2019

### Clean Water Fund Project Work Plan

#### **Project Description: brief description/summary of proposed project**

*MN Legislative Clean Water Fund funding (\$250,000) to the Red River Watershed Management Board for the River Watch Program. River Watch (RW) enhances watershed understanding and awareness for tomorrow's decision-makers through direct hands-on, field-based experiential watershed science. Schools throughout the Red River of the North Basin participate in a variety of unique and innovative watershed engagement opportunities suited to their school, community, and watershed needs.*

***Project start date: January 1, 2018***

***Project end date: June 30, 2020***

Non-point source pollution is the leading source of water quality impacts on rivers and lakes. In the Red River Valley, as elsewhere in Minnesota, citizen involvement is crucial to identifying and reducing problems from non-point source pollution. This project will build on the foundation of the existing Red River Basin River Watch program.

The River Watch monitoring and education program engages citizens through field-based applied science in their local watersheds. Working collaborations between Watershed Districts, local schools and River Watch staff support science, technology, engineering and math (STEM) skills development to expand student awareness and understanding of local watershed issues. River Watch teams engage in water quality monitoring, scientific research and education initiatives across the Red River Basin, extending the amount of data available for assessing our watershed health and contributing to improved awareness and involvement in watershed management.

The River Watch program will be delivered through an effective working partnership between local schools and communities; local, state, and federal agencies; and academic institutions throughout the Red River Basin (<http://www.iwinst.org/education>). The Red River Watershed Management Board (RRWMB) will be the project sponsor with lead coordination and project management provided by the International Water Institute.

**Work Tasks in bold** below followed by *measurable outcomes in italics* directly below task.

**STUDENT ENGAGEMENT:** Engage elementary students in River of Dreams (ROD) a hands-on education program focused on the valuable river resources of the Red River Basin. Provide integrated classroom and outdoor experiences that; build awareness of river ecosystems and watershed connections, increase student capacity to make informed decisions about their environment and instill a sense of place about the uniqueness of their local watershed—historic, economic, and ecological

**Work tasks/Measureable outcomes:**

**Develop a standard process for implementing ROD activities in the Red River Basin.**

- *Resources developed and/or adapted to connect local elementary students to their local watersheds. Completed May 2018.*
- *Training for education staff on use of new resources and presentation techniques for ROD activities. Completed June 2018.*

**Secure participation and implement ROD activities in 26 elementary classrooms in the Red River Basin.**

- *School contacts. Solicit classrooms to be involved. Identify lead teacher and determine the number of students to be involved. Completed November 2018 (13 classrooms) and November 2019 (13 classrooms).*
- *School classrooms sessions. Purchase, prepare and deliver classroom and field materials. Hold classrooms sessions to present materials and go over program expectations. Completed November 2018 (13 classrooms) and November 2019 (13 classrooms).*
- *Field sessions with ROD participants. Release of individual ROD canoes and review of watershed lessons learned by students. Completed November 2018 (13 sessions) and November 2019 (13 sessions).*
- *Teacher evaluation of implementation, problems, and highlights of ROD activities, as well as pre/post surveys of students. Completed December 2019. Results will be reported as part of Final Report due June 30, 2020.*

**RED RIVER EXPLORERS PADDLING PROGRAM:** Increase awareness and knowledge of local land use and watershed connections through a Red River Explorers Paddling Program to allow RW teams and community members to “water-truth” streams in the Red River Basin, documenting local watershed conditions.

**Work tasks/Measureable outcomes:**

**Red River Explorers Paddling Program river route determinations to allow RW teams and community members to safely explore and document river conditions.**

- *IWI paddling staff scout rivers at different water levels to assess safety and water levels needed for safe passage by RW student exploratory teams. Ongoing through 2019.*
- *Equipment and materials purchased for river trips and documenting field conditions. Completed July 2019.*

**Lead 8 guided river ecology excursions in both 2018 and 2019 on various reaches of rivers in the Red River Basin.**

- *Sixteen guided river ecology excursions in the Red River Basin, all utilizing GPS and mapping/photo documentation of baseline geomorphology and recreation conditions. Completed November 2019.*
- *Create and share information from river trips on IWI website via on-line map and multimedia reports. Reports may include the following; number of trip participants, river route and reaches covered, photo-documentation of river conditions, and a summary of observations by trip participants on river conditions and recreation suitability. Completed December 2019.*
- *Final Report to include river miles explored, number of participants and links to all of trip reports Completed June 30, 2020.*

**Watershed Connections: Macroinvertebrates, Stream tables, groundwater models, and outreach.**

- *Provide macroinvertebrate monitoring, stream and ground water resource materials and equipment for RW schools with assistance from IWI staff. Ongoing over contract period, completed January 2019.*
- *Evaluation (self-reported) of changes in knowledge, attitude and perceptions of local rivers after macroinvertebrate sampling, stream table and/or groundwater model exposure. To be completed January 2020 and included in Final Report due June 30, 2020.*
- *Produce and distribute a quarterly electronic newsletter that promotes watershed education and awareness in the Red River Basin. 8 newsletters developed over the contract period. Completed December 2019.*

**STEM ASSISTANCE:** Assist in provision of Science, Technology, Engineering and Math (STEM) education and engagement opportunities through watershed science.

**Work tasks/Measureable outcomes:**

**Provide professional teacher development through watershed inquiry and education opportunities. Regional fall kick-off events, incorporating team building skills, local watershed project presentations and data interpretation will be held for RW teachers and youth leaders. Summer training sessions will be held for teachers and RW team captains to provide extended learning opportunities on watershed topics such as river ecology, watershed connections, and biological monitoring.**

- *2-3 regional fall kick-off events in both 2018 and 2019; one summer teacher and one summer youth training session. Summary report will be provided to document participants at regional kick-off events, topics covered, and evaluation comments from participants. A summary report will also be provided for the summer trainings documenting participation, materials presented, and evaluation summary from participants. Completed December 2019.*

**Utilize the annual River Watch Forum to provide exposure to relevant research topics and an opportunity to present findings from current research involvements. Provide opportunities for youth to engage in scientific research and outreach.**

- *River Watch Forum presented in February 2018 and 2019 with keynote speaker and concurrent sessions focused on emerging watershed education and research. Poster displays, written reports and/or video presentations of assigned research topics, service learning projects and special investigations by RW teams in collaboration with watershed partners. Completed April 2019.*
- *Summary report written to document participating RW teams/schools and highlighting awards and watersheds represented in research, with links to posters. To be completed by June 30, 2018 and June 30, 2019 and included in Final Report due June 30, 2020.*

**Expand stream monitoring activities to include real-time continuous data collection. Provide opportunities for youth to engage in the construction, deployment and data analysis of continuous monitoring stations.**

- *Solicit RW teams to be involved. Identify deployment locations and purchase equipment to build 6 continuous monitoring stations. Completed June 2018.*
- *School classrooms sessions. Hold 6 classroom sessions to present materials and build monitoring stations. Completed December 2018.*
- *Field sessions to install monitoring stations. Deploy 6 stations, instruct on maintenance and data download. Completed June 2019.*
- *Teacher and student evaluation of implementation, problems, and highlights of continuous monitoring activities. Completed December 2019. Results will be reported as part of Final Report due June 30, 2020.*

**OVERSIGHT: Project Management and Reporting**

**Work tasks/Measureable outcomes:**

**Track project grant-related expenditures. Compile and organize invoices, pay bills and submit for expense reimbursements in a timely manner.**

- *Grant-related expenditures tracked, bills paid and expense reimbursements submitted at least quarterly.*


**Track objectives and tasks to ensure outcomes are being met. Prepare and complete reports and results from the Red River Basin River Watch program as follows:**

- *Interim report of project status and budget to MPCA by December 31, 2018.*
- *Interim report and initial evaluation to Commissioners of Education, MPCA and Legislative and Education Committees by February 15, 2019.*
- *Final report of project outcomes, budget, and final evaluation results by June 30, 2020 to all entities receiving February 15, 2019 report noted above.*





## River of Dreams

### A Watershed Education Program

 International Water Institute

Funding and Support Provided by:

## “Paddle-to-the-Sea”



- Key terms:

- Watershed
- Headwaters
- Tributary
- Confluence
- Outlet
- Mouth


## River of Dreams

Goals:

- Establish a sense of place
- Introduce watershed concepts
- Inspire creativity and encourage imagination

Our responsibility as stewards:

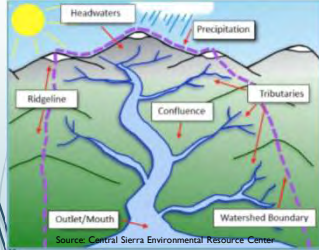
- ✓ Minnesota is a “headwaters state”



“...the kids seemed to be beginning to open their minds up to the idea of a bigger world than they'd thought they'd ever experience. Fun to think of where those thoughts may lead them.”

-Roy Mayeda, Campbell-Tintah HS River Watch advisor

## Watershed



- Purple outline, separated by ridgelines and elevation changes

\*The land sheds water in the form of runoff

Source: Central Sierra Environmental Resource Center


## River of Dreams

Program Components:

- Paddle-to-the-Sea
- Classroom Visit
  - Watershed Vocabulary, Mapping, and Virtual Tour
  - Canoe Design and Story Composition
- Canoe Display
- Canoe Launch Event



## Your Watershed



- What river runs closest to your school?
- Your **watershed** includes all the land which drains to this river.
- Where are the **headwaters** (beginning) and **outlet** (end)?
- Do any **tributary** rivers or creeks **confluence** with your river?
- Do you know any other towns located in the watershed?
- How long is your river?

### The Red River Basin

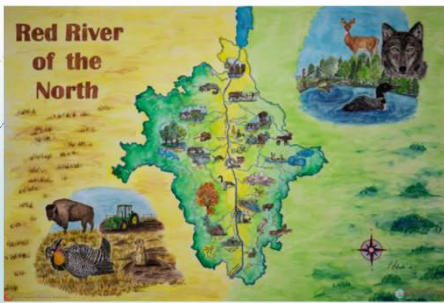
- Your river is a **tributary** to the Red River of the North.
- You are part of multiple watersheds as we zoom out to a larger extent.
- Tributary watersheds combine to make a bigger watershed, known as the Red River Basin.
- The Red River flows north to Canada and its **mouth** is at Lake Winnipeg's southern end.



### Fertile-Beltrami Student Dream

*Paddle-to-the-sea.  
How lonely will I be?  
Will I see a great owl?  
Or will I hear the wolves howl?  
Will I see a big moose?  
Or maybe a goose?  
Will I get stuck in a log?  
Or will I find a great bog?  
Wherever I go I am not close to home...or am I?  
Will I see Hudson Bay?  
If I do, will I want to stay?  
Wherever I am, I am not alone, everything around me is alive!  
I know I can survive! I am Paddle-to-the-sea!*

### The Red River Basin



### Canoe Decoration and Display



### Continental Drainage Basins



### Canoe Launch Events



- Field trip to local river
- Culmination of program
- Canoes launched and tracking begins!



### Riverofdreams.org

- >240 sightings in 2018
- Unique launch page per school
- Unique canoe page per student



### Parent and Teacher Testimonials

"...River of Dreams made my students more aware of the surrounding rivers and how they all connect..."

-Amy Roragen, Fertile-Beltrami 4<sup>th</sup> Grade Teacher



"...Ryker did teach us all about confluences because I got to go and see where the Missouri and the Yellowstone rivers meet...exciting for him to teach us about what he learned during all of the adventures you have taken the kids on."

-Parent, Crookston, MN

### 2018 Canoe Finds



Learning opportunities travel downstream and continue into the future

### Special Discovery: Lockport, Manitoba on 8-08-18

"While I was working at removing debris from in front of the dam, I came across your canoe. After recording the info, I released it on the low side of the dam so it can continue its journey. Hope you get to hear from it again."

— Adam, Lockport Dam

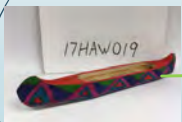


Photo above by Gordon Goldborough, 2015  
[http://www.mta.mb.ca/department/transportation/lockport\\_dam.html](http://www.mta.mb.ca/department/transportation/lockport_dam.html)

| <u>Date</u> | <u>Group Name</u>   | <u># in<br/>group</u> | <u># staff/<br/>other</u> | <u>Total</u> | <u>Water Body</u>        | <u>Miles</u> | <u>Total<br/>Miles</u> |
|-------------|---|-----------------------|---------------------------|--------------|--------------------------|--------------|------------------------|
| 5/15/2018   | NCE RW Team   | 11                    | 3                         | 14           | Wild Rice River          | 3.6          | 50.4                   |
| 5/23/2018   | MCC RW Team   | 12                    | 3                         | 15           | Middle River             | 3.1          | 46.5                   |
| 6/27/2018   | White Earth Math and Science Academy  | 32                    | 2                         | 34           | White Earth Lake         | 1.0          | 34                     |
| 7/17/2018   | River Watch Summer Retreat  | 15                    | 4                         | 19           | Red Lake River           | 2.0          | 38                     |
| 7/31/2018   | Stephen-Argyle Summer School  | 15                    | 2                         | 17           | Tamarac River in Stephen | 2.5          | 42.5                   |
| 9/17/2018   | Clearbrook-Gonvick, Marshall County Central, Red Lake, Red Lake County Central, Red Lake Falls Lafayette HS, Stephen-Argyle Central, Warren-Alvarado-Oslo | 66                    | 6                         | 72           | Red Lake River           | 3.0          | 216                    |
| 9/18/2018   | Crookston 4th and 5th Grade   | 190                   | 6                         | 196          | Red Lake River           | 1.0          | 196                    |
| 9/18/2018   | Crookston Residents   | 30                    | 6                         | 36           | Red Lake River           | 1.0          | 36                     |
| 9/19/2018   | East Grand Forks Sacred Heart, Fisher   | 21                    | 6                         | 27           | Red Lake River           | 3            | 81                     |
| 9/20/2018   | Barnesville, Campbell-Tintah, Hawley, Herman-Norcross, Norman County East   | 48                    | 6                         | 54           | Ottertail River          | 3            | 162                    |
|             |   | 440                   | 44                        | 484          | 0                        | 23.2         | 902.4                  |



# River Watch Summer Camp 2018 Recap



The International Water Institute gathered a group of student leaders from throughout the Red River Basin to participate in watershed education activities and leadership development.

## Agenda:

### July 17

10 am: Registration  
 11 am: Team Builders  
 12 pm: Lunch  
 1 pm: Basin Basics  
 2 pm: Depart for RLF  
 2:30 pm: Macro  
 Training and Sampling  
 4—8 pm: River Paddling Trip, Grilling, and Games,

### July 18

8 am: Breakfast  
 8:30 am: Leadership Compass  
 9:15 am: Shirt Tie-Dye  
 10 am: Central Park River Watch Olympics  
 12 pm: Lunch and Discussion: “Bringing it Back” to School  
 1 pm: Monitoring Station Data and Information  
 1:30 pm: Closing Remarks/Discussion

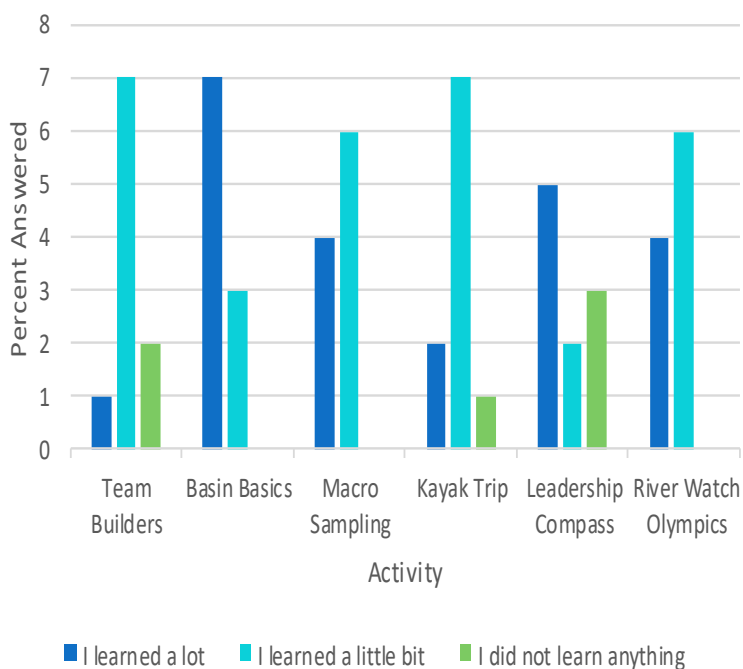




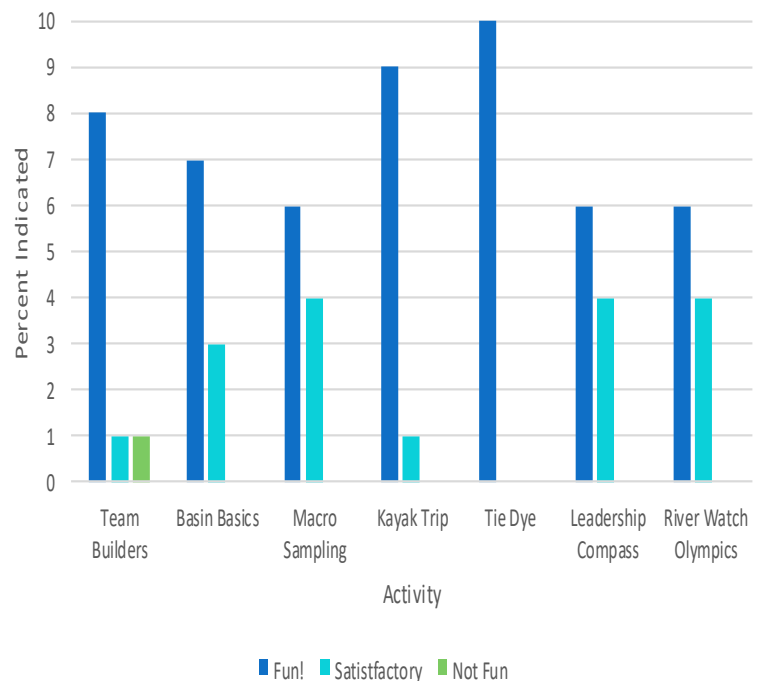
# What our students had to say:



## Activity "Take Aways"



## Activity Enjoyment





## 2018 River Watch Fall Kickoff Schedule Sept 19<sup>th</sup> in East Grand Forks (Fairfield Inn)

Fairfield Inn  
514 Gateway Dr NE  
East Grand Forks, MN 56721

Eagle Point Park  
1<sup>st</sup> Street Southeast  
East Grand Forks, MN 56721



| Time  | Group 1  | Group 2  |
|-------|--|--|
| 9:00  | Arrive at Fairfield Inn  | Arrive at Fairfield Inn  |
| 9:15  | Depart for Eagle Point Park  | Relay  |
| 9:30  | At landing for safety talk, boat captain introduction, life jacket sizing, etc | RW Introductions and Assignment  |
| 9:45  | River Talk   | ArcGIS Online  |
| 10:00 | Launch Boats (Paddle on Red Lake River)  | Grading RW Staff's Assignment  |
| 11:00 | Return to Landing  | Worksheet  |
| 11:15 | Lunch at Park  | Depart for Eagle Point Park  |
| 11:45 | Lunch at Park  | Lunch at Park  |
| 12:00 | Depart Park for Fairfield Inn  | At landing for safety talk, boat captain introduction, life jacket sizing, etc |
| 12:15 | Relay  | River Talk   |
| 12:30 | RW Introductions and Assignment  | Launch Boats (Paddle on Red Lake River)  |
| 1:00  | ArcGIS Online  |  |
| 1:15  | Grading RW Staff's Assignment  |  |
| 1:30  | Worksheet  | Return to Landing  |
|       | Depart from Fairfield Inn  | Depart from Park   |

## 2019 River Watch Forum Assignment Data Driven Watershed Problem Solving

Examine your watershed, find an issue or problem, and propose a solution (**If it was this easy there wouldn't be any problems left**). Watersheds are complex because it's more than water flowing from upstream to downstream. There are laws at federal, state, and local levels. There are landowner rights. There are differing views. Things get expensive. Non-point pollution, by definition, is hard to identify at its source.

**Be thoughtful, creative, and innovative—and have fun!**

- Identify an issue or problem in your watershed (reach out to local groups/agencies for assistance and partnership—maybe they're already working on it)
- Propose a possible solution to your issue or problem.
- Support with data (Quantitative, Observational, Expert Interview, Etc.)
- Pitch your solution to the issue:
  - Within your pitch, explain how this solution would address the problem you identified and how you were able to identify that problem
  - A part of your assignment is to present to a group to get feedback on your concept (include “takeaways” from that presentation within your assignment)
- WHAT IS TURNED IN TO IWI/RIVER WATCH STAFF:
  - An ArcGIS Story Map link to be viewed that includes:
    - Description of the problem you identified.
    - How you identified your problem (data/information used).
    - How are you going to solve your problem?
    - Who you presented your problem & solution to and their feedback. You may use the same presentation to present to your group, then add to it based off of your feedback or you can make a video that incorporates your presentation.
    - What are the realistic action steps that are needed to solve the problem?
  - Optional: incorporate photos and/or video into presentation.

Please review the rubric carefully and plan accordingly as you prepare your submissions.

### **Deliverables and Timeline**

October 12th, 2018: Submit problem/issue identified and agency/group you've contacted.

December 14th, 2018: Check-in: Story Map draft, scheduled 'pitch', action plan

February 13th, 2019: Final Story Map Due. Send final submissions to [danni@iwisnt.org](mailto:danni@iwisnt.org).

**February 27, 2019:** River Watch Forum at the Alerus Center Grand Forks, ND



## ***23<sup>rd</sup> Annual River Watch Forum***

**Theme: *River Watch in Action!***

**February 7th, 2018**

**Alerus Center-Grand Forks, ND**

8:30 Doors Open: Registration & Breakfast

9:30 Welcome & Opening Remarks

~~~ Keynote Address ~~~

9:45 Brad Durick: *Career Catfishing*

Fishing Guide, Author, and Owner of Brad Durick Outdoors LLC

10:20 What's Your Watershed IQ?

10:35 Announcements and Door Prizes

10:45 Group Rotations (30 minutes each)

-Steve Stark: Illustrated History

-College and Career Fair

-Q&A w/River Watch Staff

-Hands-on: What's in the bucket? & Virtual Sand Table

12:45 River Watch Pictures

1:00 Lunch (Buffet)-Stay seated at tables

1:30 2018-19 Announcements

1:40 Highlights of Service Learning Projects

2:00 Awards and Recognition of Service

2:15 Adjourn



**Red River Watershed  
Management Board**



**Red River Joint Water  
Resource District**

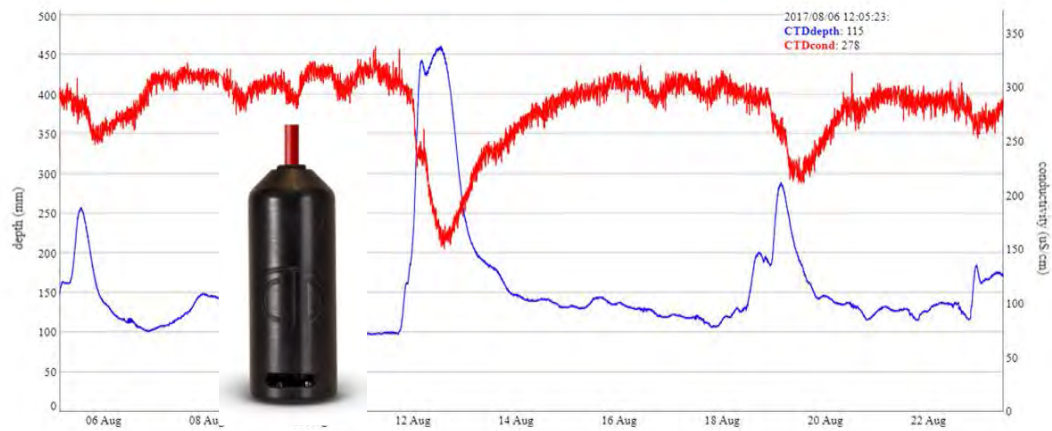


**United States  
Department of  
Agriculture**



**North Dakota  
State Water  
Commission**

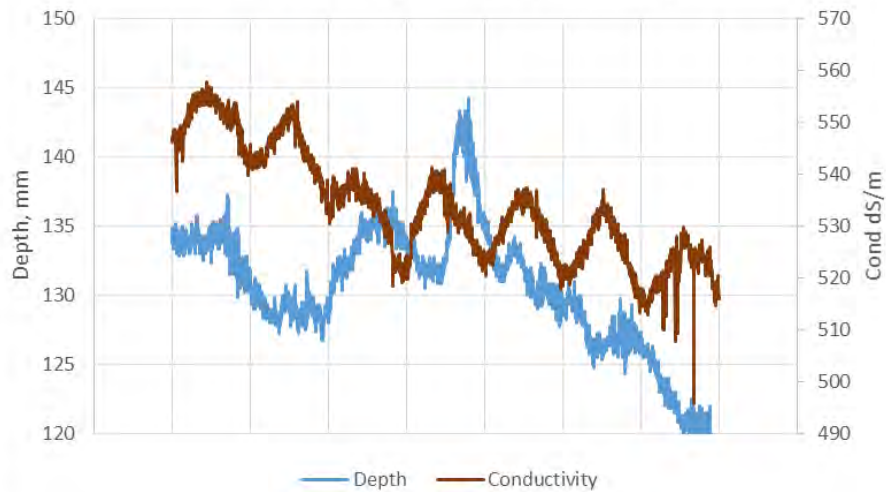
## Continuous Monitoring Station Information



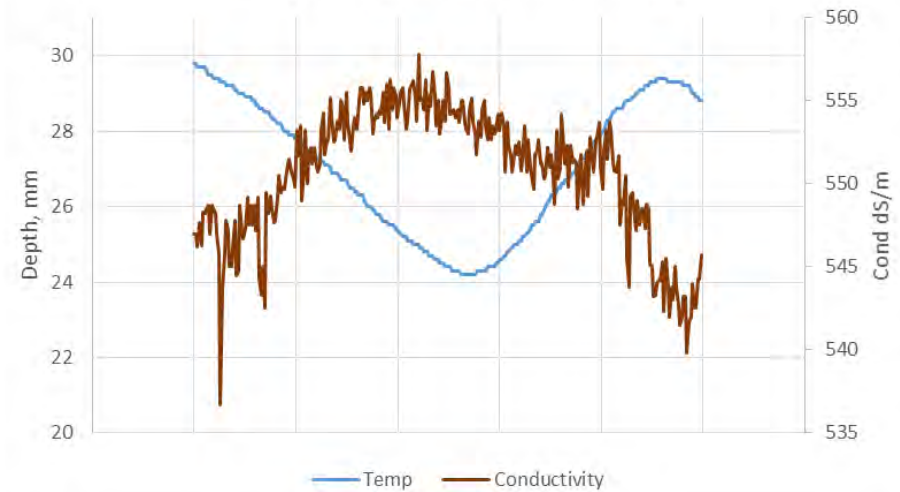


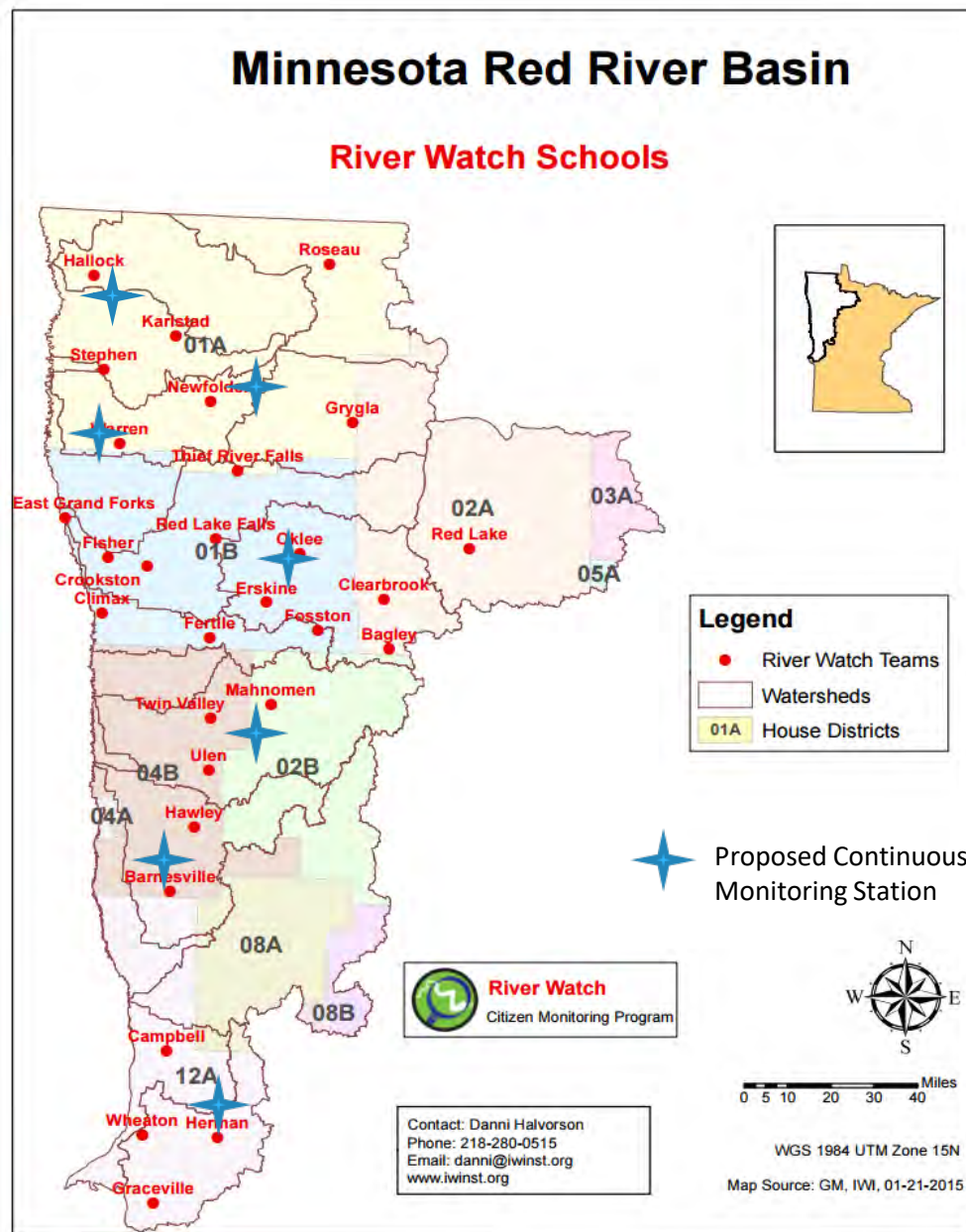
## Continuous Monitoring Pilot Station Data

A Week of Depth and Conductivity



A Day of Depth and Conductivity )





## River Watch Teacher Input 2018

### 1. Is River Watch an extracurricular activity or part of your course curriculum at your school? Please Explain.

- ✓ Both – we have extracurricular club and we also do RW in Grade 10 science. (MB)
- ✓ Extracurricular, 12 students who do a lot of sampling during the school day.
- ✓ Extracurricular. We love getting out and studying science and teaching 4<sup>th</sup> and 7<sup>th</sup> grade students about Nature, water, etc.
- ✓ Extracurricular. Students apply to be a team member. Any student grades 9-12 are eligible.
- ✓ RW is strictly an EC activity. We are able to leave school to sample once a month.
- ✓ Extracurricular – I ask for volunteers from 10<sup>th</sup> – 12<sup>th</sup> Grade.
- ✓ Extracurricular as of now with students from grades 8 – 12. Would like to eventually create curriculum for an elective class with help from Science and Social fields.
- ✓ Extracurricular and Enviro Science class in spring.
- ✓ Extracurricular.
- ✓ RW is extracurricular. I tried to do as a class, but didn't pan out as expected.
- ✓ Extracurricular. We miss classes to do this activity. Students get .25 credit – p/f, Macroinvertebrate study as fabulous.
- ✓ It is a course curriculum. We meet daily for 25 mins. The students get 1 credit every two years.
- ✓ Part of the curriculum – Environmental Science Class.
- ✓ Extracurricular – essentially a “club” activity. Students in 7 -12 can join from mid-late 7<sup>th</sup> grade onward. It does supplement the curriculum through all science classes.
- ✓ Extracurricular now but would be happy to build it into an elective curriculum.
- ✓ This year it is part of our course curriculum but next year I plan to make it an extracurricular activity.
- ✓ Extracurricular, we currently have no room in our schedule to allow for this to be offered as course.

### 2. Please provide any suggestions related to IWI's watershed education program. For example, what needs do you have as a participant, are there any products (curriculum, guidance manual, etc.) that may be developed to better serve you.

- ✓ A manual which describes equipment and how to use it. For new students.
- ✓ We need a sonde unit so we can out and sample without Asher.
- ✓ IWI does a great job – cannot think of any suggestions.
- ✓ RW Ed database. A library for teachers to access watershed ED lessons.
- ✓ I would like Andy or someone to show my students GIS info and maps.
- ✓ It would be nice to have some basic watershed curriculum resources to teach kids before going out ... or also to teach elementary age kids = build for the future.
- ✓ Anything related to curriculum would be great.
- ✓ All my needs have been met.
- ✓ Provide a Calendar of events ... how many samples? When? Deadlines/events? Google calendar?
- ✓ More info for doing each project. Guidance manual would be good. Do not need curriculum, not a class for us.
- ✓ Testing supplies.
- ✓ A better curriculum that I can follow in the classroom between RW sampling days.
- ✓ Is there any information regarding fish planting available? Specifically MN requirements, costs, ways to determine likelihood of successful population establishment, etc..
- ✓ A curriculum manual would help our school get a class started. Andy did a great job of getting kids excited to participate. This is the first time motivating kids to come to Forum since I've been leading river watch (5 years).
- ✓ Develop a unit that ties directly to MN and ND State Standards for teachers to use in the classroom.

- ✓ As an extracurricular the program is a good fit.

**3. Do you have any suggestions for the 2019 River Watch Forum assignment and assessment?**

- ✓ Interview someone in the field and write a career report. (MB)
- ✓ Pick your own activity like we used to do.
- ✓ Assignment: Free Choice- expand on a previous project; Assessment: A more detailed rubric.
- ✓ Another community project or a history assignment of the community.
- ✓ I like Alerus as a location.
- ✓ I liked the poster element = to create something “physical” that can be displayed for all to see at the Forum and in our respective school. We enjoy doing videos! Having teams present to local service groups/civic groups was huge this year!
- ✓ It works better for us when more of the timeframe overlaps with Spring Semester.
- ✓ I enjoy the video submissions. I prefer that over making a poster.
- ✓ Lose the judging...This could open up ideas to more inquiry/interest based projects since they don't need to be judged based on same requirements.
- ✓ I liked the assignment this year.
- ✓ I like having school visits by staff members when the assignment is more in depth with data and technology.
- ✓ I like the Forum interviews better. If the kids aren't super “techy” it gives them a chance to share their passion and not be judged on creativity/ability to use iMovie.
- ✓ Bring back peer judging in some form.
- ✓ My students really liked video option rather than creating a poster.
- ✓ Commercial advertisement for River Watch and IWI. Mapping?
- ✓ Give more than one option; ideas “Your Impact on the Watershed – History of your Watershed”, “RW Education Activities you are Involved In?” “Point and nonpoint pollution in your watershed.
- ✓ Since we do this as an extracurricular this is the hardest part to implement with busy students. However, I believe this is a great part of River Watch.

**4. As part of our 2018\_19 River Watch Work Plan we will be holding 2-3 regional fall kick-off events in both 2018 and 2019; one summer teacher and one summer youth training session. Please provide any suggestions related to:**

- **Kick-off event locations, content and timing**

- ✓ Beginning of Sept.
- ✓ September
- ✓ One North and One South like usual and later in the fall it was too early this year.
- ✓ As early in the school year as possible. GF/EGF works great for us.
- ✓ Same as last year TRF works well for SAC.
- ✓ Always impressed with Fall Kick-Off best way to start things off.
- ✓ TRF is handy and not the week of Labor Day – not 1<sup>st</sup> week of school.
- ✓ Last year was fine.
- ✓ One week later – it was hard to have a team so soon after school started.
- ✓ Having one of the locations like TRF or Crookston works well for us. Content has been good. I think it is better for the students having it earlier like we have done the past couple years.
- ✓ Worked well in EGF.
- ✓ FM has been working well for us.
- ✓ September in Moorhead.
- ✓ Fishing in River and or Lake in the Fall.
- ✓ Early Fall works well just try and avoid the 1<sup>st</sup> week of September.

- **Teacher training location, content and timing**

- ✓ Summer
- ✓ Crookston
- ✓ June (summer) – Crookston or Fargo
- ✓ June or July at UMC, watershed ed classroom use.
- ✓ UMC mid-June, GIS etc..
- ✓ Have plenty of notice and maybe more than one date/option.
- ✓ Sounds great!
- ✓ The basics of water quality, no overnights, workshop style.
- ✓ Cover the material that will be part of fall project.
- ✓ All three of these are good.
- ✓ Last I went was UMC – seemed to have good resources nearby.
- ✓ September in Moorhead.
- ✓ Summer, build monitoring station, how to use data in class.
- ✓ Anytime, any location, any content.

- **Youth training/summer camp location, content and timing**

- ✓ Bemidji – building team skills
- ✓ UMC?
- ✓ UMC mid-June. Actual kayaking, canoeing, monitoring- training.
- ✓ Have it between mid-June and late-July, great concept.
- ✓ Hmm, could be good.
- ✓ Basics of water quality, no overnights.
- ✓ Make sure you get info to us in a timely fashion so that the students can decide if they wish to participate. Raise awareness of the resources around us.
- ✓ I have not been able to attend this.
- ✓ Leadership/organization, connection of environmental studies to other topics/career areas. Avoid late summer – start of sports practices.
- ✓ Early Fall, job opportunities.
- ✓ Anytime, any location, any content.



| Timestamp          | How many years of River Watch experience do you have? | How does the River Watch program offerings help meet your educational teaching requirements? | Overall, how satisfied or dissatisfied are you with the River Watch program offerings? | Please rate the quality of the watershed science activities offered by River Watch? | Please rate the staff that assist you with your River Watch activities? |
|--------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 3/15/2017 10:39:23 | 3                                                     | 4                                                                                            | 4                                                                                      | 4                                                                                   | 5                                                                       |
| 3/15/2017 10:43:46 | 2                                                     | 5                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:45:09 | 6+                                                    | 5                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:54:53 | 2                                                     | 4                                                                                            | 5                                                                                      | 3                                                                                   | 5                                                                       |
| 3/15/2017 10:55:08 | 6+                                                    | 4                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:55:22 | 2                                                     | 4                                                                                            | 5                                                                                      | 4                                                                                   | 5                                                                       |
| 3/15/2017 10:55:27 | 4                                                     | 4                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:55:31 | 6+                                                    | 4                                                                                            | 4                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:55:35 | 2                                                     | 4                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:55:40 | 6+                                                    | 5                                                                                            | 5                                                                                      | 4                                                                                   | 5                                                                       |
| 3/15/2017 10:55:40 | 6+                                                    | 5                                                                                            | 5                                                                                      | 4                                                                                   | 4                                                                       |
| 3/15/2017 10:55:41 | 1                                                     | 4                                                                                            | 4                                                                                      | 4                                                                                   | 5                                                                       |
| 3/15/2017 10:55:49 | 6+                                                    | 3                                                                                            | 4                                                                                      | 4                                                                                   | 4                                                                       |
| 3/15/2017 10:55:59 | 6+                                                    | 4                                                                                            | 4                                                                                      | 4                                                                                   | 5                                                                       |
| 3/15/2017 10:56:00 | 6+                                                    | 5                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:56:00 | 6+                                                    | 5                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:56:45 | 1                                                     | 4                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:56:50 | 6+                                                    | 2                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:57:20 | 6+                                                    | 5                                                                                            | 5                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:57:38 | 6+                                                    | 4                                                                                            | 4                                                                                      | 5                                                                                   | 5                                                                       |
| 3/15/2017 10:57:58 | 6+                                                    | 3                                                                                            | 4                                                                                      | 4                                                                                   | 4                                                                       |
| 3/15/2017 10:58:31 | <1                                                    | 3                                                                                            | 3                                                                                      | 3                                                                                   | 3                                                                       |
| <b>Scale Key</b>   |                                                       | <b>1 not at all, 5 exceeds</b>                                                               | <b>1 dissatisfied, 5 very Satisfied</b>                                                | <b>1 low quality, 5 high quality</b>                                                | <b>1 poor, 5 excellent</b>                                              |

| Timestamp          | In 2016-2017, which of the following River Watch program offerings have you participated in? (check all that apply) | How likely are you to continue utilizing the River Watch programs? | How likely is it that you would recommend River Watch to a colleague or neighboring school? | Which do you prefer as a requirement for the River Watch Forum assignment? |
|--------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 3/15/2017 10:39:23 | Stream water quality monitoring, River Explorers, Fall Kick-Off, River of Dreams                                    | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:43:46 | Stream water quality monitoring, River Explorers, Fall Kick-Off                                                     | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:45:09 | Stream water quality monitoring, Fall Kick-Off                                                                      | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:54:53 | Stream water quality monitoring, River Explorers, Fall Kick-Off, River of Dreams                                    | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:08 | Stream water quality monitoring, River Explorers, Fall Kick-Off                                                     | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:22 | Stream water quality monitoring, Fall Kick-Off                                                                      | 5                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:55:27 | Macroinvertebrate monitoring, Snow Study, Fall Kick-Off                                                             | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:31 | Stream water quality monitoring, River Explorers, River of Dreams                                                   | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:35 | Stream water quality monitoring, Fall Kick-Off                                                                      | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:40 | Stream water quality monitoring, Fall Kick-Off                                                                      | 5                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:55:40 | Stream water quality monitoring, Macroinvertebrate monitoring, River Explorers, Snow Study                          | 4                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:55:41 | Stream water quality monitoring, River Explorers, Fall Kick-Off                                                     | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:55:49 | Stream water quality monitoring                                                                                     | 4                                                                  | 4                                                                                           | 4 Poster and Video Submission                                              |
| 3/15/2017 10:55:59 | Stream water quality monitoring, Fall Kick-Off, River of Dreams                                                     | 5                                                                  | 4                                                                                           | 4 Poster and Video Submission                                              |
| 3/15/2017 10:56:00 | Stream water quality monitoring, Macroinvertebrate monitoring, River Explorers                                      | 5                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:56:00 | Stream water quality monitoring, Macroinvertebrate monitoring, River Explorers, Snow Study, Fall Kick-Off           | 5                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:56:45 | Stream water quality monitoring, River Explorers                                                                    | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:56:50 | Stream water quality monitoring, Fall Kick-Off                                                                      | 5                                                                  | 5                                                                                           | 5 Poster and Video Submission                                              |
| 3/15/2017 10:57:20 | Stream water quality monitoring                                                                                     | 5                                                                  | 5                                                                                           | 5 Poster and Forum Presentation                                            |
| 3/15/2017 10:57:38 | Stream water quality monitoring, Fall Kick-Off                                                                      | 4                                                                  | 4                                                                                           | 4 Poster and Video Submission                                              |
| 3/15/2017 10:57:58 | Stream water quality monitoring, Fall Kick-Off, River of Dreams                                                     | 5                                                                  | 4                                                                                           | 4 Poster and Forum Presentation                                            |
| 3/15/2017 10:58:31 | Stream water quality monitoring, Macroinvertebrate monitoring                                                       | 3                                                                  | 3                                                                                           | 3 Poster and Video Submission                                              |
|                    | <b>Scale Key</b>                                                                                                    | <b>1 not likely, 5 extremely likely</b>                            | <b>1 not likely, 5 extremely likely</b>                                                     |                                                                            |

| Question                                                                                  | Student 1                                    | Student 2              | Student 3                     | Student 4                     | Student 5                |
|-------------------------------------------------------------------------------------------|----------------------------------------------|------------------------|-------------------------------|-------------------------------|--------------------------|
| Rate the following activities in terms of your level of enjoyment: [Team Builders]        | Satisfactory                                 | Not Fun                | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of your level of enjoyment: [Basin Basics]         | Satisfactory                                 | Fun!                   | Satisfactory                  |                               | Satisfactory             |
| Rate the following activities in terms of your level of enjoyment: [Macro Sampling]       | Satisfactory                                 | Fun!                   | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of your level of enjoyment: [Kayak Trip]           | Satisfactory                                 | Fun!                   | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of your level of enjoyment: [Leadership Compass]   | Fun!                                         | Satisfactory           | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of your level of enjoyment: [Tie-dye]              | Fun!                                         | Fun!                   | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of your level of enjoyment: [River Watch Olympics] | Fun!                                         | Fun!                   | Fun!                          |                               | Fun!                     |
| Rate the following activities in terms of educational experiences: [Team Builders]        | I learned a lot                              | I learned a little bit | I learned a little bit        |                               | I learned a little bit   |
| Rate the following activities in terms of educational experiences: [Basin Basics]         | I learned a little bit                       | I learned a lot        | I learned a lot               |                               | I learned a little bit   |
| Rate the following activities in terms of educational experiences: [Macro Sampling]       | I learned a little bit                       | I learned a little bit | I learned a lot               |                               | I learned a little bit   |
| Rate the following activities in terms of educational experiences: [Kayak Trip]           | I learned a little bit                       | I learned a little bit | I did not learn anything      |                               | I learned a lot          |
| Rate the following activities in terms of educational experiences: [Leadership Compass]   | I learned a lot                              | I learned a little bit | I learned a lot               |                               | I learned a lot          |
| Rate the following activities in terms of educational experiences: [Tie-dye]              | I learned a little bit                       | I learned a little bit | I did not learn anything      |                               | I did not learn anything |
| Rate the following activities in terms of educational experiences: [River Watch Olympics] | I learned a little bit                       | I learned a little bit | I learned a lot               |                               | I learned a lot          |
| What was your favorite camp activity?                                                     | Gonna have to pick kayak and smores!         | Kayak trip             | Vanilla Ice Jams and Olympics | Vanilla Ice Jams and Olympics | Kayak trip               |
| What was your least favorite camp activity?                                               | I just get tired of being outside sometimes. | Team builders          | Macro sampling                | Macro sampling                | None                     |
| Rate your lodging, meals, and facilities at UMC:                                          | Good                                         | Good                   | Good                          |                               | Good                     |
| Did you feel prepared for camp, based on what Andy or Asher communicated?                 | Yes                                          | Yes                    | Yes                           |                               | Kinda-sorta              |
| Now that you have made it through, would you attend River Watch Camp again?               | Yes                                          | Yes                    | Yes                           |                               | Yes                      |

| Question                                                                                  | Student 6                | Student 7                  | Student 8                | Student 9                | Student 10                        | Student 11                 |
|-------------------------------------------------------------------------------------------|--------------------------|----------------------------|--------------------------|--------------------------|-----------------------------------|----------------------------|
| Rate the following activities in terms of your level of enjoyment: [Team Builders]        | Fun!                     | Fun!                       | Fun!                     | Fun!                     | Fun!                              | Fun!                       |
| Rate the following activities in terms of your level of enjoyment: [Basin Basics]         | Satisfactory             | Satisfactory               | Not Fun                  | Satisfactory             | Fun!                              | Satisfactory               |
| Rate the following activities in terms of your level of enjoyment: [Macro Sampling]       | Fun!                     | Satisfactory               | Fun!                     | Satisfactory             | Fun!                              | Satisfactory               |
| Rate the following activities in terms of your level of enjoyment: [Kayak Trip]           | Fun!                     | Fun!                       | Fun!                     | Fun!                     | Fun!                              | Fun!                       |
| Rate the following activities in terms of your level of enjoyment: [Leadership Compass]   | Fun!                     | Satisfactory               | Fun!                     | Satisfactory             | Fun!                              | Satisfactory               |
| Rate the following activities in terms of your level of enjoyment: [Tie-dye]              | Fun!                     | Fun!                       | Fun!                     | Fun!                     | Fun!                              | Fun!                       |
| Rate the following activities in terms of your level of enjoyment: [River Watch Olympics] | Satisfactory             | Satisfactory               | Satisfactory             | Fun!                     | Fun!                              | Satisfactory               |
| Rate the following activities in terms of educational experiences: [Team Builders]        | I learned a little bit   | I did not learn anything   | I learned a little bit   | I learned a little bit   | I learned a little bit            | I did not learn anything   |
| Rate the following activities in terms of educational experiences: [Basin Basics]         | I learned a lot          | I learned a lot            | I learned a little bit   | I learned a lot          | I learned a lot                   | I learned a lot            |
| Rate the following activities in terms of educational experiences: [Macro Sampling]       | I learned a lot          | I learned a little bit     | I learned a lot          | I learned a little bit   | I learned a lot                   | I learned a little bit     |
| Rate the following activities in terms of educational experiences: [Kayak Trip]           | I learned a little bit   | I learned a little bit     | I learned a little bit   | I learned a lot          | I learned a little bit            | I learned a little bit     |
| Rate the following activities in terms of educational experiences: [Leadership Compass]   | I learned a lot          | I did not learn anything   | I learned a lot          | I learned a little bit   | I learned a lot                   | I did not learn anything   |
| Rate the following activities in terms of educational experiences: [Tie-dye]              | I did not learn anything | I did not learn anything   | I did not learn anything | I did not learn anything | I learned a little bit            | I did not learn anything   |
| Rate the following activities in terms of educational experiences: [River Watch Olympics] | I learned a little bit   | I learned a little bit     | I learned a lot          | I learned a little bit   | I learned a lot                   | I learned a little bit     |
| What was your favorite camp activity?                                                     | Making smores!!          | Kayaking and team builders | Tye dying or kiyaking    | The kayak trip           | Leadership Compass and Kayak Trip | Kayaking and team builders |
| What was your least favorite camp activity?                                               |                          | Leadership Compass         | Basin basics             | Nothing stands out       | Basin Basics                      | Leadership Compass         |
| Rate your lodging, meals, and facilities at UMC:                                          | Good                     | Good                       | Good                     | Good                     | Good                              | Good                       |
| Did you feel prepared for camp, based on what Andy or Asher communicated?                 | Yes                      | Yes                        | Yes                      | Yes                      | Yes                               | Yes                        |
| Now that you have made it through, would you attend River Watch Camp again?               | Yes                      | Yes                        | Yes                      | Yes                      | Yes                               | Yes                        |