Midwest Focus

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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

(continued on page 9)
The mission of RMS is to support river management issues in an open forum of free exchange of ideas concerning river management. RMS is a non-profit professional organization.

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/MidwayAtoll/) 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 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 grow our brand and our organization.

Best wishes for 2015 and please stay in touch.

From the New RMS President

Risa Shimoda

Professionals (SROP) – 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. Jackson 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 with the **Society of Outdoor Recreation**

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 our chapters, contribute to new challenges, and many new skills and insights of Neva and national chapter board members.

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, 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!) We will embrace the things that have made us successful and take on 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 grow our brand and our organization.

Best wishes for 2015 and please stay in touch.

From the New RMS President

Risa Shimoda

The Society of Outdoor Recreation (continued on page 42)
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 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 Talts 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.

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 has stories about the city’s economic 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 Zettner, 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.◆

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!
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 experiences and laugh. However, for many first time canoeists, with their families in tow, flipping a canoe can be a terrifying experience.

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 of 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 with their own. Canoes, paddles, life jackets, instruction and shuttle are all provided as part of the program. Though the

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

Before everyone leaves, Kate takes a few minutes to emphasize the “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/scan.

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

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

Spring 2015

RMS Journal 6

7
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

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.

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 Dobbin Creek until 2010. In 1964, Nicolville’s 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 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 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 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.crwp.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 Give. 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 many of 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 hike, bike, 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 getaway.

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 on my 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, docks
• Neighboring towns/cities with similar amenities

Just putting in a boat launch or a campsite may increase recreation in an 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 Pepin, 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 Wing (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. 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.”

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!•
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 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 Hamrn’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. 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.” 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 had 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 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 Place” 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, communities through innovative design strategies. This Center is known both locally and nationally as helping communities help themselves by working... with and guiding ideas into usable, practical and visual design elements. A match was made and we were 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 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
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 canoists 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 aim 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 once considered as DNR staff members were aging out of the hard-scrabble 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 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 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 corps.”

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, crews 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 Weide 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.)
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.

Feeling Old?

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

Feeling Old?

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

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 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.”

by Erik Weede

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 Squad, a Soil and Water Conservation District apprenticeship program, and an Individual Placements (IP) program. The IP program, which places entry level professionals in 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 &
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 nonprofit 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 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 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
- St. Louis – Todd Antoine, tantoine@grgsol.org
- Quad Cities – Joe Taylor, jntaylor@visitquadcities.com
- Minneapolis – Roey Robinson, Roey_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.

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 Sevile 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)
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 thalwegs. 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 every bend, riffle, and rapid, carving a natural river channel, or bypass reach, created when flows are returned to the natural river channel, or bypass reach.

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.

We hoped to reach our put-in before the Put-in at Bay, therefore reluctantly turned our craft around. We hoped to reach our put-in before the Put-in at Bay, therefore reluctantly turned our craft around.

We hoped to reach our put-in before the Put-in at Bay, therefore reluctantly turned our craft around.

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 river. Releases are on 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.

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. They create what are known as natural river channels, or bypass reaches.

Beginning 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.

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 is not about the Chippewa River— the very river that defines this place— makes it all the more meaningful.”

John Lowe would agree.
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 low 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 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.

Increasing Diversity and Education Accessibility through Partnerships

The ballyhoo of river management issues inspired the Department of the Interior to developed the River Camp Management Program which trained with emerging technologies if they 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. River professionals will need to continue educating entry-level individuals on the basic technological functions of the standard technological tools.

“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 traditional classroom assessment schema. Although not the sole barricade, scholars attribute less experiential learning within traditional classroom assessment schema.

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 river key profession competencies regarding environmental ethics, resource/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 these forums, students can 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. River professionals will need to continue educating entry-level individuals on the basic technological functions of the standard technological tools.
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, tamurisk / Russian thistle, campfire charcoal, human waste, graffiti, trash, and clothing along the Colorado River, Catatrac 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 Stigman, 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 why 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. Ijuged 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 Obhinger) at Liquid Logic, the maker, I

Mounting the ADCP on a helicopter 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
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 Lana or Bill or Cheryl, my Forest Service boss, meant going to a spot with road access, lugging gear and people from the opposite bank.

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, tear-down, 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 between rowing whitewater — for fun — and taking the cat upstream to retrieve survey gear, and people from the opposite bank. 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 struggled 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.

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. Cursory, 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 gully 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.

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 Tetons loom like a judge in a formal blue robe. In August, the odd bar is clean cobbble 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 most spots and the sandy tail is bloomed 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, ducky, 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 stumped-out camp sites with tattered blossoms. The intricate balancing act that characterizes our present-day Park Service seems, in this place, to be working rather well.

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 mountainneering: 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.

For the first time, we had permission to go fast and light. Leave No Trace.

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.

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

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 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, squeezing 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 Bridge 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.
The equipment is, to put it mildly, fraught with peril. The quality of qualified summer temps off in a boat loaded with expensive gear is, to put it mildly, fraught with peril. The quality of qualified summer temps off in a boat loaded with expensive gear is, to put it mildly, fraught with peril. The quality of qualified summer temps off in a boat loaded with expensive gear is, to put it mildly, fraught with peril. The quality of qualified summer temps off in a boat loaded with expensive gear is, to put it mildly, fraught with peril.

While the spectral data is specifically key 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 sections in the kayak, allowing us to collect during changing conditions with no regenerative costs or technical assistance.

≈ They break down to components: two tubes, a frame, oars. Cats are stable. With a grid or mesh floor, they're much less likely to wind up on the wall. With the bottom of the frame 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 swiveling any gear outboard, to catch on the oars, stugs, 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.

≈ ≈ ≈

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.

≈ ≈ ≈

In praise of cats: having run rivers in tubes, canoes, kayaks, duckies, johnboats, skills, dosts, and rafts up to big, old bucket-boats, I’ve settled on the cataract 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.

≈ 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, motor, and articulated spar for the boat, 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 out 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.

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“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
You will learn:

- 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.

RMS Partners with River Network at River Rally 2015

RMS 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

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

- David Cerneck, 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.

**RMS Journal**

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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.nationalriverproject.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.

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.

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.

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

Lead Me to the River [Profession]
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 of 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 because a cause many RMS members are devoted to and one they live religiously. My response has largely been one, big, PHOEEY.

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 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 development here and here. 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 approved the permit to put a new subdivision on a 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 if ammonia concentrations increase. Ammonia and nutrients are a growing water quality issue in streams around the west. Meanwhile, the holder of the water rights for residential use are assumed to return that water to the stream. It is assumed that some percentage of the diverted water rights is returned 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.

I suspect this position on water conservation may be completely off base. I tend to 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 I use is transported from the Colorado River and placed in the Platte? Might it be different if I lived on the end of the line and the next downstream user took their water from my flow? I do these things because I love my rivers.

“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.”

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 ditches and flood methods. Water returns 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 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 80% efficiency. 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 to be 33%. Water rights regulators to 25% to 33%. A doubtful proposition given that I live on very tight shale that is not very transmissive.

I propose this position on water conservation may be completely off base. I tend to 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 I use is transported from the Colorado River and placed in the Platte? Might it be different if I lived on the end of the line and the next downstream user took their water from my flow? I do these things because I love my rivers.

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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 Moccasincreeshell Mediomus conradicus) were identified from 20 live mussels collected from 80 quadrants. Fish, mussel, and aquatic plant surveys will be conducted 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.

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.
RMS Chapters

Southwest

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

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."

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 discharge, dikers, 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 events; 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. Bunny has previously served 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 float trips, and River Ranger Rendezvous.

"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."
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 long-time 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 and gatherings are what makes this organization, eager to meet the needs of RMS members in Washington, Oregon, Idaho, Montana and Wyoming.

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 this organization, eager to meet the needs of RMS members in Washington, Oregon, Idaho, Montana and Wyoming.

Secretary – Martin Hudson

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.

Events Coordinator – Colby Hawthkinson

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.

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.

Secretary – 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 & Estuarine Science from Michigan State University and a B.A. in Environmental Science 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!
Rain. River 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, a plan, a trip, talks, and locales 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.

Correction
In the Winter 2014 Journal, my President’s Message, entitled “A Future for Our Water,” contained an error. I referred to the 2016 summer issue of 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. (from page 19)

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 screen, on the ‘landing’ page, you’ll also see tips for how to conduct thorough searches within a journal page.

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!

RMS Journal

Journal submission deadlines:

Summer 15 Vol 28, No. 2 Special Focus 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 Special Focus 1-Apr
Fall 16 Vol 29, No. 3 Pacific 1-Jul
Winter 16 Vol 29, No. 4 Alaska 1-Oct

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Organization $160/yr (NGO/non-profit)
Student $125/yr
Lifetime $500 (for individuals only)

Rivers you manage ___________________________

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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 $160/yr (NGO/non-profit)
Student $125/yr
Lifetime $500 (for individuals only)

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Check makes payable to "RMS" RMS also accepts VISA or Mastercard:
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RMS Journal

Spring 2015
Welcome New RMS Members!

**Lifetime**

Douglas Hammell, President  
North Star Consulting Group, Bozeman, MT

**Professional**

Diane Taliaferro, District Ranger  
USDA Forest Service, Santa Fe, NM

C. L. Rawlins, Owner  
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**

Norman Sims, Volunteer  
Appalachian Mountain Club, Winchester, NH

**Organization**

Julie Thorner, President  
Liquid Spark, Bryson City, NC

**Student**

Steven Oxley  
University of Illinois, Champaign, IL