

## Midwest Focus

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*Nicolville residents and project partners participate in groundbreaking ceremony for Nicolville Sewer Project. Photo: Aaron Wills*

## Ready, Set, Flush!

### Protecting the Waters of Southeastern Minnesota

by Aaron Wills

Southeast Minnesota is home to beautiful bluffs, springs, caves and dozens of streams capable of supporting trout. The region varies from flat former prairie land now dominated by row-crop agriculture to the Driftless Area, known for its karst topography and cold water streams. Many of the region's rivers are Minnesota state water trails and the Cannon River is a Minnesota wild and scenic river.

A significant pollution problem throughout Southeast Minnesota is from old, non-compliant or straight-pipe septic systems. Amazingly, there are many small communities in Southeast Minnesota that up until a few years ago still discharged

untreated sewage directly into our waterways, and some that still do!?

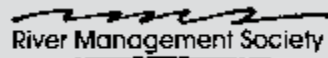
In response to this problem, in 2002 the Southeast Minnesota Wastewater Initiative was formed. The Wastewater Initiative is a partnership of the Cannon River Watershed Partnership (a nonprofit), the SE Minnesota Water Resources Board (a joint powers board of counties), and the Minnesota Pollution Control Agency (a state agency), and is funded by Minnesota's Clean Water Fund. Locally, the project is affectionately known as the "Sewer Squad". Since 2002, the Wastewater Initiative has helped twenty-one small communities upgrade their

sewage treatment systems, eliminating 290,740 gallons of untreated sewage per day (106 million gallons per year!) from entering the lakes, streams, and rivers of Southeast Minnesota. Another ten communities are currently working towards a new sewage treatment system with the Wastewater Initiative's assistance.

The Wastewater Initiative staff consists of two facilitators to assist small communities throughout the 13 county area of Southeast Minnesota. The communities the Wastewater Initiative serves are small cities, unincorporated villages, properties around a lake, or just

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*The mission of RMS is to support  
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manage North America's rivers.*

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purpose of this policy is to encourage the  
free exchange of ideas concerning river  
management issues in an open forum of  
communication and networking among the  
RMS membership. Unless indicated, points of  
view are those of the author and not RMS.

## Executive Director's Eddy

### What's new for 2015?

“What *isn't* new?” might be a more appropriate question. RMS is as busy as can be to serve members with chapter activity, conferences and workshops, webinars and the many new skills and insights of new national and chapter board officers.

For starters, this odd-numbered year debuts the first since 1995 in which we will not be coordinating an Interagency River Management Workshop. The reason is the federal agencies that have supported the event in the past no longer do. However, in light of the notion that we are here to network members and professional river colleagues, we are partnering to pursue our mission in different ways. RMS will be involved in several ‘on-mission’ events this year:

- We have completed the first in our 2014-2015 series of *RMS Webinars*, and will continue them through late June. Soon after a webinar is completed its recording is posted on the RMS Workshops webpage and registration for the next one opens. We are improving our skills at conducting these events, and by the time we finish up, we may just have the process down cold!

- RMS is coordinating a “River Management Track” at River Network’s 2015 *River Rally* in Santa Ana Pueblo, NM, (May 1-4) thanks to our partnership with River Network.

- We are providing program input, logistics and administrative support for the 2015 *National Water Trails Forum* (June 24-26) in Ann Arbor, Michigan, thanks to the support from the National Park Service and partners at River Network (once again!) and Water Trails leaders in Southeastern Michigan.

- For the fourth year, RMS sits on the Steering Committee with other river and watershed groups that kicked off the *Cross Watershed Network* (XWN) with its new website, [www.crosswatershed.net](http://www.crosswatershed.net), and we look forward to participating in the third annual XWN Restoration Workshop at a location to be determined soon.

- *River Ranger Rendezvous* – We will support the Southwest Chapter’s hosting of this event (Stay tuned for details!)

- In 2016, RMS is teaming up with the *Society of Outdoor Recreation*



Risa Shimoda

*Professionals* (SORP)—dusting off the successful partnership responsible for the 2010 RMS Symposium in Portland, OR. At this time, we may be changing our original plan to host folks in Boise, so stay tuned for updates.

We hope to see you at one or more events, and welcome feedback on your experiences at these ‘new odd-year’ partnership events!

More 2015 activities to share:

- *RMS Interns*. Besides continuing to benefit from the fine skills and enthusiasm of Marina Metes, we have welcomed two early career professionals to the team. Jack Henderson is in South Carolina working on a guide for landowners that addresses liability concerns for the burgeoning community of water trails developers and hosts. Natalie Warren is in Minnesota and hard at work researching and analyzing published reports and articles regarding the economic impact of water trails. We are extremely excited about the opportunity to meet and work with these folks, and you will see more from and about them in future RMS communications.

- *Handy Hydro Summaries*. We will be raising our nerd bar this year to once again add summaries of hydropower licenses and settlements to our library, thanks to the third year of support from the Arches Foundation and a grant from the Bureau of Land Management. These documents are pretty much worthless to most people, and super valuable to those

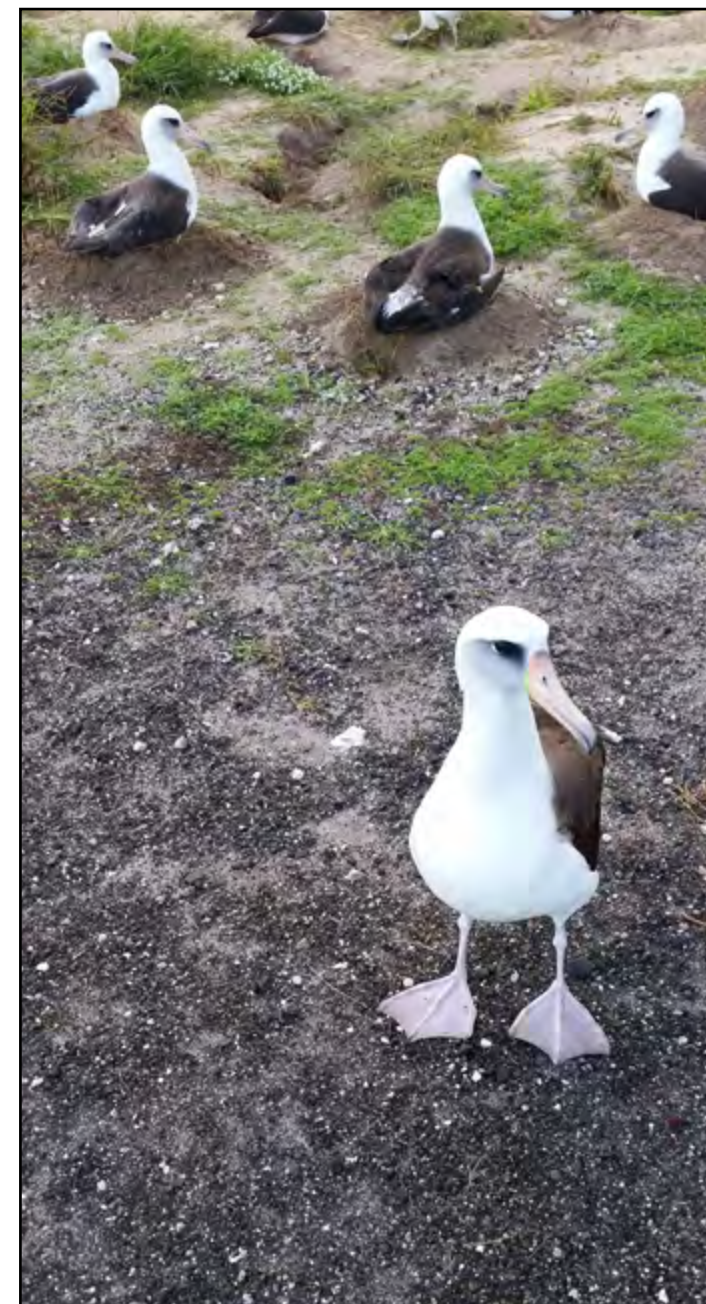
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## From the New RMS President

### Happy New Year RMS Journal readers!

You may ask what does an albatross (Laysan Albatross pictured) have to do with the River Management Society? Having just returned from three weeks surrounded by over a million of these wonderful birds, they are still very much on my mind. I spent the holidays as a volunteer counting albatross nests on Midway Atoll National Wildlife Refuge ([http://www.fws.gov/refuge/Midway\\_Atoll/](http://www.fws.gov/refuge/Midway_Atoll/)). At the same time, I was also thinking about RMS and our future.

The albatross is an amazing bird that reminds me of our organization. Albatrosses live for a long time – there is an albatross that is over 60 years old that still nests on the refuge. They are almost clumsy on land, yet graceful in flight. The



stronger the wind, the easier it is for an albatross to become airborne. They return to the same areas to nest year after year, yet they are adaptable. For example, birds are now nesting where there were once busy aircraft runways and in habitats where large stands of invasive plants

were recently removed.

Survival of albatrosses is

tied not just to where they nest but most of all to the health of the seas from which they obtain their food. And of course, the health of our seas is also tied to the health of our rivers.

So I see the albatross as a possible symbol for things that I hope will be part of RMS: We will be around for a long time; we will embrace the things that have made us successful and take on new challenges; we will be adaptable and accepting of change; and we will be a strong viable organization.

I want to ask you to help me and your fellow RMS members. I’m issuing a challenge to every RMS member to recruit one new member this year. If we all got just one colleague/friend/associate to join us, RMS would double in size. Think about why you are a member of RMS and the benefits you receive from your membership. Think of someone you know who would similarly benefit, and ask that person to join.

As you think about the benefits you receive from RMS membership, also think about what additional benefits you would like to receive from your membership and let us know. Do you want more river trips, help with a vexing river management problem, an opportunity to share and celebrate a recent success or ...? Please let me, Executive Director Risa Shimoda, or RMS board members know how we can help and we will listen. Our contact information is listed in this journal and on the web site.

Your new national officers were introduced to you in the fall issue of this journal. This issue introduces you to some of the new chapter officers. I am very excited that most of our chapter officers are new to their positions this year – there is a lot of strength in an organization where new members step up regularly to new challenges. Also, thanks to the longer-term members who continue to serve. The new RMS officers at the national and chapter level provide an exciting mix of institutional knowledge and fresh ideas to help us grown our brand and our organization.

Best wishes for 2015 and please stay in touch.♦



Helen Clough

*Helen Clough*  
Helen Clough  
RMS President



# Moving Duluth's St. Louis River from Damaged to Special

by Molly MacGregor

When residents of Duluth, Minnesota, were asked to use one word to describe the St. Louis River – which defines the city's geography and history even more than Lake Superior – the responses broke evenly between “special” and “damaged”. That contradictory result reflects the community's response to the river's history. Yes, the river and the estuary it forms as it drains into Lake Superior is damaged. Since the mid-1800s, wetlands were dredged and filled to build a shipping channel and docks and industry on the shoreline. And, in the same time period, the river and estuary were fed discharge from sawmills, a steel plant and oil refineries, as well as storm water and municipal wastewater.

But the vision of the St. Louis River as special is prevailing. The community of Duluth is turning towards the river with exciting plans to make the St. Louis River an urban paddle sports destination. Nearly a quarter-million people voted Duluth is the nation's “Best Town Ever” in *Outside Magazine's* March 2014 town tournament. “Despite the weather, or maybe because of it,”

he says, “Duluthians are super passionate about this city,” Mayor Don Ness told *Outside Magazine*. The city has an extensive system of trails and open space. The new tax will connect that infrastructure with the St. Louis River and Estuary.

For example, Spirit Mountain is a city-owned downhill and Nordic skiing center in western Duluth. It could be connected to the estuary, and the backwaters of Tallus Island, which has been restored through the remediation work. There are plans to designate the shoreline and island as a state wildlife and aquatic management area. A proposed paddling sports center would balance out the recreation options that currently exist for hikers and mountain bike riders in warm weather; the city's development would help bring residents there for day trips, or possibly a longer paddle from several up- or down-estuary locations.

Closer to downtown is the Lake Superior Zoo, which lies next to Kingsbury Creek, which flooded famously in June 2012, sending animals out of the zoo and into Lake Superior.



Looking west from Spirit Lake on the estuary, gives an idea of Duluth's rugged setting; ice fishing keeps paddlers on the water even when it is hard!

Flood recovery work will help manage the connection between creek and the bay that marks the mouth of the creek in the estuary. The city has a campground that planners hope will be remodeled to encourage paddlers and day trippers to spend an afternoon on the water, and then possibly head downtown to one of Duluth's breweries to end a perfect day.

Building a world class paddling infrastructure is business as usual for Duluth, where civic passion is not dimmed by gloomy skies or deep freeze temperatures. “The city's entrepreneurial spirit and love of wilderness go way back,” *Outside Magazine* reported. “At the turn of the 20th century, Duluth had the most millionaires per capita of any city in the country, thanks to the timber, shipping, and mining industries. And those millionaires got outside: between 1911 and 1923, the Duluth Rowing Club won more than 20 national championships, and the 115-foot Big Chester ski jump—which towered above the pines at Chester Bowl ski hill, in the middle of the city—was once the largest in the world.”

The city's work to make the St. Louis River special again is an economic and community development scheme that isn't just for millionaires. The St. Louis

River and estuary connects the city to the reservation held by Fond du Lac Band of Ojibway and is home to the neighborhoods of West Duluth whose workers built the city's industrial economy. Neighborhood groups from West Duluth have banded together to create the St. Louis River Corridor Coalition and are actively seeking input on the city's vision to turn the river from damaged to special.

The website [www.stlouisestuary.org](http://www.stlouisestuary.org) has stories about the clean-up and redevelopment, including words from noted conservationists of the regions.

“Sig Olson [Minnesota naturalist and author, originally from Wisconsin] used to tell me, and he would write also, you don't need big ‘Wilderness’ to find wilderness, and very often you might even be better off finding your own little patch in the middle of some very busy stuff, and so the estuary really provides that opportunity if you're smart enough to exploit it,” said Dave Zentner, a longtime Duluth area activist and natural place advocate.

Construction begins this spring, so that Midwest Chapter members of the River Management Society hope to inaugurate the new paddling opportunities in Spring 2016.♦

## “Yes, Virginia, there IS river management!”

During the past few years RMS has departed from shining its usual light on the work of members and their colleagues in a specific chapter. Past RMS Journal “focus issues” have included aquatic invasive species management, and youth engagement from the perspective of creating a gateway to river-related professional paths.

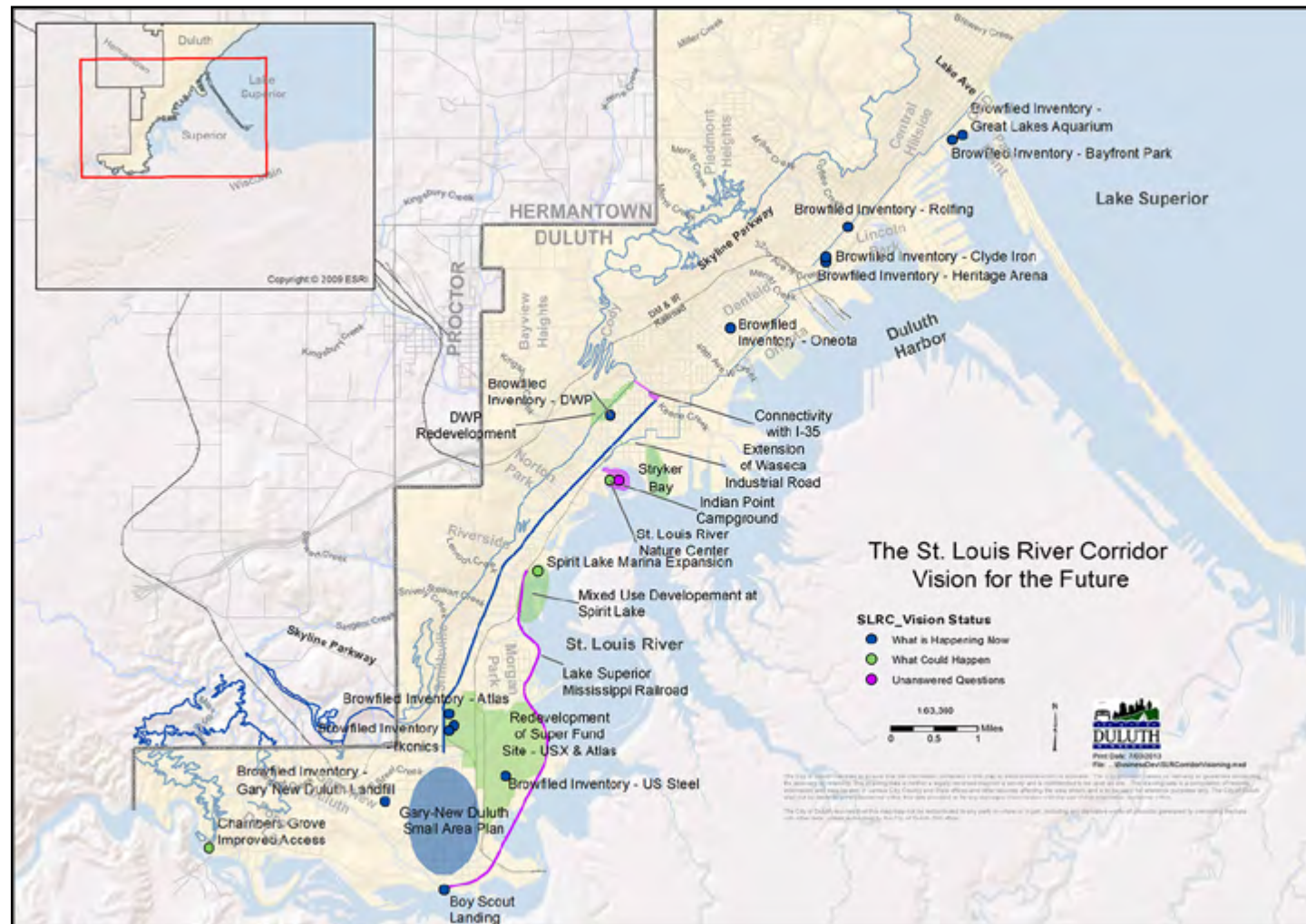
In the Summer 2015 issue, we will highlight aspects of river management that are an integral part of our respective jobs, similar to articles we may have seen in past issues: it's good to remind ourselves of the important roles we play in the management of Mother Nature's arteries of life, work and play.

In addition, we'd like to give ourselves permission to compare and contrast river managers, rangers, planners, watershed administrators, conservation / recreation directors, restoration team leaders, geomorphology practitioners and... the list can go on...as a family of professionals.

Does your work affect and / or involve the quality, flow, characteristic, use(s), economy or community that occupy banks of a river, the town downstream, or the delta or bay into which it flows?

Share your thoughts with fellow members using data, cases, or even contradictions to this premise. If we are lucky, we'll have in one issue a snapshot of the challenge, complexity and inspiration that defines river management.♦

<sup>1</sup> “Yes, Virginia, there is a Santa Claus” is included in a response to the question *Is There a Santa Claus?*, the title of an editorial appearing in the September 21, 1897, edition of *The (New York) Sun*, and a popular element of Christmas folklore in the United States.





# Perfect for New Paddlers: Minnesota State Parks and Trails’ *I Can Paddle!*

by Eric Pelto

There it goes: the underside of a canoe arcing out of the water as it floats away from you, followed by your now soggy lunch, water bottle, and spare paddle. You think to yourself, “at least the water’s warm.” We’ve all been there, unpleasantly surprised and soaked by a swamped canoe, and probably we can now look back on these waterlogged experiences and laugh. However, for many first time canoeists, with their families in tow, flipping a canoe can be a terrifying experience.

In fact, fear of failure is just one of many barriers to participating in outdoor recreation mentioned by groups of parents at focus groups held in 2007. Other barriers cited by parents in the focus groups included a lack of outdoor skills and/or equipment, fear of getting hurt or lost, and inadequate planning information. Though the list of barriers is long, Minnesota State Parks and Trails is addressing those barriers and finding success.

The *I Can Paddle!* program is part of an ongoing effort by the Minnesota Department of Natural Resources (DNR) to get more people outdoors. The DNR offers a series of skill-building workshops that introduce camping, fishing, paddling, climbing, and archery to the next generation. The Division of Parks and Trails created these programs in response to recent research that points to declining participation in outdoor recreation by young families. After hearing focus groups of parents say that they lacked outdoor skills, the DNR created a series of workshops with an emphasis on making outdoor adventure easy for

beginners.

Of the many programs in the *I Can!* series, *I Can Paddle!* is one of the most successful. While the *I Can Paddle!* program offers a variety of experiences (including canoeing, kayaking, and stand-up paddleboarding), the goal is the same: for participants to develop the skills necessary to comfortably and safely paddle on their own. In 2014, over 500 people participated in 50 *I Can Paddle!* programs throughout the state. Each program takes place on a different lake within a Minnesota state park, or on a Minnesota state water trail. Minnesota’s 33 state water trails include Lake Superior, the Mississippi River, and 31 other pristine paddling routes.

Back in August I checked in on one of the *I Can Paddle!* programs to see how things were going. I arrived at the Minnesota River public water access shortly before the beginning of the program, and as I approached I overheard

a participant say, “We flip our canoe every time. If we could just make it past getting into the canoe, we would be OK.” Kate Gurke, one of the *I Can Paddle!* instructors assured the worried participant that entering the canoe would certainly be covered during the program.

Kate is one of the four instructors tasked with leading *I Can Paddle!* programs from Memorial Day to Labor Day. Kate and her colleagues will visit 16 state parks and 11 state water trails, and will offer nearly 50 paddling programs over the course of the summer. But for today the Minnesota River is the classroom.

Throughout the day Kate and her crew will help participants develop their technical paddling skills while learning all the essentials for planning a river trip on their own. Canoes, paddles, life jackets, instruction and shuttle are all provided as part of the program. Though the

participants will learn all of the necessary strokes and maneuvers for successfully navigating slow moving rivers, it’s important to start with the basics.

“What part of the paddle is this?” Kate asks and points to the handle at the top of a canoe paddle. “The grip!” replies an enthusiastic nine-year old who is at the program with his dad.

Kate continues to point and ask the group to name the equipment. She then demonstrates how to properly enter a canoe – and avoid flipping it. After 45 minutes of instruction and safety talks, Kate lets the participants pick their canoe and one-by-one, the canoes enter the water.

“The program is meant to teach people new outdoor skills, but it’s also about awareness,” said Kate. “People who don’t canoe regularly would rarely go on a river trip by themselves. What we teach them makes them more comfortable venturing out with family or friends in the future.”

As the fleet of canoes glides down the river, Kate reminds everyone to stay together. She paddles over to one of the

six canoes and suggests using the paddle to rudder – a technique she talked about during the introduction – to help control the canoe.

“Our short-term goal is to get people outside and engage them in outdoor recreation. We do this by helping participants feel comfortable recreating in the outdoors through outdoor skill development,” said Kate. “We have several of these programs to teach people skills like paddling, camping, fishing, archery, rock climbing and mountain biking. Long term, we’re hoping people will have a great experience outdoors and gain a better understanding of why natural resources are so valuable.”

Throughout the *I Can Paddle!* program, Kate suggests ways the participants can improve their paddling technique. Sometimes, people have a hard time focusing if they spot a great blue heron or a bald eagle. The weather cooperates perfectly as the warm August sun peeks out from behind the scattered clouds.

Over lunch, the group reflects on the first half of their trip. Participants talk

about what is working and what is not. The enthusiastic nine-year old I mentioned before, says he loves the draw stroke because he can correct his dad from the front of the boat. After a bit of joking around, eating, and stretching, everyone gets back on the water for the second half of the trip.

Over the course of the program the group paddles about seven miles. Then, Kate signals to everyone that she’s spotted the take-out and the canoes converge there. Everyone exits the water and Kate makes sure all gear and personal items are out of the canoes.

Following the conclusion of the program participants hang around to chat about their experience. The instructors are clearly the “rock stars” of the day, taking photos with families and listening to stories from the participants. Many participants say the best aspects of this program are the small group sizes and one-on-one attention from the instructors. Kate agrees. “We do our best to make sure everyone feels like a valued member of the group no matter their canoeing ability,” she says. *I Can Paddle!* finished its last program on August 31. However, the program will be back and in full swing this June.

Before everyone leaves, Kate takes a few minutes to recommend “next steps” for those ready to venture out on their own. She encourages them to get out and practice their paddling again soon, while the instructions are fresh in their memory and their confidence is high. She reminds them that in Minnesota, there’s a state park or state water trail less than an hour away from just about anyone, and that many state parks rent canoes.♦

For more information on *I Can Paddle!* or other Minnesota State Parks and Trails’ *I Can!* programs, visit [mndnr.gov/ican](http://mndnr.gov/ican).

Kate Gurke shows participants the different parts of the paddle at an *I Can Paddle!* program.



Participants enjoy the beautiful Minnesota River State Water Trail. Photos: Eric Pelto





# Inviting National Water Trails leaders...



to attend the  
**Inaugural National Water Trails Forum**  
**June 24 - 26, 2015**  
Ann Arbor, MI

Join fellow and aspiring National Water Trails (NWT) leaders to learn from one another, share best management strategies and practices, and establish a lasting national network.

Attend plenary, breakout, and working sessions based on input received from NWT leaders on subjects and issues of mutual interest and importance.

Discover Southeast Michigan's nationally recognized water trails and awesome paddling opportunities with the region's water trail leaders and enthusiastic hosts.

**Registration will open in January at**  
**[www.river-management.org](http://www.river-management.org)**

2015 National Water Trails Forum Coordinators  
Southeast Michigan Water Trails Consortium  
National Park Service  
River Management Society  
River Network

*(Ready, Set, Flush! from page 1)*

'groups of homes'. The small communities are not currently served by a modern sewage treatment system. Instead, they have community or individual straight pipes discharging raw sewage directly to surface water or have sewage contaminating groundwater.

Each community project involves three important partners: the local County septic system (or environmental) department, the small city or township unit of government and a group of local residents. These three partners along with a Wastewater Initiative staff person form a community Task Force. The Task Force researches options for what new method of treatment will be needed to solve the problem. The Task Force also keeps the community as a whole informed of progress and answers residents' questions and concerns. This unique strategy of citizen engagement, in which the local residents are actively involved in making choices about the type of resolution needed for their problem, has been the key to the successes of the Wastewater Initiative project. Wastewater Initiative staff also coordinate with the funding agencies to make sure that as the community process progresses the funding is secured to implement the solution identified by the Task Force and provide a wide range of technical assistance such as providing education about the different sewage treatment options available, applying for funding, forming sewer districts, and preparing ordinances.

Some of the communities receiving assistance from the Wastewater Initiative have been working on sewer system plans for over 30 years but have encountered barriers either in finding a solution acceptable to the residents, lack of community leadership to get the

project completed, or a lack of funding. The Wastewater Initiative is able to help communities overcome these barriers.

The communities of Nicolville and Hope are prime examples of communities that have been working to fix their sewage problem for over 30 years. Nicolville, located near Austin in Mower County, was discharging raw sewage to Dobbins Creek until 2010. In 1964, Nicolville's



*Installing a new sewer system in Bixby. Photo: Laurie Johnson*

sewage discharge was first documented and in 1973 residents started working on constructing a new sewage treatment system. Until the Wastewater Initiative restarted the project in 2004, residents and county officials had given up on finding a solution. A common comment from both

the 1930s. Residents first started working to upgrade the sewage treatment system in 1972 and had made numerous attempts over the years to come together around a solution. In 2002, the Initiative brought the community together to restart work on the issue and after six years of work a new system was constructed in 2008.

Another example of a community that was able with the Wastewater Initiative's help to fix its sewage problem is Bixby, an unincorporated village in Steele County with 27 homes. Most of the homes in Bixby did not have septic systems. Instead, raw sewage was being directly discharged to a small ditch that emptied into the Straight River. Starting in 2007, the Wastewater Initiative's staff began working with a Task Force from the community to find a solution. Because the community is so small they needed to find a system that they not only could afford to build, but also afford to operate and maintain on a yearly basis. The best solution was a large septic system to serve all the homes. However, suitable land was needed, and at first no landowner was willing to sell land to the community. Fortunately, community members on the Task Force were finally able to persuade a neighboring landowner to sell land. Without community members' deep involvement in the project, no affordable solution would have been possible. In

***This unique strategy of citizen engagement, in which the local residents are actively involved in making choices about the type of resolution needed for their problem, has been the key to the successes of the Wastewater Initiative project.***

residents and county officials was that it would be easier to buy out all the homes in Nicolville than construct a sewage treatment system. Hope, near Owatonna and known for being the home of Hope Creamery, was discharging raw sewage to the Straight River until 2008 using a tile line originally hand-dug by the WPA in

2012, Bixby finished construction of their new cluster septic system, and is no longer sending raw sewage into the Straight River.♦

*For more information on the Southeast Minnesota Wastewater Initiative project, go to [www.crowp.net/sewersquad](http://www.crowp.net/sewersquad).*



# Key Components of a *Thriving* River Economy

by Natalie Warren

I discovered my love of paddling and the outdoors through exploring wild rivers. On those trips, I admired the scenery and ecological health of the remote areas of the world. However, it takes big bucks and a lot of travel time to reach those areas, excluding people with little money or little time from participating in such expeditions. When I paddled urban rivers from Minneapolis to Hudson Bay and from Minnesota down to the Gulf of Mexico, I realized that our local water trails have their own beauty and, even more, provide a classroom to learn how our country uses rivers. My experiences on wild and urban rivers inspired me to speak about building a culture around urban paddling, diversifying the paddling community, and increasing recreation, positively impacting all aspects of society.

In 2011, I was one of the first two women to paddle the 2,000 miles from Minneapolis to Hudson Bay, recreating Eric Sevareid’s route from *Canoeing With the Cree*. During our trip, my friend and I paddled by communities along the Minnesota River, Red River, and Lake Winnipeg. We compared these communities and became experts on key components of a thriving riverfront. I found that there was a strong correlation between interaction with water trails and sustainable or growing economies. Several towns along our route were ghost towns or agricultural towns. Like a business, small towns should constantly advertise themselves to increase tourism and the money that flows into their economy. Historically, towns have chosen to depend on one or two industries: agricultural towns, mining towns, cheese plant towns, etc. On our trip we saw firsthand the repercussions of mono-economies, or towns that rely on one or two forms of cash flow to sustain themselves. Agriculture, for example, used to require a whole community to tend to the land. Now one farmer can farm thousands of acres of corn or soybeans by him/herself. As farmers became more reliant on technology, community members left the small town for different opportunities in the city and sons and daughters left their home, some never to return. Now the town that was a vibrant agricultural town has boarded up its shops and let its barn houses fall into the land.

On our expedition to the Bay, I witnessed the lonely buildings and empty streets of towns that used to employ hundreds of people. Once, Ann and I got a tour of one of the towns along the Red River. Someone drove us around a square mile showing us all the closed stores, claiming “This town used to be cool.”



Natalie Warren

I got to thinking—these farms, industries, and energy plants all had one thing in common: the river. It was on that trip that I began to understand the complexities of integrated recreation and the importance of diversified economies.

I believe that water trails can be used to diversify small town economies, increase tourism, and bring life back to river communities. I’ve seen it done before. I bet you can think of a small town like this, too—a place within a few hours of where you live—a place you can go for the weekend to bike, hike, canoe—a place with a coffee shop, an interpretive center, and a Bed and Breakfast—a place where you can unwind after a long day of recreating with a beer by the water. Sounds good, doesn’t it? Every town along a water trail has the potential to be that weekend get-away.

There are several cities and towns that stand out from my travels up to the Bay and down the Mississippi. Before I highlight a few places, here is a checklist of things that, in my opinion, make a great river town:

- Access to the water
- Outfitters
- Hiking and biking paths
- Restaurants and breweries
- Museums, interpretive centers
- Camping, B&B
- Neighboring towns/cities with similar amenities

Just putting in a boat launch or a campsite may increase recreation in the area (granted that towns are advertising that experience), but city-dwellers are more likely to visit an area with all of the above amenities. Towns that bring in tourists to recreate and provide educational, dining, and lodging opportunities are ahead of the river-bend in my book. Here are a few towns that exemplify integrated river economies:

**Wabasha, MN:** When our *Paddle Forward* expedition canoed through Wabasha, we wished we had a few more days to explore the area. Right after a long day of battling winds on Lake Peppin, we paddled right up to Read’s Landing Brewery to have a beer by the water. The next day we paddled with an outfitter who also runs the local bed and breakfast. He kayaked with us to the National Eagle Center (again, right on the river) where we learned about birds on the Big Muddy. This town has access to beautiful hiking paths on the bluffs by the river, an outfitter, a bed and breakfast, several restaurants, a great brewery, and just a quick jaunt from Red Wind (great place for climbing). It passes my checklist with flying colors.

**Dubuque, IA:** The further you go down the Mighty Mississippi River, the harder it is to provide direct access to the water. Dubuque was a memorable stop for us because even though they still had retaining walls, the city built an enclosed harbor for boats to stop in and explore the city. We were able to paddle right up to the National Mississippi River Museum where the director let us stay the night in an old Army Corps dredging boat. We got together with city planners who showed us Dubuque’s Art on the

River—a path along the Mississippi that displays new artwork every year. This project brings people of all ages out to interact with the river and helps market the city as a river town. Kudos for the creativity!

**Montrose, IA:** Unknown to most, this town is on the Mississippi River just before the Keokuk Dam in Iowa. We were contacted by a community group there to see if we would be willing to stop and tour their town. Reaching out to paddlers is a great sign of a happy, proud river community. The sun set as we paddled the calm waters toward Montrose. We were greeted with flashing lights and honking horns as the community ran to the riverbank to welcome our group of paddlers. They held a dinner for us and we swapped stories about the river. The next day, members of the community gave us a tour of the button factory museum and we rode through town on the back of a trailer to learn about the town’s history. Turns out, Montrose was a major producer of buttons when buttons were made by drilling holes into mussel shells (before they were over-harvested). While Montrose may not fulfill all of the checklist categories, I have never met community members along the river who were more passionate about maintaining a culture around their waterway.

*A passionate fellow from Montrose, IA, tells our group about the history of the town’s button making industry. Lower right: The 2013 Paddle Forward expedition, down the length of the Mississippi River, by canoe.*



Pedestrians stroll and enjoy Dubuque’s ever-changing Art on the River. Photos: Natalie Warren

As towns turn toward the river, tourists and avid recreationalists will have the opportunity to take low-cost vacations with minimal travel time. Paddling locally is a great way to explore nearby water trails, learn more about your home state, and take a peek at the beauty in your own backyard. Plus, eat a piece of pie at the coffee shop on the river while you’re at it! Through my public speaking engagements, I hope to highlight the positive ripple effects of opening up to the river and prioritizing water trails to improve recreation and trails, tourism and economies, and increased environmental education and ecosystem health. It all starts with a paddle in the water!♦



Photo: Lee Vue



# Recognizing the River:

## The Mississippi Influence in a Northern Minnesota Community

by Randy Thoreson

Exciting things are happening “Up North” in Minnesota (MN) these days! Not just a figure of speech but a way of life for many living in this part of the world. For many, it is a weekend or vacation pilgrimage to the northern environs for a cabin or camping experience along the many beautiful lakes and rivers. The well-known Boundary Waters Canoe Area (BWCA) aside, it is a land that boasts more than 10,000 lakes, most all of which look like something out of the old Hamm’s beer signs and TV commercials (put out by the nationally known brewery and depicting what people envision as a northern MN “experience”). And, being the beginning or headwaters of the Mighty Mississippi River, the self-flattery continues. Ask any “Upper Midwest” (particularly MN) confessing resident, or even those tourists who visit, and they will know the story of the Mississippi and even the birthplace of Paul Bunyan and “Babe” the Blue Ox. It is an area nestled in the northern forests and told around campfire stories of lake or river excursions and outings by motorboat, paddle or even just a walk along the shorelines teaming with wildlife and beauty. And, ahhh, the sunrises and sunsets gracing many a camera shot, magazine cover or poster.

The many resorts, campgrounds and communities in northern Minnesota are proud of their close connection to the lakes and rivers experience and make no bones in bragging about it. This article talks about one such community, Brainerd, MN, and how it is rediscovering itself on not only being called the “Gateway to the Lakes Country” but “Doorstep to the Mississippi River” (a tag line that this author brings up to many audiences and is being used more and more of late). For RMS purposes, let’s focus on the Mississippi River.

It all starts, as they say, with a sign. In this case it is a sign that you see when coming into Brainerd, MN, from a major access road to the south. It reads “Welcome to Brainerd, MN—Gateway to the Lakes Area.” Now, I



Brainerd Advisory Steering Committee at work. Photo: Randy Thoreson

must confess, this is not a bad thing. The area is known for many beautiful lakes, resorts and campgrounds. But what I see missing is that the Mississippi River runs right through the heart of the Brainerd community, is very beautiful in itself, and connects many nice parks, campgrounds, and trails. Why no mention of that in the sign? Like: “Welcome to Brainerd, MN—Gateway to the Lake Area and Doorstep to the Mississippi River.” Without getting all Chamber of Commerce, this would not only recognize the lakes but the Mississippi as well, a river, last time I checked, with local, regional and national significance. So, cutting to the chase, something has to be done, and should have been done years ago (the river, by the way, is no new phenomenon). Ok, calming down now. Let’s move on to the gist of the article.

In all rights, the City of Brainerd has historically been recognized as the gateway to the lakes region of northern and central Minnesota. It was the last major stop for fisherman and vacationers on their way to the many lakeside resorts in the area. A lot of history and tourism to brag about here. However, recent construction of a major highway bypass

has left Brainerd, for lack of better words, high and dry. Nearby, Baxter, MN, has been getting all the attention, business development and residential growth. Good for them but bad for Brainerd. Not equal neighbors.

At the same time as Brainerd has a history of connections to the “Lakes Area,” the city and community has a parallel history with the Mississippi River - one primarily focused on industry and economic activity. Mining the land and harvesting the forest (which envelops much of the surrounding area) relied heavily on access to the river for transportation or water as an industrial input. Yet, much the same as the highway bypass issue outlined above, industry and business connections have evolved and/or moved on to other parts of the state and region. So, here comes a dilemma... what about the river? And, how can we, as a city and community, “rediscover” this great asset and use and enjoy it for recreation, commerce, and economic vitality once again? (Side note: The stretch of the Mississippi River running through Brainerd is one of the premier fishing spots in the area. Our little secret but actually known by many such enthusiasts.)

In late 2013 and early 2014, after having sent a few community representatives to a Blandin Foundation Leadership/Visioning school and workshop, the City of Brainerd reached out to get assistance in revitalizing the Mississippi River as it runs through the heart of Brainerd. The National Park Service, River & Trails Program (NPS/RTCA - of which this author is part) was asked to provide help in making the Mississippi more “recognizable” and “useful” as a recreation area (trails, parks, nature) and a spot for citizens and visitors to enjoy. That challenge was accepted and the ball started to roll. Discussions and meetings were held and a plan began to unfold.

However, just working on a “Mississippi Riverfront – Revitalization Plan” was not enough. We had to put some “meat on the bones” so to speak. What we needed were some design principles

and ideas to go along with this whole vision and planning thing. In mid-2014, the City of Brainerd began a community engagement process with the Center for Rural Design (U of M/CRD). The mission of CRD is to work with people to help project and improve landscapes, cultures,

with and guiding ideas into usable, practical and visual design elements. A match was made and we were/are off and running! Now, not only did we have the NPS and city working together, but also a recognizable institution that can help move vision to reality. But, even that was not

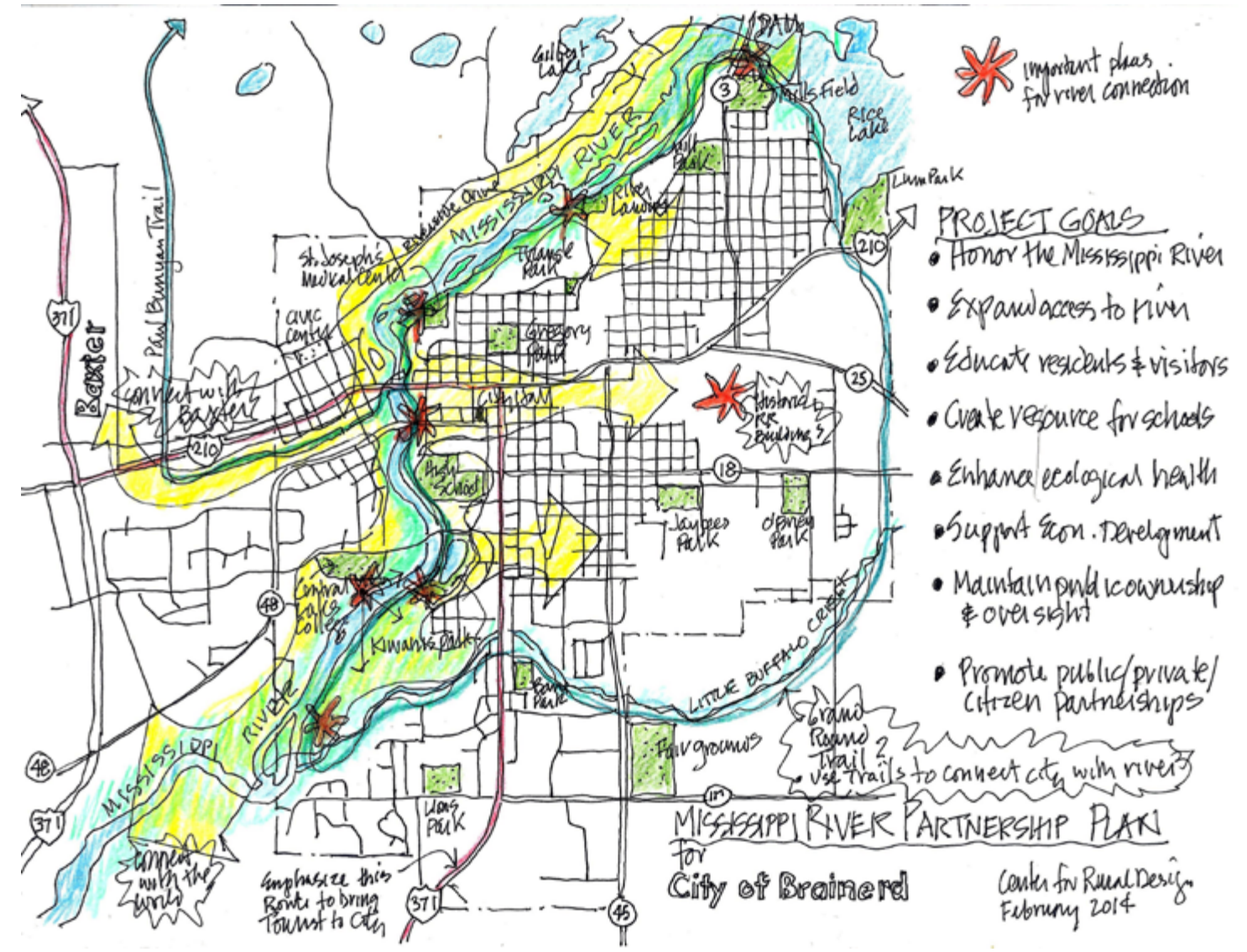
**“Riverfront revitalization means different things to different people. In order for our effort to move forward it is critical that a common vision be established for what riverfront revitalization means in our community. Creating such a vision is also important to help build community interest in and excitement about the role this vastly underutilized and underappreciated world renowned resource (the Mississippi River) can play in our community’s future.”**

— Mark Ostegarden  
City of Brainerd Planning Director

and communities through innovative design strategies. This Center is known both locally and nationally as helping communities help themselves by working

enough. A 30-member Advisory Member steering Committee was established (the city published a call for citizen, business and interest groups volunteers to serve) to

(continued on page 29)





# Conservation Corps Minnesota & Iowa:

## Next Generation Steps Up for Water Trails

by Connie Lanphear

Just hours after removing significant snags from a section of the upper St. Louis River near Aurora, Minnesota, the Conservation Corps Minnesota & Iowa Water Trails crew watched as canoeists paddled peacefully by. “It was so satisfying being able to see paddlers use the stretch of river we had just cleared,” said Crew Member Jayson Schrank.

Since 2006, Conservation Corps has worked with the Department of Natural Resources (DNR) in Minnesota and Iowa to develop and maintain state water trails. The crews aims to improve both the habitat quality and accessibility of state water trails, balancing the need to make public navigation safe and protect conditions for aquatic life.

The Corps water trails crew was conceived as DNR staff members were aging out of the hardscrabble work of maintaining trails in remote areas at the same time they inherited additional, unfunded work. Needing young, strong backs to tackle the adventurous work, DNR and Conservation Corps staff first tapped a year-round AmeriCorps crew in 2006 to provide dedicated work. Today, one four-person Minnesota Corps crew focuses six months of its term on water trails work; many crews working throughout the state and in Iowa also contribute significant project time to the trails.

Much project work involves removing woody debris obstructing river passage. Projects also include building and maintaining campsites, parking lots, water access points and portages between waterways and around dams.

Conservation Corps crews typically start their term in February with skills training in chainsaw use, prescribed burning, wildland firefighting and CPR before heading into the field. Crews working on water trails get additional training in chainsaw use in and on water, motorboat operation and both flatwater and whitewater canoeing.

The dedicated crew in Minnesota is carefully chosen to match the extra rigors of working in moving water and living with a small group in tents for six months. This requires a high level of compatibility and tolerance for difficult working conditions. Despite the challenges, crew members often describe it as the best experience of their lives.

“It was the most physically demanding work I’d ever done in my life,” said 2014 Crew Member Melissa Gearman. “But



The 2014 Water Trails crew took a lunch break on the bank of the Sauk River, MN. From left: Crew leader John Kenney, crew members Jayson Schrank and Melissa Gearman. (Photo: Crew member Brittany Kinney).

also I never had more fun. I was always excited to get to work on Mondays, and sometimes weekends were a drag!” Crew Member Brittany Kinney agreed. She felt a personal challenge to do better with each project and was able to push herself in a way she’d never before experienced. Besides the physical demands, she found the work mentally challenging and appreciated the opportunity to be away from the distraction of her normal social life and media.

Having a cohesive crew was critical in making the experience positive for all. Schrank, who grew up in Chicago and never tent camped before the Corps, came to love the work, even on tough days. “Sometimes it didn’t even feel like work,” he said. The Water Trail crew’s relationship with project hosts is somewhat different than on a traditional Corps project. Crew Leader John Kenney was in charge of prioritizing and scheduling work to accommodate river levels, weather, logistics and needs of the crew. He found the experience a great opportunity to develop leadership skills in a fast-paced situation with a high level of responsibility, and appreciated the enthusiastic support and trust of the project hosts.

The compelling work is a big part of what makes the job interesting and fulfilling. “It’s an adventure every time we go out,” said Kenney. “One of the coolest parts is feeling like you’re on a remote river when you are in a metro area. You think you’re in the middle of nowhere.”

With extensive water trails systems in both Iowa and Minnesota, no one is far from quality paddling experiences. The extended systems supported online by Iowa DNR Rivers and Minnesota DNR Water Trails can help people find nearby access.

In Iowa, DNR Rivers focuses on improving and expanding the infrastructure of both designated and potential water trails and primarily funds the work. Conservation Corps crews have largely been the workforce behind those projects. With two new Iowa crews coming on in 2015, they will be able to expand their efforts. The Iowa Corps also hosts a full-time individual placed with DNR Rivers to coordinate logistics and outreach. Alisan Engle assists with all stages of the projects but especially loves re-vegetating a construction area with native plants. “In 2014 alone, the crews planted more than 10,000 native grasses, wildflowers, shrubs and trees,” she said. “The Rivers Program would simply not be able to achieve this without the help of the crews.”

In Minnesota, DNR Parks and Trails has recently increased its focus on maintenance of existing trails, many of which have been under-maintained over the last 10 years. This means that funding for woody debris removal will allow for additional work involving more crews in 2015. Project work is paid for by the state’s Water Recreation Fund, from user-based watercraft license fees plus a portion of the gas tax.

Since becoming a full-time crew in 2008, the dedicated woody debris removal crews have cleared 1,439 miles of river and established or maintained 520 sites. They also put in 866 hours of GPS mapping and survey work and 270 hours of portage trail construction and maintenance.

Equally impressive are the valuable personal experiences of crew members: working hard, seeing results in improved habitat

and access, improving safety and developing decision-making skills. For some, the experience will shape their futures and have a ripple effect on others interested in natural resources.

Crew member Gearman is looking forward to serving as crew leader in 2015. She hopes her crew will find themselves challenged beyond what they think they’re capable of, in the way that she was as a crew member. “Most importantly,” she said, “although this job is hard, at the end of the day I want us to be proud of our work and to have had fun along the way.”

In addition to more than three dozen year-round and seasonal crews, Conservation Corps Minnesota & Iowa places individuals in outreach positions – such as the DNR River placement – with DNR and other organizations. Along with a strong history of physical work, Corps members also contribute the intellectual and social capital important to connecting with a younger generation of river advocates.

If you’re looking to recruit a good river manager, MN DNR’s Water Trails Coordinator Erik Wrede advises looking to alumni of Conservation Corps Minnesota & Iowa programs. “With how large our system has grown, we now rely heavily on the assistance of Conservation Corps Minnesota & Iowa,” he said. “They have been a fantastic partner in the development of safety standards and training, the completion of immense amounts of field work and the development of talented young river managers. I would highly recommend that river managers around the country discuss partnership opportunities with their nearest conservation corps.”◆ (See Erik Wrede’s article on next page.)

Crew members Jayson Schrank and Melissa Gearman paddled through a riffle on the bluff-lined Zumbro River, MN, while searching for snags. Summer 2014. Photo: John Kenney (See more photos on next page.)







## Feeling Old?

*Call your local  
Conservation Corps and  
get the help you need!*

*Crew member Jayson Schrank  
repaired steps at a canoe  
access on the Snake River  
in Minnesota. Summer 2014.*



*Crew member Ali Engle  
cut back a fallen  
Silver Maple in Minnesota's  
Sauk River. Summer 2013.*



*Crew members installed  
erosion control webbing at a  
canoe access on the  
Snake River in Minnesota.  
From left: Jayson Schrank,  
Brittany Kinney and  
Melissa Gearman.  
Summer 2014.*

*Photos: John Kenney*

## Scouting Young Talent

by Erik Wrede

A common perception of Conservation Corps programs around the country is that they complete a massive amount of grunt field work, completed by apathetic teenagers and 20-somethings. However, project hosts are often surprised by the professionalism, intelligence, dedication and skill demonstrated by Corps members. While field work is a major component of most Conservation Corps, they usually also strive to develop not just strong backs, but also equally strong minds. The environmental awareness and education that Corps members gain as a result of their service makes them an ideal group from which river managers can recruit emerging leaders.

Conservation Corps Minnesota and Iowa (Corps) has been training young natural resource stewards since 1981, many of whom are now in natural resource leadership positions. Through their service, Corps members gain valuable work experience, receive outstanding training, and make connections with potential employers; all while getting high priority work done for the Minnesota Department of Natural Resources (DNR) and numerous other public agencies. The relationship between the DNR and the Corps has evolved and grown over the years. The Corps began as a program of the DNR and since becoming a nonprofit in 2003, has tripled its budget and has expanded to Iowa. The Corps now has over 600 Corps members per year and an annual budget of about \$7 million.

The Corps provides numerous field crews through the Young Adult Program and the Summer Youth Program. It has also diversified its program offerings (and stakeholders) to include urban programs, Home Energy Squads, a Soil and Water Conservation District apprenticeship program, and an Individual Placements (IP) program. The IP program, which places entry level professionals into organizations, has a 20+ year history with the DNR. In the last five years, the Corps has expanded the IP program from one position assisting the Adopt-a-River program, to several positions that assist in areas such as State Water Trails, Public Water Access, State Trails, Parks & Trails Outreach, Website &

Social Media Development, State Park and Trail Planning, Aquatic Invasive Species Best Management Practices, Database Management and GIS. These positions cannot displace DNR workers and therefore they tend to work on new projects and innovations, thereby acting as launching pads for talented young adults that DNR Baby Boomers and Gen X'ers have learned to rely upon.

Analeisha Vang is a prime example of the caliber of Corps members the DNR has been fortunate to host through the IP program. Ana's undergraduate geology thesis was a report that reviewed removal and remediation options for a dam on one of Minnesota's State Water Trails. Her recommendations were based on impounded sediment, historic significance, and aquatic diversity. Ana's geology master's thesis is on the hydrologic impacts of the Vermont interstate system. During her first one-year AmeriCorps term, Ana was instrumental in planning and implementing the first-ever Water Trails Tourism Summit. At the Summit, Ana gave a presentation on market trends and the growth of the paddlesports industry. Her presentation received one of the highest ratings of all speakers in the post-Summit evaluation. Her IP colleague, Brook Maier, received similarly high ratings for her presentation on Google Analytics – how to boost your website's visibility and reach. Brook became the DNR's leading expert on this topic during her two terms of service at the DNR.

The Minnesota DNR has been fortunate to host biologists, landscape architects, technical writers, watershed specialists, geologists, environmental educators, planners, and journalists through the Corps' Individual Placements program. DNR project advisors guide the Corps members throughout their experience; and provide training, project assignments and networking opportunities. Project advisors benefit from the Corps



*Analeisha Vang, Water Recreation Outreach Specialist*

members' idealism, dedication to service, knowledge of current best practices, and plenty of digital skills that simply weren't around ten or twenty years ago. If project advisors are wise, they treat their Corps members with the utmost respect - not only because it is a good investment in the future of our natural resources, but also because they realize that someday soon they may be working for these talented emerging leaders.

Ana Vang is now in her second AmeriCorps term, and is working on projects such as succession planning for the retiring DNR Adopt-a-River program coordinator, statistical modeling for the recreational interpretation of river level gauges, interactive map upgrades, website overhauls, and a survey of registered canoe and kayak owners. Ana had this to say about her Individual Placement position within the DNR, "Through the Corps' Individual Placements program, I'm able to gain not only the work experience, but the training and mentorship necessary to become a leader in the natural resources field." ♦



# Mississippi River National Geographic **Geotourism** Project

by Rory Robinson (NPS), Terry Eastin (MRT), and Liz Smith-Incer (NPS)

Mississippi River Connections Collaborative (MRCC) represents a new prototype for river-long resource restoration, protection and recreation that relies on a network approach to increase the depth and reach of individual parks, trails, and refuges in total. This collaborative is an informal network of local, state and federal refuge, park, and trail managers, alongside non-profit organizations that are committed to connecting people to the Mississippi River.

**The mission of the MRCC is** to promote the magnificence and diversity of the Mississippi River as a national treasured landscape. The National Park Service, U.S. Fish and Wildlife Service, and Mississippi River Trail, Inc. are the original signatories to the 2010 Memorandum of Understanding.

Major new partners include the Mississippi River Parkway Commission and U.S. Army Corps of Engineers. MRCC and its federal, state, local and nonprofit partners actively work in five primary areas: History, Culture and Lore; Education and Stewardship; Conservation and Partnerships; River Access and Recreation; and, Improvements to Parks and Refuges.

**MRCC has formed a partnership with National Geographic** to create a Mississippi River National Geographic Geotourism Project for the length of the Great River. The region that will be included in the project includes the Mississippi Delta from Cairo, IL, south to the Gulf of Mexico. North of Cairo, the project area will include one county wide along both sides of the river.

Have you visited places so cool they set your heart on fire? Places that, because of their unique experience make you feel you’ve become part of the fabric itself? If not, through the joint work of MRCC and National Geographic, you’ll soon have more than 3,000 opportunities along the Mississippi River to experience the best of many worlds.

### Project Overview

The Mississippi River and its tributaries constitute the largest river system in North America, with a meandering route from its northern headwaters to the Gulf of Mexico. The river has served as the backbone of the United States’ historical and economic development for over 200 years, and represents a veritable cross-

section of the ecological, geographic, and cultural diversity of the country. While ways of life, scenery, and ecosystems may vary greatly over its course, individuals and organizations nationwide with ties to the Mississippi agree that they are all connected to its water and that they must work together to protect its natural and cultural assets and promote its economic vitality. Geotourism is a way of supporting this effort.

### Major Activities

- *Creating and fostering of a Mississippi River Corridor Sustainable Tourism Council (and regional councils)* – To manage the program, National Geographic and the Council will provide oversight and support for stakeholder engagement about sustainable tourism/geotourism in the region.
- *Create a Destination Marketing and Branding Strategy* – Centered on sustainable tourism, nature, recreation, history, arts, cultural heritage, agriculture, and urban and town life along the river.
- Develop a geo-referenced *Smartphone Application (APP)* to reach the rapidly expanding mobile market with a state of the art managed APP platform.
- *Publish a Hard Copy Geotourism MapGuide(s)* - data to create a map will derive from the creation of the website. The Geotourism MapGuide will be a content rich interpretive guide to the region that compliments the website. The map will be designed as a Geotourism MapGuide that can be distributed as a free of charge compliment to inspire visitors to the region.
- The creation and implementation of a *comprehensive public relations strategy*, including the design and creation of an informational brochure describing the significance of the project in the context of the mission of the MRCC and affiliates.

### Anticipated Results

- Establishment of the Mississippi River Corridor Geotourism Stewardship Council (GSC), including guidelines and consultation during the project. The GSC is envisioned as a regional body of stakeholders representing governments, civil society, microenterprises, entrepreneurs, and individual community members representing the different aspects of the destination (natural, cultural, scenic, etc.).
- Design and publish an online Geotourism MapGuide website to empower local stakeholders and promote regional tourism assets.
- Connect major Mississippi Corridor attractions and destinations with additional inland travel opportunities.
- Celebrate the Mississippi River Corridor as a clean, safe, and unique world-class destination.

### Getting Started

During February and March, there will be four major Project Planning and Orientation meetings hosted by National Geographic and local organizations. The purpose of these meetings is to explain the process for adding destinations and teaching business owners, recreational providers, and the like, how to access the website where information will be uploaded. Photos, videos, descriptive and contact information can be included. Local teams will evaluate the nominations, cross check them for accuracy, and provide support to those who need a bit of extra help with submissions.

Memphis, Tennessee – February 23rd and 24th  
St. Louis, Missouri – February 25th and 26th  
Quad Cities – March 9th and 10th  
Minneapolis – March 11th and 12th

All meetings will begin at 1:00 p.m. on the first day and conclude at 1:00 p.m. on the second day. For more information on each of the four meetings, you may contact:

Memphis – Terry Eastin, [terryeastin@att.net](mailto:terryeastin@att.net)  
St. Louis – Todd Antoine, [tantoine@grgstl.org](mailto:tantoine@grgstl.org)  
Quad Cities – Joe Taylor, [jtaylor@visitquadcities.com](mailto:jtaylor@visitquadcities.com)  
Minneapolis – Rory Robinson, [Rory\\_Robinson@nps.gov](mailto:Rory_Robinson@nps.gov)

Participants will receive a National Geographic sanctioned window decal for their operation and be part of a global marketing strategy under the banner of the world’s #1 marketing brand – National Geographic.

*Girl fishing, near Jacobson, MN. Photo: Minnesota DNR*



### Who Can Participate?

Geotourism is “*tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage, and the well-being of its residents.*” Geotourism includes: heritage, culture, local cuisine, sightseeing, agri-tourism, eco-tourism, recreation, and indigenous tourism. Any “sense of place business” can participate. There is no cost involved to the recreation provider or business owner.

### Why Are We Doing This?

First and foremost, it is important to elevate the Mississippi River as a national treasured landscape with increased visitation from around the world and within our country. Universally, people will help protect that which they have seen, touched, and felt – places that evoke happy memories and spark the imagination. The nation’s tourism economy is part of a global tourism marketplace. According to the World Tourism Organization, international visitation has shown uninterrupted growth from 1950 to today – from 25 million in 1950 to 1.9 billion in 2013. And, visiting the Mississippi River is a great value. Where else in the world can a visitor stay for under \$100 dollars a night, and eat lunch at a local café for as little as \$10 a person?

From the snowy Minnesota landscape and the beginning of the Mighty Mississippi at Lake Itasca, to the southernmost tip of Louisiana where the juiciest, sweetest Seville oranges in the world grow, there is enough to see and do to fill a lifetime. Breweries, wineries, distilleries, and some of the most mouth-watering cuisine in America are homegrown on the Mississippi

*(continued on page 42)*



# Hydropower Relicensing Spin-offs

## Benefit the Chippewa River, Wisconsin

by Angie Tornes

Ten intrepid souls filled two Johnboats, motors churning upstream on the Chippewa River. All of us involved in the relicensing of six hydropower projects – representatives from federal and state agencies, non-governmental organizations, and the power company - were enshrouded in foul weather gear, hunkered in silence against the stormy summer afternoon. Waves slapped hard against the boat.

It had been a perfect downriver trip, meandering along the majestic river’s thalwags. The lead boat was captained by local river resident John Lowe, a burly man with jet black hair and thick brows. Familiar with every bend, riffle, and rapid, John led a slalom dance with the sinuous river, gleefully pointing out points of interest. We’d accomplished our goal: to become acquainted with the Lower Chippewa River, a 60-mile, undeveloped, wide stretch downstream from the lowest most hydropower dam.

With images of rare mollusks, prehistoric-looking Lake Sturgeon, and swampy, habitat-rich areas called “bottoms” near the Mississippi River confluence, we had reluctantly turned our craft around. We hoped to reach our put-in before more ominous weather descended. John, standing confidently in the stern, carved a clean upriver path, smiling broadly at any implication of concern cast his way.



*Slalom race on Wisconsin’s Chippewa River using one of several recreational flow releases negotiated through relicensing of Jim Falls Hydropower Project. An entirely new regional whitewater community has emerged as a result of the releases; many other spin-offs from relicensing also benefit the river. Photo: Glenn Felske*

Now, the same boatload of river lovers has the yearly pleasure of being with John, but in diametrically opposite conditions: sitting for endless hours (sometimes days) in a windowless, concrete-walled conference room. He dutifully attends the annual Chippewa River Settlement Agreement Implementation Team meetings where we review accomplishments gained through Federal Energy Regulatory Commission relicensing and the settlement agreement, make management decisions, and allocate settlement funds for various research and habitat enhancement projects.

Twelve years after licenses were issued, John, representing the Lower Chippewa River Restoration Coalition, keeps returning to these marathon meetings. He attends not only because his group is a signatory to the settlement agreement but, more importantly, because of the constantly evolving unanticipated benefits spinning off from relicensing. These benefits are in addition to recreation enhancements included in the licenses such as recreational flow releases; facility enhancements such as boat landings, day use areas, portages, signage, interpretive panels; and, a new recreation brochure.

To name a few of these unanticipated spin-offs:

### **Whitewater releases at Jim Falls Hydroelectric Project created a new whitewater community and economy.**

Excellent regional whitewater recreation opportunities of class I / II / III rapids are created when flows are returned to the natural river channel, or bypass reach. Beginner and intermediate boaters develop whitewater fundamental skills here while advanced paddlers hone theirs.

Flow releases have spawned new whitewater groups, community, and events along the Chippewa. Jim Falls Whitewater, a small group of whitewater enthusiasts in the Chippewa Valley Area (Jim Falls, Chippewa Falls, and Eau Claire, WI), formed post-licensing and has since taught 300 boaters in Swift Water Rescue Clinics.



*Shovelnose sturgeon (S. platyrhynchus) by J. Tommelari.*

In 2012, a Whitewater/Flatwater Race was held in conjunction with Jim Falls “Sturgeon Fest” in partnership with the Jim Falls Lions Club. In 2013, Beginning Whitewater Clinics were offered to newer boaters in conjunction with the scheduled releases.

When combined with more challenging whitewater opportunities within a two-hour drive, the releases begin to form a regional network of paddling destinations. To facilitate communication and coordination, Jim Falls Whitewater established new partnerships with Midwest boating communities; these include Rapids Riders (Minneapolis/St. Paul); Wausau Whitewater (Wausau, WI); Pure Water Paddlers (another new whitewater group, from Eau Claire, WI, spawned from the releases); and North Eastern Wisconsin Paddlers (Green Bay, WI). Boaters driving to Jim Falls for

releases from the region and other states boost the local economy by frequenting local sporting goods and dining establishments.

In 2014, the National Park Service worked with boaters to revise the existing whitewater recreation plan in order to enhance the whitewater experience and better serve the boating community. NPS submitted a revised draft that includes more frequent releases and a relocated put-in; negotiations began in January 2015.

### **“Celebrate the Chippewa” annual event connects and informs communities along the entire river.**

Planning is underway to coordinate events and outreach under one, river-long community event. The City of Eau Claire will be the hub of activities with river-focused presentations including results

from research and projects funded by the hydropower settlement agreement. River-themed celebrations, festivals, and activities will be held in each of the towns along the Chippewa’s 180-mile length. The National Park Service’s Rivers, Trails,

and Conservation Assistance Program is providing technical assistance.

### **A Chippewa River Water Trail begins.**

Much of the recreation focus during hydropower relicensing was on enhancing river access along impoundments and various free-flowing segments. When access sites are combined with maps of their locations and bathymetric maps – both maps were funded by the settlement – the core elements of a water trail emerge.

A partnership based in the City of Eau Claire is spearheading an urban water trail which will embrace the University of Wisconsin-Eau Claire, city parks, and the Business Improvement Districts. The National Park Service’s Rivers, Trails, and Conservation Assistance Program is again providing technical assistance.

### **Going Forward**

The prognosis for future intriguing spin-offs is excellent. Awareness of the river is increasing as demonstrated on the “Eaux Claires Music & Arts Festival 2015” web page. Eau Claire native Justin Vernon (of Indie Folk band Bon Iver) sings the same river-loving tune familiar to all of us: “*Having this festival right in my backyard gives me and the guest artists a chance to share familiar work and new creations in a setting close to my heart. To create this event within view of the Chippewa River—the very river that defines this place—makes it all the more meaningful.*” John Lowe would agree.♦

*Chance Orth, Unpro Fishing, shares information at the first “Celebrate the Chippewa” event. Photo: Emily Lind*





# Predictions for Educational Needs of the River Management Professions

by Robyn L. Ceurvorst

The trend of steepened education costs and tightened budgets may be partially responsible for the nationwide demand for more transparent discussion about academic accessibility, accountability and reform. What does expensive education mean for the river profession? First, students working part or full time want to achieve education endeavors efficiently to keep education costs lower and avoid student loan debt. This might mean offering coursework in block scheduling, night courses or distance classrooms such as broadcast, online/webinars or mini field-based workshops. Students have limited time to gain field experience or gain agency trust in networking opportunities if they are working menial jobs and attending class full time.

Educators and agencies find mutual benefit when they create partnerships to fulfill both student learning needs and agency internship needs. River professionals seeking continuing education credits, certification or other training must also find creative ways to access education opportunities like shortened or online workshops or partnering with other institutions and agencies for conferences. However students and professionals access and pay for education, academic institutions and faculty instructors are being held more accountable by funding administrators and students for delivering desired learning outcomes in accessible learning environments and effective teaching methods.

Given these pressures, what trends might develop within education for future and current river professionals to get the training they need in inexpensive and locally accessed forums? This article briefly reviews key trends to consider for educational effectiveness such as increasing opportunities for experiential or applied skills learning, accessibility for diverse learners, and inclusion of educational technology relevant to supporting the livelihood of river professionals. Photos from a natural resource management program are provided to highlight teaching innovations useful for accomplishing these goals.

## “Hands-On” Experiential Learning Approaches, Landscape and Social Connection

Academic programs boasting river management learning outcomes are currently and will be increasingly integrating more experiential opportunities for students to gain river community and landscape connection and awareness, but the trick will be how to justify the method as effective according to more traditional classroom assessment schema. Although not the sole barricade, scholars attribute less experiential learning within elementary and secondary public institutions partially to the national “No Child Left Behind” educational reform program. Implemented in publicly funded schools, the program utilized a traditional assessment-based funding system which inherently

created more dollar incentives for meeting standardized testing (e.g., learning assessment of defined pieces of information through lecture and memory recall) achievement protocol, and less incentive for academic achievement through alternative approaches such as experiential learning (e.g., a learning process of conceptualization, application/doing and reflection to internalize information). The program first implemented in 2001 has influenced students now attending colleges and assessment trends within higher learning.

A great concern among natural resource, outdoor recreation and river professions, for example, aligns moreso with “Last Child in the Woods” where students have fewer opportunities within traditional standardized testing classroom systems especially laden with screen-based technology to connect with natural resource landscapes, lowering key river profession competencies regarding environmental ethics, rescue/risk management, field research techniques (e.g., inventory, monitoring), place-based problem solving, outdoor survival skills and resource conservation. Employers advise educators that in addition to conceptual competencies, students need to get more hands-on, experiential learning exposure in the outdoors to gain personal responsibility skills and connection to landscape-based problem solving.

Partnerships between higher education institutions and agencies can help facilitate opportunities for these outdoor community learning environments which overcome many funding barriers on both sides of the coin. By learning in these forums, students can dually cultivate networks with stakeholder interaction helpful to solving future problems and getting future paid work. Through internships, in-kind or cost-share service learning agreements between academic institutions and federal government agencies, for example, both new citizen hires and current employee status eligibles gain competitiveness by completing projects, navigating landscapes and networking with managers unique to each watershed or river section.

## Increasing Diversity and Education Accessibility through Partnerships

The ballyhoo of river management issues inspired the government to hire a strong pool of Caucasian males in the sixties and seventies to nurture our nation’s riverways. If calculations correctly match with average retirement age trends, watersheds may see one of many scenarios in the near future: increased job opportunities for young hires, less competition based on federal point systems or who somebody knows, and hiring processes based on qualifications and increasing diversity. By “diversity,” I mean students with a mix of socio-demographic and socio-economic backgrounds who bring unique perspectives from life experiences to the field which could help tackle our ongoing wicked problems.

Accessible opportunities for new hires or status eligibles to get the education and training needed to be competitive for newly open positions falls on the handshakes of academic institutions and government river-management agencies. Opportunities for diverse individuals to obtain the coursework and skills training needed to qualify come more readily available when the educators can work closely with agency managers to both understand required qualifications for positions and how to reach a body of potential students who juggle personal and work responsibilities.

One example of gaining field experience before entering into the professional workforce we used in my field course on the Colorado River. We paired up with the local river ranger team to create a forum and day focused on rapid river campsite inventory, monitoring, assessment and management. Students prepared by discussing major issues from the literature related to river management and covered best practices on inventory and monitoring. This partnership opportunity offered skill sets and access for a diverse group of students which may not be offered in a traditional classroom. The following photos depict students working with rangers in the field to maintain river camp sites and fine-tune a tool for rapid assessment.

## Educational Access and Professional Field Technologies

One example of using educational technology in coursework is for the instructor to first research and train on the latest technologies then implement technologies in class such as GPS and mobile computing (depicted below). River professionals need to be well-trained with emerging technologies if we plan to communicate the importance of river management to the nation. Use of handheld, rugged technologies supporting our ongoing training needs as well as inventory and monitoring of river use impacts, for example, will be imperative in justifying each and every management action and budget request from now until the last drop of clean, accessible water dries up. Current river professionals will need to continue educating entry-level individuals on the basic technological functions of the



*Students and National Park Service rangers accessed river campsites by boat along the Colorado River, Cataract Canyon. The field day gave rangers the opportunity to express current use impacts and resource concerns as well as take the newly repaired boat out for a spin. Students learned about a typical “day in the life of a ranger” and took a critical eye to how current use impacts could be better managed. Men and women came from all over the state of Utah to engage in the field course with hopes of taking positions with the BLM, USFS and NPS.*



*Recreation resource management field course students listening to a river ranger lecture about current river camp inventory and management issues.*



*River rangers and students preparing to inventory a river campsite and clean-up use impacts. One ranger in the class achieved a Masters of Natural Resources degree through a partnership with the university combining online coursework and full-time service with the National Park Service.*



industry and provide training to other professionals on emerging technologies which will improve research, reporting and other operations.

As I write this, my own laptop is becoming outdated in the face of faster, more mobile and intuitive electronic gadgets (which still need rugged, waterproofed casework to actually be useful to any level of river professional). Both students and professionals require access to technology which can allow access to training and enhance daily operations. The River Management Society is clearly working toward these educational goals with initiatives, but we can always shake more hands to create new partnerships and enhance educational opportunities for students and professionals. The take-home message for the river profession regarding 2015 predictions of educational technologies as well as educational assessment and accessibility screams from the depths of our favorite eddy, “continue to value education and experience equally.”♦

*Robyn Ceurvorst is an Assistant Professor at Minnesota State University Mankato.*

*Lower: Professor walking with students around a wilderness-protocol managed campsite along the Colorado River to map area utilizing GPS units and handheld mobile devices for data collection. GPS data was paired with campsite inventory data in Arc-GIS and Excel databases to create a robust picture of the extent of use and recommended management or education needed within the updated river management plan.*



*Top: NPS boats at a river campsite laden with red harvester ants, tamarisk / Russian thistle, campfire charcoal, human waste, graffiti, trash, and clothing along the Colorado River, Cataract Canyon. Students helped restore a nearby watershed by planting native trees and shrubs to curb invasives.*

*Middle: Students taking note of ranger-led discussions on best tools for inventory, monitoring and assessment of river campsites. Students utilized technology in the field and classroom to improve campsite inventory and monitoring which would inform the river management plan update. All photos: Robyn Ceurvorst*

# Science Afloat: Collecting Data from a Mobile Platform

by Chip Rawlins

Why am I happy? I’m knee-deep in the Snake River, with snow on the peaks, and the water is cold. Half sunk in the gravel bed, my feet look bluish white in my river sandals, and, more to the point, they feel that way.

But Carl, the Wiz, just said the magic words. “I think we’re ready to go.” Go! Two shoves, a scramble, and we’re afloat. Happy.

I ease into my seat, grip the oars, and turn the boat downstream. Ahead, the river swirls into a right bend, dark timbered banks converging, under morning clouds. Behind me is an electronic zoo: sensors for turbidity, temperature, scattering, and other measures of water quality along with an echo sounder for depth, a waterproof camera to record the substrate, GPS receivers to pinpoint each datum in space and time, and an array of laptop and handheld computers to log the information.

With me is the Wiz, Carl Legleiter, a researcher at the University of Wyoming who started the project, assembled the grants, and collected the gear to field it. Also, Toby Stegman, a UW grad student and crack ski mountaineer. I can hear the click of keyboards and muffled beeps, as they keep track of their e-beasties. (Another reason I’m happy is that I’m rowing the boat, free to scan the river and banks, the mountains and sky.)

Off our bow, in a kayak rigged with more science gear, Brandon Overstreet records current velocity and direction, along with depth, using an Acoustic Doppler Current Profiler (ADCP) with a GPS link for time and location.

The aim is to collect river-level data on

channel form and dynamics, water quality, and the absorption and reflectance of light. Those values are correlated with remote imagery, from aircraft and satellites, to enable the measurement of depth, velocity, turbulence, sedimentation, and other characteristics over wide areas, far more quickly and comprehensively than can be done using field measurements. Carl calls it “mapping rivers from space.”

For our first session on the Snake, 2010, I brought my whitewater cat, with 15 ft. by 19-inch Flyer Cat tubes from longtime pal Jack Kloepfer, of Jack’s Plastic Welding. Carl brought an ADCP on a yellow plastic float, a mini-trimaran that we’d already flipped trying to measure the Big Laramie River. His idea was to tow it behind the cat, but I knew that if I ferried to maneuver or land, it would certainly end up hitting, or possibly underneath, the tubes. Among the driftwood on the shore of Jackson Lake, I found a nice, peeled spar of lodgepole and mounted it under the seatbench. That kept the ADCP clear, where it could trail freely and even spin.



It worked, to some extent, but we had a mini-epic with a strainer in a blind channel below Deadman’s Bar. I urged Carl and Annie, his partner, to bail off the cat to safety on the bank while I got off the snag. That accomplished, we noticed that the

ADCP was upside-down, and not showing any LED lights. We’d drowned the poor thing.

Brandon joined the effort the second year, in 2011, with a fresh Masters on salmon reproduction. As a former kayak instructor, he wanted to rig science gear on a beat-up hardshell he’d acquired for a case of beer. After consulting Obie (Chris Oblinger) at Liquid Logic, the maker, I



dug in my scrap bin, ordered some fittings, scouted the local hardware for parts (e.g. a rubber adapter for plumbing drains), and came up with an add-on mount.

Mounting the ADCP on a hardshell kayak solved a problem Carl and I had our first session on the Snake: the current is swift, in places more than 2 m/s, and I couldn’t row hard enough to hold the cat straight on a cross-section. The GPS plots of our cross-sections tended to sag downstream where the current was strongest (and by the end of each day I tended to sag as well.) Being far slipperier than the big cat, a hardshell kayak with a powerful paddler (Brandon) could track near-perfect cross-sections in the fastest water.

For the 2011 session, besides the kayak mount for the ADCP, we also had a new cat frame that I’d built to carry our instruments, on new tubes from Jack’s, of gray fabric to minimize colored reflections. On galvanized toprail and aluminum pipe, various fittings from SpeedRail and Diamond could be moved or swapped to mount spars, masts, etc. as



needed. Plastic grid floors of commercial kennel flooring were light, non-skid, and could be cut to drop sensors into the water without swinging them outboard, which also enabled quick retrieval for shallows or landings. Scraps of the grid material made handy tables for science gear, with infinite possibilities for strapping things down.

An added feature was a battery-powered trolling motor to add enough upstream power to let me row straight cross-sections. Since that part of the Snake is a non-motorized reach, we got permission from the Park Service. Eventually, we added a second trolling motor so we could take the cat upstream to retrieve survey gear and people from the opposite bank. I'd never used an electric motor on a boat,



and fell in love with the silent power, instantly available without cranking a starter rope.

By the third season, we had the basic stuff wired: boats, mounts, shuttle, rig, launch, retrieve, teardown, trailer. Carl and Brandon had learned how to get all their electronic devil-boxes talking to one another in less than four hours, often in just one. I'd learned the difference between rowing whitewater—for fun—and rowing with the Wiz on the rear seat and a load of expensive gear—for science.

Beyond the mundane practicalities was something new and exciting: we were doing our river research on the river. Much of our data— at times ten distinct sets per

trip— was collected while afloat. Besides being a ready subject, the river carried us and our gear: it *supported* our research, in the exact sense of the word. I loved the whole idea: imagine a whale biologist being able to ride on the back of a whale.

When I started in field hydrology, inspired by such lights as Luna Leopold and William Emmett, much of the work was done at fixed sites: concrete weirs, dam gates, and USGS permanent cableways. A stream that could be waded could be measured with a tape, a level, a staff, a current meter, and a top-setting rod— and waders, which I hated: smelly, bulky things, that got stiff as a board in cold weather. Doing surveys with Luna or Bill or Cheryl, my Forest Service boss, meant going to a spot with road access, lugging

all our stuff to the creek, then putting on the waders. Which I refused to do.

Instead, I wore shorts and the river sandals—Chacos— that I'd worn for backpacking and easy friction climbs. Being the butt of jokes didn't bother me near as much as being rubberized all day, squeaking around. In cold weather or for sampling streams at snowmelt, I added quick-dry trousers and neoprene socks, followed up with mugs of hot tea.

My main Forest Service work was running a wilderness monitoring project, measuring acid deposition in the Class I Bridger Wilderness. The first year we used a string of packhorses to lug in sheet-steel snow collectors, rebar, cable, Hubbard

Brook rain samplers, a small Avon raft, a Surber net for aquatic insects, a Van Dorn bottle, a Michigan plankton sampler, and dozens of bottles for water samples.



I'd been hired for my horsepacking and backcountry experience, which the hydrologists lacked. But after the heavy fixed gear was in place, the packhorses were more trouble than they were worth. First, I dispensed with the saddle horses we used to lead the packhorses, and led them on foot. But we had to use the same camps near high lakes repeatedly, and the horses were beating them up. So I switched to a couple leased llamas and left my cowboy hat at home.

For collecting rain and snow samples, which didn't require a raft, we depended on boots and snowshoes and skis, in strict adherence to the Wilderness Act. The U.S.G.S. set up some sites on the glaciers and, after a few failures getting in, applied for a waiver to use helicopters. By contrast, my approach was to find skilled partners and constantly pare down the weight of our camping and survival gear, until two of us could do all the work at any season. In summer, I frequently did three-day sampling runs solo. Given an average science load of 30-35 pounds (at times including a float-tube), I could carry 30 pounds of camping gear, clothing and food without straining.

I left the tent in the warehouse and used a bivouac bag. I cooked with a tiny stove and a single pot. I adopted a 3-layer system, learned from Colin Fletcher, to keep the weight of my clothing down. The concept was the same as Yvon Chouinard urged for mountaineering: hone your

technique, go fast and light, and you spend less time exposed to objective hazard.

It worked beautifully. Not only did we collect heaps of high-quality data, but we had no lost-time injuries in the six years I supervised. In 1989, we won the Forest Service National Primitive Skills Award, the coveted Silver Axe, usually given for building log bridges over cataracts with hand tools: the first time it had gone to a scientific project.

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Naturally, when Carl asked me to take care of the boats and logistics for his river work, I took the same approach: go fast and light. Leave No Trace.

We were working, after all, in a national park, in sight of a great many recreational users. Previous researchers had strung a huge cableway over the river and used johnboats with outboard motors. But we wanted to do our work without lessening the wild-river experience for the flyfishers, boaters, and hikers who had come to share our mutual public space.

Five years in, we've been seen by thousands on the Snake River, answered several hundred questions from other users, laughed at the same old jokes, and, as far as I know, attracted zero complaints.

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We land on the top bar on Swallow Bend, named for the hundreds of birds that burrow nests into the cutbank. The typical Snake River meander (e.g. Rusty Bend, below right) has a point bar in the center, inside, with outside bars above and below.

Swallow Bend has a big bar centered along the outside, with the swift current cutting away at the inside bank. Curious, I looked down on the odd part from the high cutbank and could see a bedrock ledge angling across, that kicks the main current across, river right. A gulley just above dumps in sediment at snowmelt, and the net result is a backwards bar.

Using Google Earth, I could see that Rusty Bend, a couple miles downstream, was a near cousin, in radius and topography, for the oddball, Swallow. So we focused some effort comparing the two, with boated cross-sections, GPS topography, and other detailed surveys.

Swallow Bend



Rusty Bend



Beyond the scientific value, it's a pretty place. The right bank is forest, conifers and cottonwoods. The left is sage upland and moist meadow. To the west, the Grand Teton looms like a judge in a formal blue robe. In August, the odd bar is clean cobble and gravel at the head with fine sand and silt at the tail, where there's a big, murky slackwater pool. Willows and alders sprout in the moist spots and the sandy tail is blobbed with goose poop and clumps of white down.

While surveying this bend, I've seen the tracks of deer, elk, moose, bison, beaver, otter, muskrat, black bear, grizzly, coyote, and wolf. Because there's such heavy day traffic— commercial flyfishing guides, private fishing parties, big sweep boats from the lodges, and every sort of raft, canoe, duckie, kayak, and stand-up paddle board imaginable— the wild critters stay hidden during working hours.

Considering how many people enjoy this reach of the Snake, I'm struck by how little mess they leave. There's very little trash, no firepits, few hacked trees, and no big stomped-out campsites with tissue blossoms. The intricate balancing act that characterizes our present-day Park Service seems, in this place, to be working rather well.



While we get out the GPS survey gear and set up a base station on the bar, Brandon gets ready to run cross-sections in the kayak. I hold the boat while he starts the program and then hands me the laptop. The previous version of the software could be run from a smartphone, but it was updated, alas. Looking at him punching away at the keys of a laptop while sitting in a kayak gives me a chuckle: what a photo op.

As he paddles across, I give him hand signals to keep him on line, like one does bringing a helicopter to a landing. But he's gotten so good at the process that he mostly follows his eye until he bumps the bank on the far side, drifts down, and starts another cross-section coming back.



We use the big cat to run cross-sections with the spectrometer, which is a bit much for a kayak. Or rather, spectrometers. Carl got a second, handheld, model that’s aimed at the sky, while the larger backpack unit looks at the surface or the substrate. That allows the surface and substrate data to be cancelled with the skylight, allowing us to collect during changing conditions without having to re-calibrate at short intervals.

While the spectral data is specifically keyed to the use of remote imagery for mapping, much of what we collect otherwise is a standard suite of data on channel morphology, flow dynamics, and water-quality. This general approach: collecting river data from a floating platform along entire reaches, would fit into quite a few monitoring and management programs that presently depend on fixed sites and road access. The data from the fixed sites is a marvelous baseline, with mobile collection an opportunity to add detail and extent to existing data sets. There are a few caveats: to accomplish this, a researcher or manager needs to have advanced boating skills and safety



training, or find people who do. To send low-paid, lightly-qualified summer temps off in a boat loaded with expensive equipment is, to put it mildly, fraught with peril. The quality of the data you collect depends *entirely* on the skills of the team you put in the field. Flipping a boat or logging serious injuries could kill your program, quite apart from the personal cost.

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In praise of cats: having run rivers in tubes, canoes, kayaks, duckies, johnboats, skiffs, dories, and rafts up to big, old bucket-boats, I’ve settled on the cataraft as the best all-round choice for research work. Here are some points in its favor:

≈ Cats are stable. With a grid or mesh floor, they’re much less likely to get swamped or pinned against a boulder, etc. than a raft of comparable size.

≈ They break down to components: two tubes, a frame, oars. A breakdown frame reduces the boat further to compact

bundles, each light enough to be carried with a backpack, stowed in a duffle, or loaded on a bushplane.

≈ Components can be changed one at a time. If you need fatter tubes to carry a heavy load, you don’t have to buy an entirely new frame. If your frame is a breakdown type, you can make it longer or wider without having to replace all the rails and fittings.

≈ The frame— in effect a big instrument stand—offers endless options for mounting gear with direct access to the water, through the floor or off the rear bar. Sensors can be quickly deployed and retrieved, without swinging any gear outboard, to catch on the oars, snags, or bank vegetation.

≈ The arrangement of seating and gear can be changed without trouble or additional cost. For our work, I favor having the rower, with the trolling motors, up front while the science gear is mounted rear, in reach of comfortable seats and sheltered from waves. But if a scientific program required mounting the gear and seating the techs on the downstream end, all it would take is a quick swap of crossmembers on the frame.

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For 2014, I got longer, fatter tubes, for more draft, and rebuilt our frame to add 2 feet and a full-width handrail for the Wiz, who had a serious bike accident and needed something to grab getting on and off, as well as a handhold to stand up and stretch. Another addition was a pivoting rear “stinger,” which mounts two spectrometer fore-optics, a GoPro camera, and a HOBO pressure transducer, for subsurface measurements. A T-mast on the front is a piece of pipe that slips down through a fitting, for a shallow-water anchor. These modifications are only a matter of a few hours, some aluminum pipe, and a few fittings.

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For solo work with the ADCP, I built a prototype using Jack’s Cutthroat tubes and frame, with a new foreframe to mount the battery and motor and an articulated spar for the float, so it remains level on the surface despite the motion of the boat.

The sun’s getting low, casting a long shadow over the Snake. Carl and Toby have been surveying the banks, bars, and bed at Swallow Bend with GPS rovers while Brandon paddles cross-sections in the kayak. Below the weird bar, the current races as it crosses to the outside bank, and Brandon is getting a bit worn after paddling twenty or so circuits. It’ll take half an hour to retrieve our gear and it’s at least an hour’s float to the landing at Deadman’s Bar. Then we’ve got another half-hour loading up and a half-hour’s drive to the Research Station on Jackson Lake. Nevertheless, Carl wonders out loud if there’s time to set up on Rusty Bend, downstream, and do further surveying.

I roll my eyes and deliver a warning, oft-repeated, about the hazards of succumbing to Data Lust. He squints into the sun, and nods—“Okay. Let’s roll for home.”◆

**Author’s note:** *Chip Rawlins got an MA from the University of Wyoming in 2014, in Geography/Water Resources. He was a hydrology tech with the U. S. Forest Service until 1992, and has since consulted from his home in Wyoming and written several books, including “The Complete Walker IV” with Colin Fletcher. Besides working on the upper Green, Snake River, North Platte, Savery Creek, and other streams, he has designed and built portable cableways for use on the Greenland Icecap.*

### Contact & Resources

Chip Rawlins/StreamCraft: <[www.facebook.com/streamcraft](http://www.facebook.com/streamcraft)> StreamCraft2015@gmail.com

Manual: Harrelson, Rawlins, and Potyondy. Stream channel reference sites: an illustrated guide to field technique. <<http://www.stream.fs.fed.us/publications/PDFs/RM245E.PDF>>

Dr. Carl Legleiter and Brandon Overstreet  
Geography Department, University of Wyoming  
Carl.Legleiter@uwyo.edu / boverstreet@uwyo.edu

Article: C. J. Legleiter and B. T. Overstreet. Mapping gravel bed river bathymetry from space. *Journal of Geophysical Research: Earth Surface* (2003–2012) 117, 21 NOV 2012.

UW-NPS Research Center, Jackson Lake, WY <<http://www.uwyo.edu/uwnps/>>  
Harold L. Bergman: bergman@uwyo.edu

Jack’s Plastic Welding (inflatable boats and custom cat tubes) <[www.jpwinco.com](http://www.jpwinco.com)> or info@jpwinco.com

Acoustic Doppler Current Profiler and RTK-GPS: SonTek River Surveyor S5 <<http://www.sontek.com/productsdetail.php?RiverSurveyor-S5-M9-14>>

(*Brainerd*, from page 13)

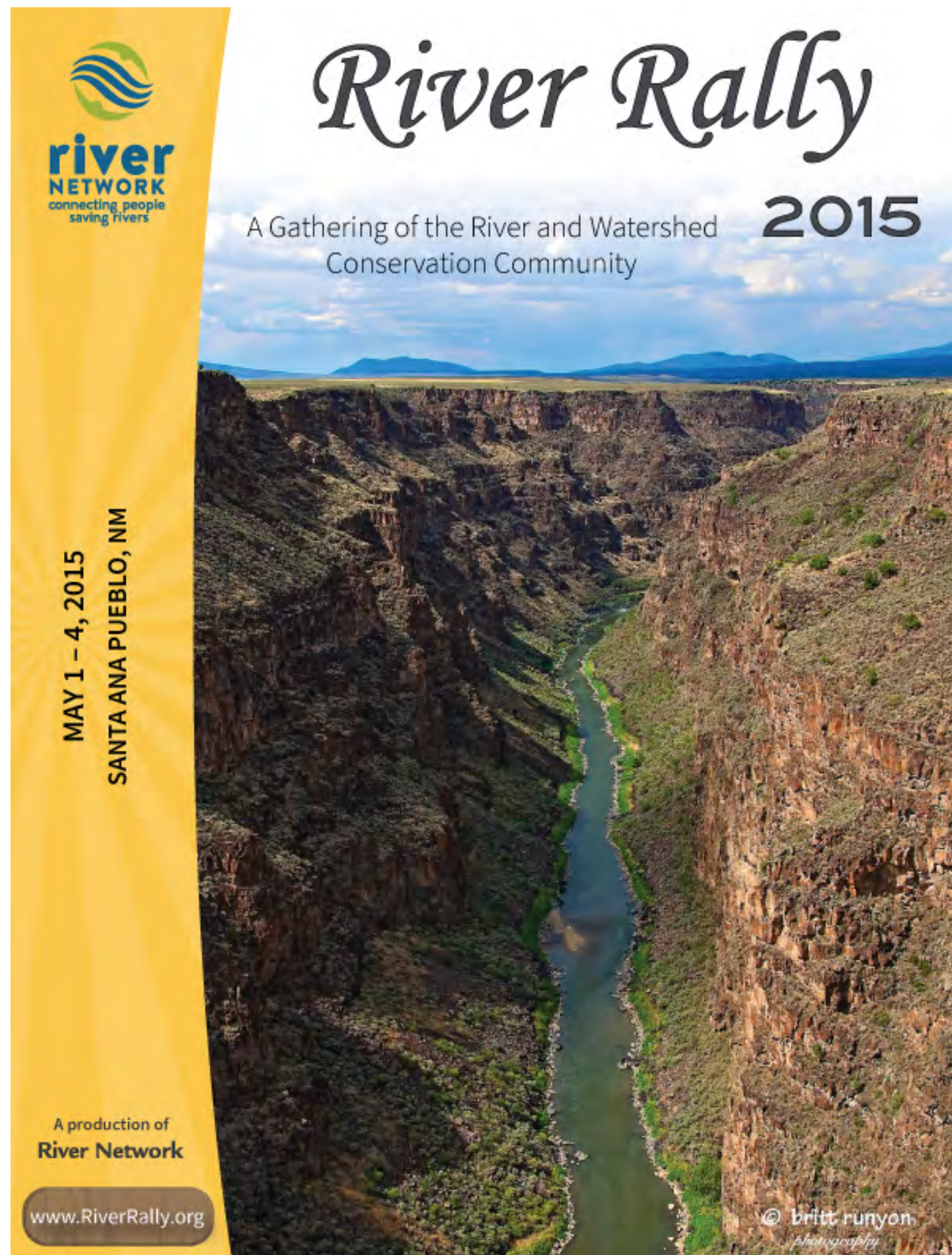
“We at CRD have greatly enjoyed working with the City of Brainerd exploring opportunities to embrace the Mississippi River as part of their cultural heritage and as a phenomenal natural resource right in the heart of the community. It has been especially rewarding to engage hand-in-hand with the citizens on the project steering committee and experience their vision for the river corridor as well as their commitment to the community.”  
— Steve Roos, Senior Research Fellow, RLA, ASLA Center for Rural Design, University of Minnesota

help guide the vision, set priorities and be a truthing voice to a realistic and timely Mississippi Revitalization effort. Cool!  
In process, and with the help of the City of Brainerd, CRD, RTCA and the Advisory Steering Committee working together, a solidified vision and conceptual designs for a two-mile stretch of river front through the heart of Brainerd is being undertaken. Through meetings, media, written and verbal stories, open houses and “charrette” process (design workshop used in many planning efforts these days), ideas are unfolding that recognize and speak to civic spaces for public access to the river, recreational opportunities on the river itself (i.e. Water Trail), trail building and systems, parks, interpretive areas, and even art and culture along the river are being explored and planned. All the while, not losing the important scenic beauty and preserving the natural character and function for which the Mississippi was and is being known for. Hat’s off Brainerd! Thanks for once again recognizing the river as an important asset and lifeblood of a community “Up North.”◆  
*Questions or comments on the Brainerd “Mississippi Riverfront – Revitalization Plan” can be directed to Randy Thoreson, National Park Service / RTCA at 651-293-8450 or randy\_thoreson@nps.gov.*

Mississippi River, in the heart of Brainerd. Photo: Randy Thoreson







## RMS Partners with River Network at

# River Rally 2015

River Rally 2015, a production of River Network, will take place from May 1-4 at the Tamaya Resort near Albuquerque, New Mexico, and will focus on five themes:

- Tribal opportunities and breakthroughs
- Water security and scarcity in a climate changed world
- Solutions and innovations to deliver clean water
- Novel collaborations to expand impact and get to scale
- Organizational development for river groups and watershed organizations
- *Special new track!*

In addition, River Network and River Management Society are collaborating for the first time with an experiment about which both organizations are psyched. River Rally will offer a *sixth track of workshops* on river management issues, the river management profession, and initiatives of interest to River Rally attendees. Here's the lineup for the River Management track:

### Addressing River User Capacities

Joan Harn, National Park Service  
Mollie Chaudet, USDA Forest Service (retired)  
Liz Lacy, National Park Service  
Steve Chesterton, USDA Forest Service

*How many people can enjoy a river without adversely affecting its special resource values? How can you make sense of a question like this when the answer very much depends on how people behave as well as the sensitivity and resilience of the resources needing protection? How can river managers influence user behavior when they may have limited control over river access?*

National Wild and Scenic River managers understand they must address capacity-related issues to ensure that river values are protected and enhanced and the desired quality of visitor experiences are achieved. Recent lawsuits concerning Yosemite National Park's Merced River CRMP have encouraged this balancing of the Act's intent and the reality of public interests.

The Interagency Wild and Scenic Rivers Coordinating Council is developing guidance on these issues in a new technical paper, *Addressing User Capacities on Wild & Scenic Rivers* and the workshop will discuss its components.

Anyone involved with stress on rivers driven by high river visitor use should attend.

You will learn:

- Planning principles for addressing river user capacity;
- Recommended steps for dealing with user capacity on Wild and Scenic rivers.
- Availability of resources to help deal with visitor use management issues.
- Visitor use challenges encountered by participants.

### Federal River Partnerships - Creation, Care, Feeding

David Cernicek, Bridger-Teton National Forest  
Tom O'Keefe, American Whitewater

This is a bare-bones 'non-government-speak' workshop about river partnerships coming from the federal end of the eddy. As government funding has not kept pace with river needs, partnerships have gone from the "oh, how nice" category to "real bad things are gonna happen if our stakeholders can't help!" Sometimes what's needed can't be articulated, what's offered can't be legally accepted, and/or too many emotions turn great potential into unproductive mush. This workshop should take participants to the near-Jedi level in identifying, initiating and growing successful relationships with the agencies managing your public lands. Activities and discussions include: *Federal Funding 101, Taboo Topics, Known Keys to Success & Instant Failure, Partnership Agreements 101, Grant Sources & Strategies, Information Management is Life or Death, Moving the Immovable Object*. Participate in the Build-A-Partnership Activity and compete to be the champion in *Name that River Grant Source/Potential Partner* game show.

From the newcomer to the partnership ninja, one of the key tactics for successful projects is encouraging diverse ideas from different backgrounds, bringing varied resources to the table with a greater regard for the end product than giving a darn who gets the credit. This will be interactive and informative with hopes that some can bring projects they're working on, some can show their scars, and others can offer their 100% secrets to success.

### Sustainable Recreation on Fossil Creek, WSR

Diane Taliaferro, USDA Forest Service  
Francisco Valenzuela, USDA Forest Service

Are you finding it challenging to juggle your river's many audiences and balance near term issues with a long term view? Are you unsure how to comply with or evaluate restoration projects due where the river has been given legislated protection? We'll use the restoration of Fossil Creek as an excellent platform for discussing similar opportunities and challenges. This complex native fish restoration project revolved around:

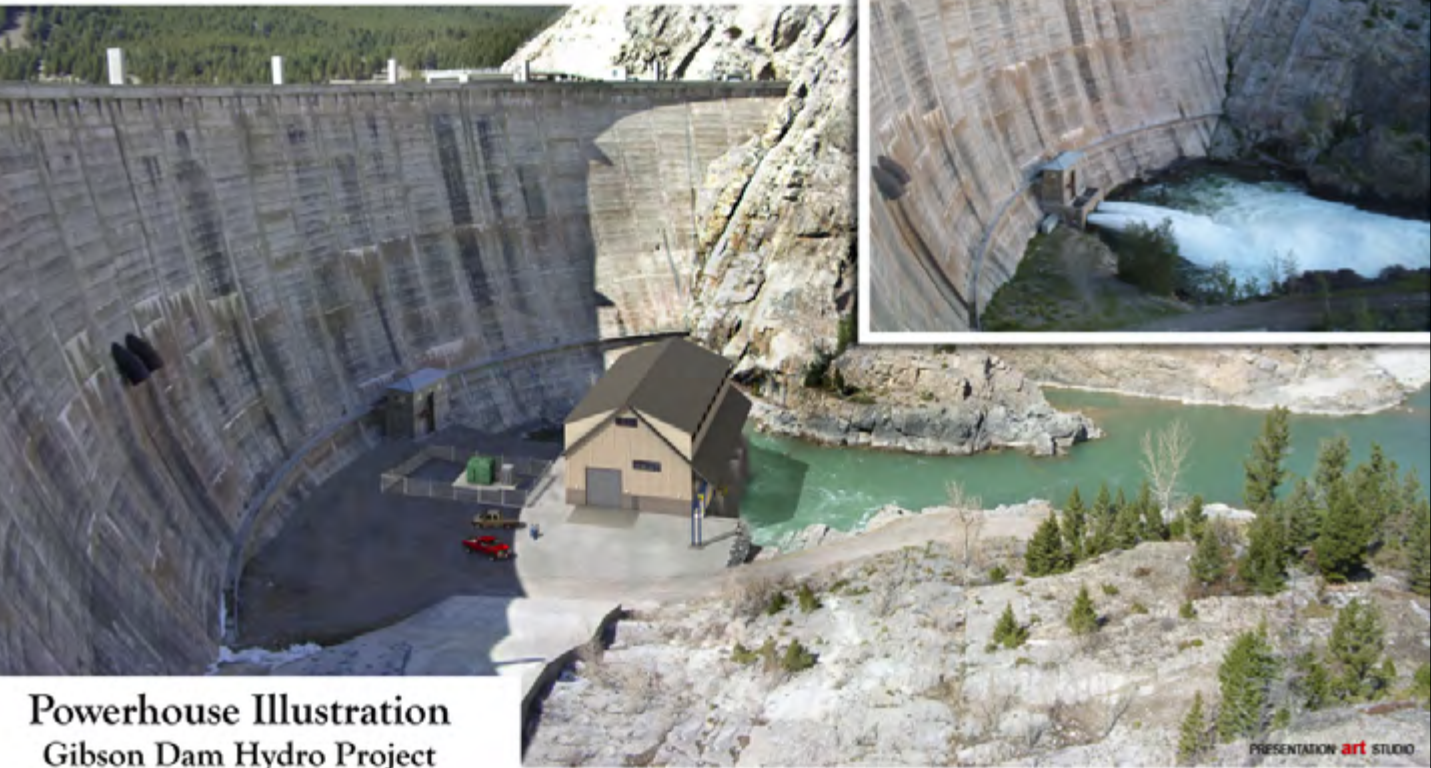
- 1) Restoring/maintaining this regionally significant assemblage of native fish, amphibians, reptiles;
- 2) Protecting Wild and Scenic River values, water quality and free flow; and
- 3) Protecting Wilderness and minimizing the effects on Wilderness values and character.

You will learn how state-of-the-art sustainability science is being applied to the management of rivers, and how:

- Sustainable recreation is a framework for quality of life;
- Understanding human-environmental systems encourages an integration of social and natural sciences; and
- Appreciating many world views supports community-building.



Whitewater Gibson Powerhouse FIN – courtesy of RMS and Hydropower Reform Coalition from Hydropower Project Summary, SUN RIVER, MONTANA, GIBSON HYDROELECTRIC PROJECT (P-12478), RMS and HRC, 2013. Photo/rendering courtesy of Tollhouse Energy Company.



Restoring Rivers through Hydropower Licensing

Rupak Thapaliya, American Rivers - Hydropower Reform Coalition

Hydropower projects can harm rivers but the good news is that there are opportunities for restoration through the federal licensing process. Learn about the public’s role in licensing, hear success stories, and understand how to effectively engage in the process.

The federal hydropower licensing process offers the public an opportunity to make an impact. Learn how the NGO community has made a meaningful impact to improve operations of hydropower dams. The workshop will include a presentation from hydropower licensing experts and an interactive session on figuring out what opportunities may exist in your watersheds to restore rivers impacted by hydropower dams.

Lead Me to the River [Profession]

Kristin Maharg, Colorado Foundation for Water Education

Do you see opportunities to broaden the horizons of emerging river professionals and intentionally grow their careers? In this session you will learn how CFWE’s Water Leaders Program, a yearlong intensive training for mid-level water professionals, enables participants to develop their potential and understand how a combination of networking, learning and coaching can help address our future leadership challenges.

In 90 minutes, we’ll discuss how to get started or expand your influence on social media, and get you sharing your own updates from River Rally and beyond!

Strategy and Audience - Learn which social media platform makes the most sense for you to be active on and why, based on who you are trying to reach, your specific ‘ask’ and your social media objectives.

Nuts and Bolts - We will help you make media decisions by reviewing a case study, then examining tactics like choosing the best hashtag (#) for supporters to find you on social media platforms.

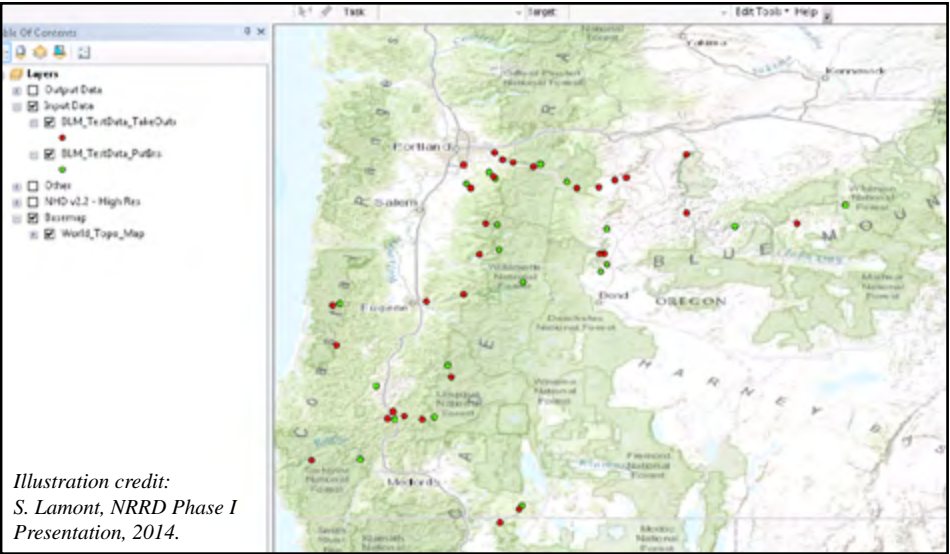
Analyze Your Impact - Learn how to measure your influence, beyond the numbers of followers you have on each account.

Developing a River Resource for Both Sides of the Aisle

Risa Shimoda, River Management Society  
Tom O’Keefe, American Whitewater  
Susan Rosebrough, National Park Service  
Joan Harn, National Park Service

First steps have been taken to develop a National River Recreation Database to provide “comprehensive river recreation and management information useful to both resource managers and interested publics.” Partners include the National Park Service, American Whitewater, USDA Forest Service, Minnesota DNR, Esri and the US Geological Survey.

Separately for decades, American Whitewater has been utilizing technology and harnessing the boundless energy of its volunteers to develop a rich set of data regarding whitewater rivers in the U.S. Rivers are categorized by state, with flows linked to US Geological Survey or other gauges. A unique aspect of AW’s river reach data is the associated compendium



of program-related events and issues provided by an all-volunteer StreamTeam.

Workshop participants will see: 1) the river information that is or will be offered by the presenters’ organizations; 2) an illustration of rivers included thus far in the discussed river projects; and 3) the ‘recipe’ for integrating volunteered data

to the NRRD, and the website that it will inform (www.nationalriversproject.com, which is not yet under construction).

Input for the projects in development is welcome, and river organizations seeking a ‘host’ for their geospatial data are welcome to discuss their project as input or reinforcement for other groups.



Barry Lonik and Dea Armstrong. Photo: Huron River Watershed Council

Water Trail Viability Involves the \$ They Create, and More

Corita Waters, National Park Service  
Risa Shimoda, River Management Society  
Erik Wrede, Minnesota DNR  
Lelia Mellen, National Park Service

Dollars aren’t the only factor for healthy water trails, but connecting economics and the tourism community is critical when resources are needed to prepare, construct, maintain and promote river reaches or lake access points as recreation destinations.

Overview: Evaluation of Water Trail Economic Benefits Studies  
We will present a summary of the most recent economic studies examining the factors that contribute to positive results for water trails. What are the common metrics and lessons learned from these studies?

Local Example: Why did the tourism community show up at the 2014 Minnesota Water Trails Tourism Summit in surprising numbers? How can we better engage more Convention/Visitor Bureaus in water trails work?

Exercise/Case Study: Review and work through a few scenarios that help us understand the management practices needed to build water trail success. Attendees will:

- Gain an understanding of water trail economic benefit studies
- Gain confidence to do your own economic impact study
- Understand water trail best practices
- Build a network with other trail managers and users
- Learn from others
- Draft a take home message to help expand your support♦

To Register / Learn More:  
www.riverrally.org



# 2014 Treasurer’s Report

by Helen Clough, RMS President (*and Past Treasurer*)

This article describes the financial picture of the River Management Society as of December 31, 2014. Using the same format as last year the report addresses three basic questions: (1) Where does our money come from (income)? (2) Where does our money go (expenses)? (3) What is our overall financial situation?

### (1) Where does our money come from?

In 2014, our total income was \$179,323.62 – coming from events, charitable contributions, contracts, grants, membership, merchandise sales, and professional services (see table for details of major income categories).

In the past we have counted on the biennial symposium to fund the majority of our activities. This year our training/ symposium essentially broke even. That was in no large part due to the wonderful support we had from our planning committee, event sponsors, and the incredible success of our silent auction.

### (2) Where does our money go?

Our total expenses were \$179,372.62. The biggest expenses were for the 2014 Training Symposium held in Denver, personnel costs (for our Executive Director and intern), and for general operating expenses (items such as the RMS Journal and website).

As our Executive Director described in her regular reports, we have accomplished a lot this year including hosting *Managing Rivers in Changing Climes / Training Tomorrow’s River Professionals. Prepare to Launch! Guidelines For Assessing, Designing & Building Access Sites For Carry-In Watercraft* has been viewed over 6,000 times on slide-share. We coordinated on-site Wild and Scenic Rivers Training Workshops for the USDA Forest Service and Section 7 webinars. We continue to work on hydropower license summaries with our partners at the Hydropower Reform Coalition. We formally launched the River Studies and Leadership Certificate Program in collaboration with several schools, and additional schools have indicated interest. We continue to update our website, offer the list serve, and distribute the weekly RMS News Digest.

### (3) What is our overall financial situation?

We ended the year with \$80,762 in the bank. Outlays exceeded income by around 50 dollars; last year that number was \$50,000. At our October 2014 board meeting in Denver, your board approved a balanced budget for 2015 with guaranteed income matching projected expenses. This is due to the diligent efforts of our Executive Director, Risa Shimoda.

I will end this report with my estimate of our source of greatest strength – the contributions of our

members. One of our tax reporting requirements is to estimate the hours and money the Board of Directors donates to RMS. This year with all but two board members reporting, your board donated over 2,500 hours (an increase of 500 hours from last year) and close to \$5,900 in travel costs, materials, and other expenses to RMS. That is only the time donated by the national board. We know that those of you who serve as chapter officers and who help with chapter events and other RMS activities donate probably as many or more hours and money to RMS. Your hard work and commitment is appreciated and is part of our great strength. ♦

*If members have questions about our finances, please feel free to contact your Chapter President, incoming Treasurer Randy Welsh, or Executive Director Risa Shimoda.*

RMS 2014 Profit and Loss Statement				
Cash in the bank 1-1-2013				\$81,388
Income	Event Income	104,443		
	Charitable contributions	1,384		
	Contract receipts	34,288		
	Grant Income	4,000		
	Interest Earned			
	Membership	13,343		
	Sales - Merchandise	1,721		
	Sales - Professional Services	20,095		
	Other Income	50		
	<b>Total Income</b>	179,324		
Expenses	Operating	88,599*		
	Personnel Costs	49,992		
	Program Expenses	40,782		
	<b>Total expenses</b>	179,373		
Net Income		(51)		
Cash in the bank 1-1-2014				\$80,762

# The Case Against Water Conservation

by Dennis Willis

Greetings from my home in Price, Utah. Price is located on the Price River, a tributary entering the Green River approximately 120 miles above the Green and Colorado River confluence. All the water we use here is part of the Colorado River System. All the water I use at home comes from the Price River or from springs that would naturally feed that river.

The State of Utah, as well as local governments, have issued a call for us all to conserve our use of the precious water resource. It is a familiar message in communities throughout the parched west. I know it is a cause many RMS members are devoted to and one they live religiously. My response has largely been one, big, PHOOEY.

I like to take long showers with the flow restrictor removed from the shower head. I leave the water running while I brush my teeth for the dentist-recommended two to three minutes. Just love the sound of a five-gallon flush from my old-school toilet. I do these things because I love my rivers. Each of these actions puts water back into the stream.

The problem with water conservation as it is practiced in the west is that it only conserves, reduces, what we put back into the river. It does not address at all what we take out. I do not believe the conservation messages. There is no credibility on the need to conserve water. The state still approves energy developments that have massive water demands. A single oil and gas well can use upwards of 20 acre feet of water. Most all of that is total consumptive use with the water being lost to the planet’s hydrologic cycle for any kind of human time frame. My county has yet to refuse to permit a new subdivision or major water using industrial facility over concerns for a lack of water.

When water rights are adjudicated it gives the holder the right to divert a volume of water from the stream. Inherent in all the calculations of water rights is the concept of return flow. It is assumed that some percentage of the water that is diverted will eventually be returned to the system. In excess of 80% of the water rights for residential use are assumed to return to the stream. When we “conserve” water in our homes we do two things. We reduce the total return flow and the return flow has higher concentrations of contaminants. The eight ounces of urine that was once diluted with a five-gallon flush is now only diluted by one to two gallons. The soaps from our water-conserving showers, clothes washers, dishwashers and the like are also more concentrated. This results in sewer treatment plants having to deal with a product far more concentrated than they were designed for. This shows up downstream as increased concentrations of nutrients and ammonia. Anybody who has ever kept a fish tank knows what happens to fish as ammonia concentrations increase. Ammonia and nutrients are a growing water quality issue in streams around the west. Meanwhile, the holder of the water rights continues to divert the same amount of water and uses it to feed growing populations, water thirsty industrial operations and the like.

Return flows are not just assumed for residential, in home use. Irrigation has return flows assumed. These were calculated when irrigation ditches were unlined; fields were irrigated using ditch and flood methods. Water is returned to the stream by run off and subsurface flow. In my area, all the ditch and flood irrigation has been replaced by pressurized pipes and very efficient sprinkler irrigation. The farmers retain their full right to

*“I take long showers with the flow restrictor removed...  
I leave the water running while I brush my teeth...  
Just love the sound of a five-gallon flush...  
I do these things because I love my rivers.”*

divert from the stream. The water they save they use to irrigate more ground or sell to somebody who needs it. Once again, we divert the same amount of water and conservation limits what goes back.

There are of course losses, that is why my house only assumes an 80% return flow. There are in home evaporation losses; the steam on the mirror after the long shower and what boils away making a nice reduction sauce. Evapotranspiration happens with both house plants and outside landscape watering. I have given a nod to conservation here. Most of my neighbors have 5,000 – 8,000 square feet of lawn. Mine is cut back to about 750 square feet for the benefit of the dog and grandkids. The rest is in native plant xeriscaping. By the way, the return flow on my watered grass is assumed by the water rights regulators to be 25% to 33%. A doubtful proposition given that I live on very tight shale that is not very transmissive.

I suspect this position on water conservation may be controversial and some may question my ethics. Different situations may have different results. I was pondering the issue while brushing my teeth in Denver, likely using some trans-basin diversion water. Should my reasoning be different when the water is taken from the Colorado River and placed into the Platte? Might it be different if I lived on the end of the line and the next flush put the water in the ocean? Water conservation sounds like a noble cause. Before we heed the siren’s call we need to think about what it really means in theory and practice. Your situation may lead to a different result.

Water conservation as practiced in the west today is all about reducing the water we put back into the stream. It has nothing to do with how much we take out. I need to see two things before I can take conservation efforts seriously:

- 1) *The state or local government must say “no” to a development over water concerns.*
- 2) *Give me a system by which at least some of the water I conserve gets to stay in the river. ♦*



# RMS Chapters

## Southeast by Jane Polansky

### New Chapter Officers

January, 2015 marks the beginning of a three year term for new chapter officers Jane Polansky, President; Mitch Reid, Vice President; Karen Kustafik, Events Coordinator/Treasurer; and Glen Bishop, Secretary . You can contact us by logging into the RMS website member directory and retrieving our email and phone numbers.

### Chapter Bylaws Amended

Before leaving office, Mary was adamant about updating our chapter by-laws to ensure they are consistent with recent amendments to the RMS National Bylaws. She and others worked relentlessly and invited the new chapter officers to participate in the process. In December, amendments were adopted and our new chapter bylaws were submitted to the National Office for ratification and inclusion on the RMS website.

### Call To Action

Our chapter is nineteen members strong. Who will be the first to recruit a new member or the first member from Louisiana, Mississippi, Virginia or West Virginia? Our region has some of the most fascinating inland and coastal waterways and river guides and river managers capable of coordinating river trips or resource management activities for chapter members and their guests. Contact Karen Kustafik and share your ideas and resources with her.

Share a story about your river community in the RMS quarterly journal. Write it yourself or request one from a local watershed organization or friend. Submit articles to me or Caroline Kurz.

You know how to contact me, Mitch, Karen or Glen. Let's work together to grow a stronger chapter; let's get together to experience and enjoy our regional treasures; and let's share our regional stories with others.



## Brown's Mill Dam Removal and River Access

Brown's Mill Dam dates back to 1829 when the original log dam was constructed on site to power the mill. The Army Corps of Engineers fortified the log dam in 1941 by covering it with concrete. The dam was reinforced again in 1954 by covering rock fill behind the dam with concrete. The mill remained in operation until 1978 and was on the National Register of Historic Places. In 1981, the City of Murfreesboro purchased the Brown's Mill site as an emergency water supply. Ten years later the mill building collapsed into the river during restoration efforts and in 2002 Brown's Mill was removed from the National Register of Historic Places.

For years the dam posed a danger to paddlers by creating a hydraulic undertow capable of trapping and drowning individuals. It also obstructed the ability of fish and other aquatic life to move both upstream and downstream posing problems for mussels requiring particular species of fish hosts to reproduce and for fish species needing to migrate to spawn.

A fish survey conducted on May 20, 2013, identified 35 species of fish including three species of concern: the Finescale Darter, Blotched Chub, and Bedrock Shiner. That survey was followed by a Mussel Survey conducted on June 4, 2013, where two mussel species (*Painted Creekshell Villosa taeniata* and *Cumberland Moccasin Creekshell Medionidus conradicus*) were identified from 20 live mussels collected from 80 quadrants.

During the following months an archeological survey and Historical and Cultural Significance Survey were completed. Permits were obtained and the state bidding process was underway. On July 8, 2014, a Public Information Session was held all the while great care was taken to work with adjacent landowners. Environmental and flow conditions opened a window of opportunity in the middle of September, 2014, providing enough time to remove the entire dam, slope the riverbank for a future public river access site and complete necessary restoration practices to control erosion and sedimentation.

On November 13, 2014, a ribbon cutting ceremony was held for the removal of Brown's Mill Dam on the East Fork of the Stones River, a tributary of the Cumberland River, in middle Tennessee. The Tennessee Wildlife Resources Agency and project partners including The Nature Conservancy, City of Murfreesboro, Stone's River Watershed Association, Tennessee Department of Environment and Conservation, Tennessee Valley Authority, and others were recognized for their contribution to a project that took nearly two years to complete and was funded by The Nature Conservancy, Tennessee Healthy Watershed Initiative, Tennessee Valley Authority and Tennessee Wildlife Resources Agency State Wildlife Grants.

Fish, mussel, and aquatic plant surveys will be conducted on a planned schedule to assess natural regeneration. Efforts are already underway to acquire funding and resources to remove other identified lowhead dams in middle Tennessee. ♦

Browns Mill Dam located on the East Fork of the Stone's River  
Photos: Pandy English, TWRA



(Inset: Removal of Brown's Mill Dam on 9-19-14.)  
East Fork of the Stone's River after dam removal.



# RMS Chapters

## Southwest

The Southwest Chapter recently held 2015-2017 officer elections...



### Vice President - Greg Trainor

Greg recently retired from the position of Public Works/Utility Director for the City of Grand Junction, Colorado. At the confluence of the Colorado and Gunnison Rivers, he was engaged in: utility construction, endangered species, parks and trail development, storm water and sanitary sewage discharges, dikes, water rights development, kayak park development, and Colorado's State Water Plan (2015). Greg has been a member of the RMS for 15 years. He has previously served as an officer; edited and authored submissions for the RMS Journal; organized and participated in River Ranger Rendezvous; planned chapter floats; and volunteered for the BLM in Desolation Canyon during the 2013 and 2014 seasons.

Says Greg, "As an officer, I hope to broaden chapter membership among organizations that have an impact on the nation's rivers; determine how RMS can provide what river managers and rangers need to manage effectively; explore how the chapter can improve communication among federal, state, municipal, and other resource managers; and help RMS maintain relationships with southwest universities that provide water and river management education programs."



### Trip Coordinator - Bunny Sterin

Bunny (now retired from the BLM) has been involved in river management throughout her 31-year federal career. Her most recent role was the National Conservation Lands lead for BLM in Utah, which included the management of Wild and Scenic Rivers. She also served on the design team for BLM's Wild and Scenic Rivers course, still in development. Bunny's longstanding service to RMS includes serving as president for the Southwest and Alaska chapters, plus chairing several symposia, workshops, float trips, and River Ranger Rendezvous. She has coordinated many river trips, and looks forward to continuing the tradition of annual river trips which contribute to the quality and awareness of the managing agency's river management programs and best practices.

### Secretary – Matt Blocker

Matt has worked in recreation with the BLM since 2005. He hails from Montana where he worked on the Madison and Blackfoot rivers, then moved to Utah in 2012 to work as an Outdoor Recreation Planner in Price. He manages the Desolation Canyon section of the Green River with help from a tremendous staff of rangers and a recreation assistant. "I look forward to helping our chapter accomplish our goals and mission." (photo to right)



### President – Rob White

As the Park Manager of the Arkansas Headwaters Recreation Area (AHRA), Rob is responsible for the formulation of policies, goals and objectives; coordination of facility development and land acquisition; preparation of a variety of monthly and yearly reports and comprehensive plans; development, implementation and administration of a variety of budgets; coordination and attendance at a number of staff and agency meetings; inspection of park facilities and programs; leading the negotiations for a variety of services and programs; supervision of the staff. He also provides recreation and operational expertise and assistance to local, state and federal agencies and organizations.

"Since becoming the AHRA Park Manager in 2000, I have come to rely upon the RMS membership to help guide me through a number of difficult decision making processes involving management of the recreation area. I have continued to be impressed by both the knowledge and professionalism of the various RMS members I have had the privilege to either work with or meet through various RMS related functions such as River Ranger Rendezvous, symposiums and RMS-sponsored river trips. RMS has given me so much during my time at the Arkansas Headwaters, I am honored to give back a little myself by serving in the position of President of the RMS Southwest Chapter."

# RMS Chapters

## Midwest by Peter Hark

As I write this note, it is -26° with wind chill. By the time this journal is published I will be thinking about ice out and getting that first paddle in for the spring season. A good friend puts his kayak in the water every month of the year in Minnesota...he has over ten years of monthly paddles under his belt. Recently, I saw a YouTube video of a group of young adults sledding down a snow covered hill in a canoe and at the bottom they have a perfect plunge into the open water – their sledding boat craft skimming smoothly across the not quite frozen lake! I am always amazed and pleased at this sense of adventure and perseverance under extreme conditions.

The Midwest chapter is focusing its efforts to communicate and organize on a number of fronts. Some of these include:

- Updating chapter bylaws.
- Holding 2015 chapter elections.
- Engaging membership through outings and communications.
- Increasing chapter membership.
- Promoting chapter attendance and involvement at national trainings and workshops.
- Staying true to the mission of RMS – supporting members and professionals who study, protect, and manage North America's rivers.

I want to express my appreciation for the opportunity to serve on the RMS national board as the Midwest President. I've always valued RMS and have been a member for a while, but in serving as Chapter President I have seen and recognized a level of quality that is constant throughout our leaders and membership who make up such a dedicated and professional organization. It is this dedication that is always in the forefront. And, of course, there is always a bit of adventure in the RMS mix! Also, I want to give a shout out to Caroline Kurz, editor of the RMS Journal. This is a top quality publication and her focus and work in bringing this together is greatly appreciated. Cheers!♦

RMS Southwest Secretary, Matt Blocker



## Pacific by Jim Eicher

Hello from the Pacific Chapter! Yes, that's right, we are still alive and kicking out West! After discussions with chapter members, Risa, the RMS Board, and four crazy individuals who are up to the task of trying to get this chapter moving again, I, Jim Eicher (interim Pacific Chapter President), Bill Deitchman, Noah Rucker-Triplett, and Larry Freilich will be contacting each RMS member in the coming weeks to discuss how to revitalize and bring value back to the chapter.

For 2015, we are planning to hold a chapter river trip where there might be water (no minor feat), provide training and workshop opportunities for members, and hold an election for new officers. We are excited to discuss and listen to our existing members' ideas on bringing value to their existing membership. We will be posting our progress over the coming year.

Please let us know how we can make the Pacific Chapter effective, meet your needs, and support your programs. If you know of others who might be interested in joining the Pacific Chapter, we would love to hear from you to discuss how best to introduce RMS to them and engage them as river-rats and professional colleagues. We appreciate your assistance in reestablishing an active chapter of RMS in the West!♦



Jim Eicher at Lower Yosemite Falls.  
Spring 2009, Yosemite National Park, California.



# RMS Chapters

## Northwest

The new chapter officers for 2015-2018 are in place and ready to go! Members of this awesome team will no doubt benefit from both its longtime chapter leadership experience and those relatively new to the organization, eager to meet the needs of RMS members in Washington, Oregon, Idaho, Montana and Wyoming.



**President – Louise Kling**

My name is Louise Kling, and I live in Portland, Oregon, where I spend my free time on the rivers and mountains of the region with my husband and boys. I work as an environmental planner at AECOM focusing on environmental analysis for energy and infrastructure development, and occasionally public land use planning. Though new to RMS, I have enjoyed learning about the many diverse ways this organization supports professionals working on rivers or river-related issues. Having benefitted first-hand from the training opportunities provided by RMS, I look forward to supporting this part of RMS' mission through active participation in training programs and next year's symposium. And, of course, I look forward to some of the exciting river trips in the making.

The NW Chapter officers represent some of our region's most amazing rivers – from southern Oregon, to Idaho, to Wyoming -- and we are all looking forward to sharing time on the water with you!



**Vice President – Ryan Turner**

Ryan is returning to the Northwest Chapter Board after serving as the Chapter Secretary for three years. His passion for rivers began while growing up near the Cache la Poudre River in Fort Collins, Colorado, and working as a raft guide to help pay bills through college. After graduating from Colorado State University and completing an internship on the Klamath River in Happy Camp, CA (where he first joined RMS in 2009), Ryan moved to Grangeville, ID, and has been the Lower Salmon River Ranger since 2010. Says Ryan, "I feel chapter river trips and gatherings are what makes RMS so great, and as Vice President I will make sure that the NW Chapter continues to provide these opportunities to network, meet other members and, most importantly, have fun doing it!"

**Secretary – Martin Hudson**



With pride and respect for RMS and the NW Chapter membership, I appreciate this opportunity to serve as chapter secretary. I've never performed in an official capacity for RMS and feel it's time to do more for this organization. I have 25 years of service as a BLM outdoor recreation planner, among other work and life experiences. My love of water resources and people who use and enjoy our rivers has led me to work in Pinedale, Wyoming, for the last 14 years. With almost as many years with RMS, I've seen our chapter successfully supporting RMS by getting people involved and doing good things. Along with my wife of 25 years, I enjoy parenting our son and daughter, who with their ever imaginative personalities and teenage energy keep us on the run towards insanity. My passions also include river running, fishing, competitive endurance sports and answering to the demands of two German Wirehaired Pointers.

**Events Coordinator – Colby Hawkinson**



Colby has been a BLM park ranger on the Rogue River since 2012. He also serves as the BLM co-lead in the Department of Interior's Motorboat Operator Certification Course program. Prior to the BLM, Colby worked as a park ranger with the U.S. Fish & Wildlife Service from 2009 to 2012 in coastal New Jersey, Chesapeake Bay, and on the Susquehanna River. From 1994 to present, he has guided on rivers in Idaho, Oregon, Washington and Alaska, running drift boats, dories, rafts, and a sweep boat. When he's not on the water, Colby enjoys hiking, fishing, hunting and volunteering as a Hunter Safety Instructor. ♦

# RMS Chapters

## Northeast

Greeting! Please meet your new officers, who are excited to be serving and have already begun planning exciting float trips!

**President – Marina Metes**

Marina is currently an M.S. student in Geography and Environmental Systems at the University of Maryland, Baltimore County. Her research focuses on geomorphic and hydrologic changes of streams and spatial patterns of deforestation as a result of urbanization. Marina has a B.S. in Earth Science from Michigan State University. She has worked as an AmeriCorps VISTA Community Development Coordinator for the Harpeth River Watershed Association in Tennessee and environmental steward intern with the Anacostia Watershed Society in Washington, D.C. She also has a certificate in GIS, and since last spring has been working with RMS on a river access mapping project supported by the National Park Service. In her free time, she loves exploring new places and trying exotic foods in Washington, D.C., where she currently resides. When she can get out of the city, she also loves to go on backpacking, fishing, and road biking adventures.

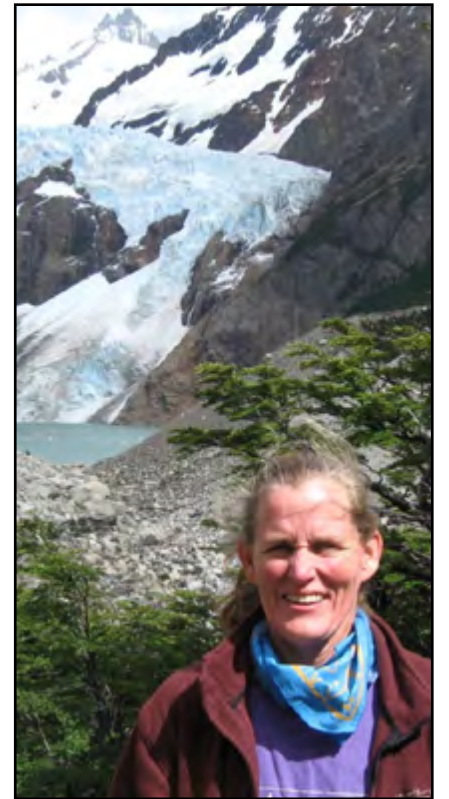


**Vice President – Paul Beaulieu**

Paul has 29 years of environmental consulting experience with Tighe and Bond (Westfield, Massachusetts), where he has served many roles including water quality laboratory analyst, Licensed Site Professional (hazardous waste site cleanup) and Professional Wetlands Scientists. Paul currently leads the firm's River Restoration Practice. He has a passion for river systems and is active at both a statewide and regional level in organizations whose missions are to assess, restore, and enhance the ecological quality of streams and rivers. He served as the President of the Pioneer Valley Chapter of Trout Unlimited from 2007 to 2011 and is currently on the Board of Directors of the Massachusetts Rivers Alliance. His work for Tighe & Bond and these non-profits has included managing stream condition surveys, stream barrier removal projects, and fish passage improvement projects. Paul has a B.S. in Aquatic Biology from the University of Massachusetts and M.S. in Resource Management from Antioch University New England. An avid fisherman, Paul is also a Licensed Guide in New York and spends as much time on the water observing rivers and chasing tail as his family will tolerate and is convinced that his affliction with steelhead will never really be cured!

**Outreach Coordinator – Lelia Mellen**

Lelia works for the National Park Service Rivers & Trails Program as the National Water Trail Leader and the Director of New Hampshire Projects. This is a position she has held for 21 years and as such she works with national water-oriented groups, community groups, local and state agencies, and non-profits to help them with their conservation initiatives. These groups ask for assistance on river recreation and protection, open space protection and trail work. Lelia helps with organizational development, fundraising, river and water trail management, trail building, event planning, and open space protection. In essence, she grasps the conservation needs and desires of the group and tries to help them meet their goals. Lelia received a Master of Environmental Management from Duke University and a Bachelor of Arts in Geography from Dartmouth College. Outside of work, she volunteers on projects around her small Vermont town, with Dartmouth College's outdoor programs, and on the Appalachian Trail. You can find her walking, hiking, paddling, or reading when she is not at her children's sporting events. ♦






(*Director, from page 2*)  
who need to refer to or research the most important details and tenets of a license, minus as much jargon as we can strip out to make for relatively easy reads.

- *National River Recreation Database.* We are on the verge of actually testing geospatial data that has been compiled and/or vetted by Marina Metes and Susan Rosebrough (NPS), with the assistance of Caitlin Scopel at Esri (RMS members, all!) and Michal Tinker at the USGS/NHD (National Hydrography Dataset), and support and oversight by Joan Harn and Corita Waters at the National Park Service. This project is honing our skills of patience and tenacity and growing our appreciation for the wonders of geospatial mapping: we can’t wait to actually see the fruits of our fledgling labor!

Stay tuned for updates, and don’t be shy about sharing how you think we are doing in our service to you as a valued member.♦

  
Risa Shimoda  
Executive Director



**Correction**  
In the Winter 2014 Journal, my President’s Message, entitled *Around the Next Bend*, contained an error. I referred to the 2016 Symposium as coinciding with the 50th anniversary of the passage of the Wild and Scenic Rivers Act. The act was actually passed in 1968, making the 50th anniversary in 2018. In 2018, we will be hosting an event and plan to be part of the celebration. I apologize for the error but now you have two great RMS events to look forward to. Thanks to **Steve Johnson** for being a careful reader and catching this.

— Dennis Willis, RMS Past President

Journal submission deadlines:			
Summer 15	Vol 28, No. 2	<i>Special Focus</i>	1-Apr
Fall 15	Vol 28, No. 3	Southwest	1-Jul
Winter 15	Vol 28, No. 4	Northwest	1-Oct
Spring 16	Vol 29, No. 1	Northeast	1-Jan
Summer 16	Vol 29, No. 2	<i>Special Focus</i>	1-Apr
Fall 16	Vol 29, No. 3	Pacific	1-Jul
Winter 16	Vol 29, No. 4	Alaska	1-Oct

(*Geotourism, from page 19*)  
River. Care to take an eco-tourism trip, or visit a working farm? Want to hike, bike, or canoe the river? Visit natural, cultural, or historic museums? See the grand locks and dams that control her waters? Experience national parks that protect our country’s heritage, and natural environment? Go fishing, hunting, or watch wildlife in one of the 41 national wildlife refuges? Make new friends in an urban bar? Feel the beat of some of America’s oldest, most romantic cities? Tap your toes, and sway to Blues, Jazz, or even a Country tune? It’s the Mississippi River, baby. Time is different here . . . it sways to a musical beat and flies away on the wings of a soaring eagle. Soon you can easily find your heart’s desire, plan a trip, talk with locals, and go home with carloads of memories to share with friends and family.

MRCC is proud to help lead this important project for Our River. We hope to see you at one of the Planning and Orientation meetings in February and March. If you want to participate, but, can’t make a meeting be sure to get in touch with one of the local hosts. There will be some additional smaller meetings as the project progresses. Please join us in uniting Our Mississippi River with National Geographic’s Geotourism system. Future protection of our vast resource may depend upon it.♦

## New Search Capability for RMS Journals and Website!

Have you ever searched for an article you recall having read in an archived RMS Journal? It was not super easy, but now it is when you log in to the Members’ side of the site and type an author, phrase in the search box. Within seconds, you’ll be presented with a list of pdfs and/or web links of journals from as far back as 1999. When you log in and see the **Welcome (your name)!** on the ‘landing’ page, you’ll also see tips for how to conduct thorough searches within a journal pdf.

Adding a solid search feature been on our bucket list since we moved to our current web service in 2012. Big thanks go to volunteer **Chet Crowser**, who has held RMS’ hand all the way and to **Kai Allen** who helped out with the ‘how to’ search tips.♦

Happy searching!

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- Membership Category (please check one)
- ☐ Professional \$50/yr (\$200 for 5 years)
  - ☐ Associate \$30/yr
  - ☐ Organization \$120/yr (government/corporate)
  - ☐ Organization \$60/yr (NGO/non-profit)
  - ☐ Student \$25/yr
  - ☐ Lifetime \$500 (for individuals only)

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**Next Journal Deadline - "Yes, Virginia, there IS river management!" - Submissions due April 1, 2015**

## Welcome New RMS Members!

### *Lifetime*

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North Star Consulting Group, Bozeman, MT

### *Professional*

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USDA Forest Service, Santa Fe, NM

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StreamCraft, Jelm, WY

Michelle Ethun, Assistant Field Manager  
Bureau of Land Management, Fairbanks, AK

David Lefevre, Conservation Planner  
Bureau of Land Management, Billings, MT

Gayle Mabery, Town Manager  
Town of Clarkdale, Clarkdale, AZ

Molly MacGregor, Supervisor  
Minnesota Department of Natural Resources, Duluth, MN

Emily Newell, Environmental Planner  
AECOM, Portland, OR

John Putnam, Partner  
Kaplan Kirsch & Rockwell LLP, Denver, CO

Roy Smith, Wild and Scenic Rivers Lead  
Bureau of Land Management, Lakewood, CO

### *Associate*

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University of Illinois, Champaign, IL

