Supporting Professionals
Who Study, Protect, and Manage
North America's Rivers

Spring 2023
Volume 36, Issue 1

RMS Journal

Kristina Rylands, Steve Chesterton, David Greenwood, Denielle Perry, and Bob Ratcliffe are recognized in San Antonio, Texas. Photo: Bekah Price

Congratulations RMS Awards Winners!

The 2023 RMS Awards and 2022 Frank Church Wild and Scenic Rivers Award were presented by RMS President Judy Culver on February 28, 2023, at the RMS symposium in San Antonio, Texas. All award winners were present.

Frank Church Wild and Scenic Rivers Award
This award recognizes a history of contributions focused on the management, enhancement, or protection of designated Wild and Scenic Rivers with a broad geographic scope.

2022 Winner: Bob Ratcliffe (retired)
National Park Service, Washington, DC

Bob has dedicated his 40+ year career to being a river champion and advocate including many years playing on and protecting wild and scenic rivers. His seemingly unlimited, boundless enthusiasm for river protection led to on the ground results and inspired those around him. Bob served 24 years with the Bureau of Land Management in field and national leadership roles. Then, as Division Lead for the National Park Service Conservation and Outdoor Recreation Programs, Bob's portfolio of widely recognized programs helped fulfill the agency's mission with an emphasis on partnerships.

Bob built relationships — his leadership, innovative ideas, and tireless efforts have elevated Wild and Scenic Rivers nationally. Bob formalized and strengthened Wild and Scenic Rivers within the National Park Service. Although the agency established the program and Steering Committee in 2008, prior to Bob's tenure, he led staff to develop a Director's Order (DO) that consolidated National Park Service responsibilities for Wild and Scenic Rivers in one place. Bob ably navigated the administrative beast of the agency; and DO #46 was signed in May 2015, just in time for him to set a new goal to have the accompanying Reference Manual (RM) completed in time for the Act's 50th Anniversary. The draft was completed in time and awaited signature. Bob persisted through administration changes and roadblocks; he expanded, improved, and finally shepherded this significant guidance document for leadership signature in June 2021. It would not have happened without Bob's leadership. DO#46 and RM#46 are essential to the continuing support of Wild and Scenic Rivers.

Bob was highly successful in fostering collaboration with

(continued on page 6)

Executive Director's Eddy

Risa Shimoda, RMS Executive Director

We are standing on the shoulders of our founders: celebrating, discovering, and learning from feedback so we can do better next time.

You'll read in this issue a number of reasons to be super pleased with the outcome of our first post-pandemic, in-person symposium, planned with only two people who could call on experience from "how we did it last time." We welcomed well over 200 individuals who study, protect, and manage rivers, and received extremely good marks on the quality of onsite and field sessions. We benefitted from a truly dedicated team of professionals who volunteered generously with their time and resourcefulness to pull it off: Shannon Bassista, Emma Lord, and Judy Culver - RMS Board members; Mike Dussere and Lynette Kitchens - W.O.R.D. of Comal County; Amy Niles - City of New Braunfels; Dr. Kimberly Meitzen - Texas State University; and Nicole Marshall - San Antonio River Authority. Team RMS' Angie Fuhrmann, Bekah Price and James Major provided invaluable program planning, volunteer organizing, and marketing support, as well as a willingness to jump into ad hoc chores.

We were fortunate for Kara Campbell, River Studies and Leadership Certificate program alumna, to have organized and led the pre-symposium camping trip, which we hope will result in a growing sense of collegiality among students as they complete their certificate programs and remain connected as they branch off into life.

Speaking of the RSLC students, we are particularly tickled to share one story. Patrick Reilly, getting ready to graduate from Virginia Commonwealth University this spring, attended one of the River Training Center's career-planning webinars at which David Cernicek (Bridger Teton National Forest Wild and Scenic River Coordinator) contributed to a discussion, "How to Stand out to Hiring Managers." Patrick recognized Dave at the symposium, who introduced him to Louie Shahan, River Program Manager (Wyoming Ranger District) who was hiring! After discussing the position, Patrick applied and recounted, "I interviewed ... and have been offered a River Ranger job with the Jackson Ranger District, starting May 22. I'm excited."

Additional opportunities were discussed with students and who knows... we may find that introductions made and relationships initiated in San Antonio bear fruit as the year rolls forward.

And as we grow, we must learn. We received a number of comments that reminded us that attendees' experiences varied and few were symposium veterans. 'Could have done better' suggestions included that we need to provide time between all sessions, better nametags, and detailed information about field sessions. We need also to remember NOT to stagger session times as the resulting schedule both confused attendees and aced a number of them out of final auction bidding. A specific awards-related comment was super poignant to me: "I was surprised more emphasis was put on the live auction than the awards. The luncheon seemed rushed, not sure I would bother writing a nomination in the future."

For those who were disappointed in either the content or the manner in which it was delivered: we heard you and hope you still found that, on par, your time in San Antonio was substantially one of learning and sharing.

We are not perfect. We'll strive to always improve. And, welcome input.❖

President's Corner

As I contemplate tying up the last loose ends with the energetic group who led the planning of the 2023 *Reimagine River Access* symposium, I return again and again to the feeling of excitement that overwhelmed me in the last weeks of preparation as I finished packing up the RMS store and arranging the final details of my trip.

The 2023 *Reimagine River Access* symposium was a cumulation of events that started with taking advantage of two auction items that I won at a previous RMS symposium with my partner in crime, Mary Crockett. The trip out to San Antonio was a return to the roots of my military career as an Army Medic. Yet, even with my roots as a water baby and a raft guide, I never contemplated exploring the network of Texas rivers while I was stationed in Texas.

During the pre-symposium exploratory trip, which included many of the field trips offered during the symposium, I had no idea of the breadth and wealth of Texas river systems. I was excited to nominate the San Antonio area as a site for the 2023 symposium after being introduced to the complex management of these river systems and experiencing the willingness of our enthusiastic partners to ensure a successful endeavor.

It wasn't until the new year was welcomed in that I started to think about all the people I would see for the first time in years. As the end of February approached, my excitement built — coupled with data showing that 28 River Studies and Leadership Certificate (RSLC) students were registered to attend.

During the course of the symposium, I met many new people. In the beginning I incorrectly assumed the new members were part of the intern or student contingency, but as time went on, I identified first time attendees that included river managers who have been in their positions for a year or two, urban river managers who stumbled upon RMS by accident, various state parks and wildlife managers and other watershed specialists from 37 of the 50 states including Wisconsin, Iowa, and Oklahoma.

RSLC students from Virginia Commonwealth University. Photo: Angie Fuhrmann

Judy Culver, RMS President

The incubation of new ideas, old ideas that will be revitalized in a new locale and exposure to ground breaking urban interface inclusivity, mitigation of visitation impacts, and tools for educational messaging added to the effective commingling and networking that is always paramount at RMS symposia.

Observing the next generation of river managers obtaining jobs, connecting with mentors to review their resumes and discuss career paths on heightened the sense and breathe of the long awaited return of a fact-to-face river management symposium.

As President of RMS, I could not be more proud and thankful for the exhaustive efforts of our partners in Texas as well as Shannon Bassista, the 2023 symposium chair.

Now we begin the planning process for the 2025 RMS symposium to be held in Oregon. While the experience is fresh in the minds of those who attended, volunteered, or were energized by the symposium's programming, take a moment to consider volunteering a little of your time to ensure the success of RMS's 2025 symposium. We would welcome any help that you are willing to provide to continue educating future and current watershed professionals.❖

REIMAGINE RIVER ACCESS

RIVER MANAGEMENT SYMPOSIUM
SAN ANTONIO 2023

Thank you 2023 Symposium Sponsors and Partners!

GOLD SPONSORS

WORD – Water Oriented Recreation District of Comal County

FOREST SERVICE – US DEPARTMENT OF AGRICULTURE

SAN ANTONIO RIVER AUTHORITY

NATIONAL PARK SERVICE

PARTNERS

WW

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

SILVER SPONSORS

NATIONAL WILDLIFE REFUGE SYSTEM

BRONZE SPONSORS

OARS

GBRA

Jack's Plastic Welding – Aztec, New Mexico U.S.A.

Confluence – Confluence Research and Consulting

RiverMaps™

pyranha

NRS

RIVERSHED

liquidlogic

RIVERWALK SPONSORS

IMMERSION RESEARCH

AMERICAN Whitewater

River Management Society Northwest Chapter

STUDENT SCHOLARSHIP

River Management Society Alaska Chapter

Sustaining Landscapes

RMR

SOLWAY FABRICATION

WERNER PADDLES

USA RAFT – EST 1972 – ADVENTURE RESORT

(continued from page 1)
constituents, coalitions, partners, and agency leadership to emphasize rivers, recreation, and community assistance as top priorities for the agency. He helped guide development of America the Beautiful, America's Great Outdoors initiative, and strategic priorities for youth engagement and economic benefits of recreation, including on Wild and Scenic rivers. He spent much of the last three decades developing new and progressive national policies and improving best practices sustainably managing increased visitation and emerging recreation activities. He was a strong advocate for river access, watershed protection, national designations, and connecting young people to the outdoors.

In his last few years on the job, Bob was a fierce advocate for the Anti-Discrimination and Sexual Harassment (A-DASH Collaborative) Training with the goal to cultivate equity, inclusion, support, and trust on and off the river. He provided early support and funding for this essential work to ensure everyone can safely enjoy rivers. His attitude was (and is) infectious, energizing those around him. He trained leaders, peers, and mentored many young people into river management, inspiring the next generation.

Bob was enthusiastic and tireless in recruiting, developing, and investing in upcoming natural resource professionals and created a legacy of individuals who are now involved in managing Wild and Scenic Rivers, including non-agency river advocates and a cadre of agency staff. His direct work for rivers is impressive, but so too is the community of professionals he helped foster. Bob built partnerships with other agencies, universities, nonprofits, and the public to help protect rivers. He has a direct personal connection to wild rivers that keeps him curious and inspired and open-minded. Bob helped inspire the formation of the Wild and Scenic Rivers Coalition, because he makes partnering with the agencies seem not just possible but productive and enjoyable.

Throughout his career, Bob demonstrated his dedication to public service and furthering the missions of all agencies charged with protecting and managing our Wild and Scenic Rivers. He is a leader among leaders. He made things happen without concern toward his own position, but to do the right thing, get important efforts off the ground, and follow through. In Bob's own words, "Rivers are the best way to experience what the park system has to offer. Rivers are magical. You are literally immersed in an environment that you can't get to unless you float through it. I've seen people have really transformative experiences on the river."

2023 Winner: Dr. Denielle Perry
Northern Arizona University, Flagstaff, AZ

Starting with her dissertation, "*The Uneven Geography of River Conservation in the U.S.: Insights from the Application of the Wild & Scenic Rivers Act*," Denielle has dedicated her work to advancing awareness of Wild and Scenic Rivers through her research, teaching, and advocacy. In her Free-flowing Rivers Lab at Northern Arizona University she published nine papers and one dataset on Wild and Scenic Rivers (several were published with graduate and undergraduate students, most of whom are River Studies and Leadership Certificate (RSLC) graduates now working in river-related jobs). She has eight more papers in the works that specifically discuss Wild and Scenic Rivers as protection mechanisms for riverine ecosystem services, climate change adaptation policy, and nature-based solutions both in the U.S. and as a policy model for use around the globe.

Denielle is a founding member of the Wild and Scenic Rivers Coalition (WSRC) and serves on the leadership team and the Indigenous Peoples subcommittee. She used the WSRC as a model for co-founding the international Durable River Protection Coalition that she has co-chaired for over two years. This coalition aims to advance the creation of a global free-flowing rivers policy modeled after the American Wild and Scenic Rivers program. Denielle provides scientific and policy advice to other countries seeking to create similar policies, including Costa Rica, China, Chile, and the European Union. At NAU, she has connected advocacy groups with student researchers to investigate river protection mechanisms from Wild and Scenic to Rights of Rivers, providing students with research opportunities with real impacts and advocacy groups with free research products.

The Student Water Symposium she puts on annually at NAU has featured several Wild and Scenic Rivers focused film screenings, panel discussions, and keynote speakers. She teaches a Water Resources Policy and Management class in which she explains in great detail the Wild and Scenic Rivers Act, bringing federal land managers into the class and taking students into the field to learn about Arizona's Wild and Scenic Fossil Creek and Verde River. She has assigned her students to provide public comments on the Comprehensive River Management Plans for Fossil Creek and is now designing a similar experience for her students to pursue on the Upper Verde River Wild and Scenic River proposal.

As the faculty advisor for RSLC she has recruited and advised over 20 students to become the next generation of river professionals ready to work on the Wild and Scenic Rivers of the U.S. She has led the NAU RSLC program to be arguably the most vibrant in the country. And, as one of the Co-Principal Investigators for the National Science Foundation Research Coordination Network, "*The River Field Studies Network*," she has been a key player in building a network of over 16o faculty across the country dedicated to immersive river field instruction, and through this network is building capacity to train the next generation of river stewards.

Denielle Perry receives her award from Judy Culver. Photo: Bekah Price

Outstanding Contribution to River Management Award
This award recognizes a history of contributions to the greater field of river management such as advancing the field through contributions in areas such as science, education, interpretation, research, and/or law enforcement. Winners may have developed innovative (or creatively adapted) river management techniques and/or organized conferences/meetings that advanced river management as a science and as a profession.

David Greenwood, Outdoor Recreation Planner
BLM Merced River District, Midpines, CA

Along the Merced Wild and Scenic River, David is a one-man show who has spent over 20 years advancing the field of river management through his grassroots approach to getting stuff done. On a river managed by three federal agencies (National Park Service, US Forest Service, and Bureau of Land Management), David is the face of river management on the river. In so many ways, the arc of his career as an Outdoor Recreation Planner is a textbook example of advancing the field of river management. David brings to the job a sense of ingenuity, excellent networking and problem-solving skills, collaboration, and always a smile and willingness to get creative. On top of that he mentors up-and-coming rangers and leads by example to make the Merced River a better place. He is a true example of the river management profession at its finest.

In 2018, David spearheaded the Merced Wild & Scenic Film Festival, which resulted in a huge community turnout and celebrated 50 years of river protection through the Wild and Scenic Rivers Act. This event rallied members of the community along with other river and conservation-minded groups to help draw attention to the current plight of the Merced Wild and Scenic River, which had been the target of a congressional representative eager to de-designate a portion of the Merced Wild and Scenic River to raise the Exchequer Dam on Lake McClure. David's efforts engaged the community and his work reminded us all that designating a river as Wild and Scenic is only the first step — designation is a fragile status that requires vigilant protection by river professionals and community groups.

The Upper Merced River Watershed Council will be forever grateful to David for organizing this as a fundraising event, as it helped put the nonprofit organization back on the map after a fire destroyed their office and nearly wiped out the entire organization. David actively searches for ways to improve management of the river and river trail, tapping into his vast network both at home and in the river management community. As an often-one-person show on a large expanse of river, he actively collaborates with community members to solve problems and address issues, finding endless volunteer groups to get work done. And if volunteers are not available, he reaches out to community contacts to find funds or situations to get more volunteers.

In summers when seasonal river rangers arrive to help with the busy season, he mentors each one, setting a brilliant example of how to be a successful river professional. He actively interacts and participates with other federal, state, and local agencies; he oversees a busy commercial whitewater rafting season at put-ins and take-outs; he spends time frequently on the river to monitor how things are going; he creates his own educational signage to help educate visitors; he does everything from writing environmental documents to completing trail projects to helping visitors at campgrounds and picnic areas.

As a steward, David helped lead an effort to eradicate the hideously invasive yellow star thistle (*Centaurea solstitalis*) along the wildest (by designation) segment of the Merced River. David had been fighting a losing battle with it for years. He believed there was a method of attack that seemed useful in theory, but impossible for one person or even a small group to carry out over a 2.5-mile area. That method involved mowing on an exact timetable of very early bloom (2-3% of plant) before seed heads developed. In theory, if one could mow on that timetable for three years, there should be success as the seed bank would be exhausted. With David's leadership vision, collaborative spirit, and pure tenacity, the project was successful!

David and his efforts with neighboring land management agencies have helped continue to organize events for river professionals. In 2019, he helped organize a two-day speaker series on the Tuolumne Wild and Scenic River that culminated in an educational day trip. David's supervisor, Jeff Horn (BLM Recreation Branch Chief, BLM Mother Lode Field Office) says, "David is without a doubt the best River Ranger I have ever hired, and continues to be one of the best recreation professionals I have the privilege of working with. His skill, on the river and off, continues to be an example of professional river management. But, on the river is where he shines. BLM has relied on David to manage the Merced as a partnership with all the different agencies and entities in a complex web of different management goals and styles. David has always managed to keep the focus on the river, and what is best for the resource. A true steward."

Outstanding Contribution to the River Management Society (RMS) Award
This award recognizes contributions to the success of the River Management Society: contributions at the national or regional level that result in greater organizational effectiveness, efficiency, growth, positive change, or enthusiasm.

Kristina Rylands, RMS Pacific Chapter President
Mariposa, CA

After many years of being a very active Pacific Chapter

President, including hosting two national river management workshops, Kristina continued to support RMS as its primary Facebook administrator for ten years. During a six-month period in 2022, she stepped back in as a major chapter force — running for the elected office of President of the Pacific Chapter, contributing mightily to the hosting of the Pacific Chapter Klamath River trip (June 10-13, 2022), recruiting articles for the Summer 2022 RMS Journal, and welcoming the 2022 National Board at the annual in-person meeting on the South Fork American River. Kristina has offered many creative, positive suggestions to help the organization look to the future. Kristina stepped in and took responsibility for the Pacific Chapter and its trajectory as a regional presence in the river scene — she energized membership (as shown by the wildly successful Klamath River event), prepared award nominations for deserving colleagues, and brought a positive energy to the National Board.

Kristina has donated countless hours to RMS from upfront event planning, reaching out to potential partners, making significant food shopping trips (e.g., to feed nearly 50 people for the better part of a week on the Klamath and nearly 20 board meeting attendees for a long weekend), to recruiting new members during the board meeting itself – a first! Kristina recruited new members from a variety of sources including the guiding industry, agencies, and the non-profit sector. Having worked and volunteered for the National Park Service, NatureBridge, and Upper Merced River Watershed Council, her relationships have already grown RMS interactions and rekindled or created new awareness of the organization in tribal communities, industry, and partners in California. As a member of the Wild and Scenic Rivers Coalition, she brings an additional river management-savvy voice to the choir of river advocates.

The Pacific Chapter grew 18% in 2022. While this increase reflects efforts of several officers and other volunteers, the Chapter's work would not have coalesced as it has without Kristina's "do whatever needs to be done" attitude and willingness to help out where needed. As Pacific Chapter President, Kristina has re-established a revitalized reliability of a "go to" resource for the Pacific Chapter. She will be helping host the next RMS symposium. Kristina's dedication, professionalism, positivity, and enthusiasm is infectious and motivating to others.

River Manager of the Year Award
This award recognizes contributions that are field-oriented and location-specific, with a focus on recent accomplishments.

Steve Chesterton, WSR Program Manager
USDA Forest Service, Washington, DC

The Wild and Scenic River Act was passed to preserve the natural, cultural, and recreational values of rivers. While these rivers are considered the crown jewels of our nation's river system, over 80% of the more than 13,000 river miles have either unknown, unassessed, or impaired water quality. In 2018, the Wild and Scenic Rivers Act's 50th anniversary, the Wild and Scenic Rivers Interagency Coalition set forth to fix this glaring data gap; they decided to conduct a water quality assessment across the full system and partnered with Adventure Scientists to make this massive undertaking a reality. Steve Chesterton has been a driving force towards achieving this challenging goal through collaboration, leadership, and an unwavering commitment to these prized natural resources.

The Wild and Scenic Rivers Project with Adventure Scientists has a unique citizen science model that has empowered hundreds of volunteers to connect with and learn about Wild and Scenic Rivers through repeat sampling. They've been conducting field probe surveys and collecting grab samples across the system since field collections started in 2020. To date, the project is responsible for almost 900 surveys on 149 of the 226 designated rivers, all collected by outdoor adventurers trained to follow protocols and submit high quality data. In moving this work forward, Steve regularly meets with Adventure Scientists staff and the other Coalition members. They work closely with state agencies to determine protocols and identify priority rivers, while nonprofits and recreation organizations across the country have been involved in supporting recruiting efforts.

The project's success is due to the many stakeholders who have bought into the project vision, under Steve's active leadership. In addition to maintaining the relationships that exist, Steve also has been a public advocate for the assessment, presenting on the project at the RMS Symposium, River Rally, National Wilderness Skills Institute, and more. His eagerness to generate excitement has been a sign of true partnership and commitment to engaging a far-reaching audience in Wild and Scenic Rivers. While participants are thrilled to hear Steve present, what is more impressive is his ability to think creatively about how to elevate the voices around him and improve representation and inclusivity in the project through co-presentation and integrating volunteer voices.

Through leadership on this project, Steve is helping shift the paradigm of what citizen science looks like. The belief that citizen science can't contribute to science-based policy or management is becoming outdated as this project's data is sent to the Environmental Protection Agency's Water Quality Portal where state agencies can access the data. Not only are volunteers engaging with STEM and building connections to the land, they are contributing the data necessary for improved management of our Wild and Scenic Rivers under the Clean Water Act.

The leadership Steve provides in promoting the protection and improved management of Wild and Scenic Rivers is unparalleled. He does this through partnerships with federal and state agencies, nonprofits, recreation-based organizations, and hundreds of volunteers. Steve remains a positive driver on moving the work forward and demonstrating clear, ambitious leadership — all contributing to an excellent working environment. By working with partners to develop protocols that work across state lines and welcome a volunteer community, he is pushing the envelope on who can contribute to river management, and consequently has generated interest and excitement around Wild and Scenic Rivers for countless others.❖

The beautiful plaques that our award winners receive are fabricated by a small shop in Utah and donated every year by lifetime RMS member and past RMS President Dennis Willis of Sustaining Landscapes. In addition to donating the cost of the plaques, Dennis does all the coordination with the fabricator.

Presenter John Cannella and recipient Jim MacCartney (with his placeholder award). Photo: Angie Fuhrmann

Jackie Diedrich Wild and Scenic Rivers Leadership Award

The Interagency Wild and Scenic Rivers Coordinating Council's Jackie Diedrich Wild and Scenic Rivers Leadership Award recognizes river-administering agency staff who have shown outstanding leadership to help manage Wild and Scenic rivers, build capacity for river stewardship, and/or develop exemplary training programs for river management professionals. This year's award was presented by John Cannella (National Park Service) to Jim MacCartney (Wild and Scenic Rivers Manager, National Park Service, New Hampshire) at the RMS symposium in San Antonio, Texas.

Jim has consistently demonstrated his commitment to Wild and Scenic rivers in a variety of ways, including offering his mentorship to many new staff and fellows in the Partnership Wild and Scenic Rivers Program. His patience and sharing of his own experiences are especially appreciated by his colleagues. Jim also leads by example through his efforts to initiate conversations and build relationships with the many individuals and groups involved in water resources project reviews. Jim serves as a longstanding member of the Interagency Council where he has worked to develop guidance on complex topics like bank stabilization techniques and consistent implementation of Wild and Scenic Rivers policy. Presenting his knowledge at national conferences, like River Network's River Rally and the River Management Society symposia, are other examples of his willingness to go above and beyond to share his expertise.

No stranger to the River Management Society, Jim has served in a variety of chapter and national offices, including RMS President. He was previously recognized by his peers with the Outstanding Contribution to River Management Award in 2001 and the Outstanding Contribution to the River Management Society Award in 2004.❖

(Hopefully by the time Jim reads this article, he will have the actual award in hand, an attractive Lucite plaque with the Wild and Scenic River System and agency logos on it!)

2023 River Management Symposium

by Bekah Price

Rejuvenating, inspiring, enlightening… there are many words we could use to describe the *Reimagine River Access* Symposium in San Antonio. We are beyond grateful to have been able to gather in person – the first time since 2018 – and left feeling uplifted by everyone's energy.

It was an incredible networking opportunity for more than 200 attendees from 37 states, including nearly 30 exceptional students. The diversity of organizations represented (agencies, non-profits, municipalities, consultants, students, and researchers) contributed to productive discussions about holistic solutions, which RMS exists to foster. In addition to making national connections, several chapter meet-ups helped attendees get to know river professionals in their regions.

In our survey, one attendee said, "This was truly one of the most welcoming conferences I have been to as a first timer to RMS and someone who brought a number of students to their first professional conference. My students left with a lot of confidence about their place in the field of river science and with new friends and connections."

We were blown away by the creative solutions and practical tools being implemented nationwide to wisely manage and steward our rivers. Presenters highlighted their work in nearly 50 sessions and 14 poster presentations. In our six field sessions, we learned how locals successfully manage one of the busiest river recreation districts in the country, as well as exploring how the rivers in and around San Antonio support healthy ecosystems and tourism.

This event would not have been a swimming success without the generous support of our sponsors, and the tireless contributions of time and energy from our steering committee and on-site volunteers. Shannon Bassista (Bureau of Land Management) led the Steering Committee, which included Mike Dussere and Lynette Kitchens (W.O.R.D. of Comal County), Amy Niles (City of New Braunfels), Kimberly Meitzen (Texas State University), Nicole Marshall (San Antonio River Authority), Emma Lord (National Park Service), and the RMS staff.

Thanks to everyone who shared their photos and videos. Some are printed in the journal, many are accessible on the RMS Facebook page, and you can watch a video recap on our YouTube Channel.

Save the date for the next RMS Symposium:
April 29 - May 1, 2025, in southern Oregon!

Glass bottom boat tour of
Spring Lake in San Marcos, TX
by Angie Fuhrmann

Habitat restoration walking tour in
Landa Park, New Braunfels, TX
by Angie Fuhrmann

Canoe chutes on the Mission Reach Paddling Trail (San Antonio River) enable paddlers to pass through riffles when the water level gets too low to navigate. - by Jack Henderson

Roundtable discussion of visitor use management practices during symposium breakout sessions - by Angie Fuhrmann

In an extended tour of the San Antonio River Walk, attendees learned about the history and architecture of this now vibrant cultural center, which serves the dual purpose of managing heavy seasonal flooding. - by Bekah Price

Students Reflect on Highlights of the San Antonio River Management Symposium

by Angie Fuhrmann

The River Management Symposium, held in San Antonio, Texas, was an excellent platform for students and professionals in the field of river management to come together and share their knowledge and experiences. For five students from Northeastern State University (NSU) in Tahlequah, OK, this was their first experience attending a conference. The event was a great learning experience, and they shared their reflections on the symposium's highlights.

One of the students, Austyn Rice, found the field trip on Wednesday to be the event's highlight. She enjoyed seeing the conservation projects discussed in person, which made the importance of rivers real to her. Emma Mills found the event's highlight to be the pre-Symposium student-only camping trip at Canyon Lake. Mills said, "I think it provided a base of friendship and comfortability for the coming days of the conference. Though the weather conditions may not have been the best, what went on there was important. I think it should be kept year after year for coming students, if possible. Conferences can be unknown and scary to some, but this allows for an ease into it with a whole team of students with you."

The talks and events at the symposium were also engaging for the students, and the inclusive atmosphere made it easy for them to engage with the presenters. "In most talks or events, I felt comfortable participating and asking any questions that came to mind. This was due to everyone making me feel comfortable as a student," said Mills. Rice also appreciated the opportunity to ask questions and participate in discussions. "I felt heard and seen as a student and future river management professional," she said.

Networking opportunities were also a significant highlight of the conference, and the students appreciated connecting with professionals in the field and learning about potential job opportunities. "I talked to several helpful people that provided me with opportunities and information. I also spoke to members of river management from my home state for the first time despite being many miles away from home," she said. Mills added, "This conference had GREAT networking opportunities. At each talk or event, everyone was welcoming to professional conversations and listening to what I had to say as a student. This allowed me to meet and make connections with future employers and coworkers."

The conference also helped the students gain clarity about their career goals. Mills highlighted this by saying, "My biggest takeaway from the conference is that I know I want to remain in water science and conservation. I already knew this, but it only reinforced that this is where I think I belong."

The symposium left a lasting impact on the students and inspired them to continue their efforts to conserve rivers. "I learned that so many people truly have a passion for rivers and conservation and that many people work very hard to protect these amazing water and wildlife resources. Our rivers are in good hands," said Rice.

In summary, the River Management Symposium was an excellent opportunity for students to learn, engage, and network with professionals in the field. The event provided students with a platform to participate in discussions, visit conservation projects, and build professional connections. Students left the conference feeling inspired and empowered to continue their river protection and management work.❖

Students from NSU and Virginia Commonwealth University during the pre-symposium student trip at Canyon Lake. Photo: James Vonesh

Strengthening Connections between RSLC Schools and RMS Chapters

by Angie Fuhrmann

One of the core programs of RMS, the River Studies and Leadership Certificate (RSLC), is a unique opportunity for undergraduate and graduate students to learn about river management and gain leadership skills. While the RSLC program has successfully prepared students to enter various river professions, there is still room for improvement, particularly in connecting regional RMS chapters with RSLC schools.

Angie Fuhrmann and James Vonesh held a special session at the *Reimagine River Access* symposium to address this. The session aimed to create stronger connections between RMS chapters and RSLC schools by identifying the successes and challenges of the RSLC program and coming up with strategies to strengthen it between 2023 and 2025.

The session began with a presentation by Angie and James, introducing a brief background about RMS chapters, the RSLC program, and the River Field Studies Network, which supports professors who teach field courses. Following the presentation, the participants were divided into breakout sessions by chapters. The breakout sessions' goal was to develop a plan of action for each RMS regional chapter to strengthen connections between schools and chapters. Each regional chapter reported its plans to the entire group.

The Southeast Chapter is scheduling an event in September 2023. The event will allow members to discuss and share the best river management and conservation practices. Jack Henderson, Southwest Chapter Trip Coordinator, is responsible for scheduling the event; details will be announced closer to the date.

The Southwest Chapter is preparing for a regional symposium in Flagstaff, AZ, next year. The Southwest Chapter board is also working on scheduling meetings with RSLC advisors to promote the program and encourage more students to enroll.

The Pacific Chapter is working to recruit a new school, potentially Columbia College, to join the RSLC program. The chapter board also wants to include a student liaison who will serve as a bridge between the chapter and RSLC students.

The Northeast Chapter is looking to plan an off-year regional meet-up to discuss river conservation and management topics.

The Northwest Chapter is working to make connections with RSLC advisors to promote the program and encourage more students to enroll. By building stronger relationships with RSLC advisors, the chapter hopes to recruit more students to participate in the program.

Finally, the Midwest Chapter is looking to set up a "Gear Box" program, where members can donate items to a recreation gear locker, and students can check out gear for free. Additionally, the chapter is lining up presentation speakers for RSLC students to provide them with valuable insights and perspectives on river management and conservation.

In conclusion, the RMS chapters are busy preparing for various events and activities leading to the 2025 Symposium. With everyone's help, the River Management Society can continue to grow and succeed in its mission to build capacity for river professionals, students, and instructors.❖

David Greenwood, BLM, and Denielle Perry, Northern Arizona University RSLC Advisor, lead a symposium workshop. Photo: James Vonesh

Peering into the world of non-motorized recreational boating

A review of river access in the United States, 2013-2022

by Karyna Kloude

Key insights

- The non-motorized boating community has seen significant growth in the last few decades, and COVID-19 exacerbated this growth as many individuals sought new, fun outdoor recreation to cope with pandemic constraints.
- We have no federal system to manage non-motorized boating, so it is up to individual states to determine fees and regulation requirements to provide access and manage user conflicts, thus river access is unique to each state.
- Although a permit, fee, title or registration may not be necessary to achieve certain river management goals, these forms of regulation could generate revenue, regulate waterway use, and provide data for research and development.
- Demographic data on the non-motorized boating community is sparse but what we found suggests a need for diversification and inclusivity.
- Several states are aware of non-motorized boating growth and other trends in their vicinity, and are taking action to reform laws, enact fees, and offer new programs to meet the community's needs.

Introduction

Before anyone can enjoy the beauty and power of a river by boat, they have to step off land. *River access*, therefore, is a precursor to a fulfilling river experience. While not the most exciting part of the adventure, a well-constructed and maintained river access site can set the stage for a great time out on the water. In the Fall of 2022, River Management Society completed a small case study that reviewed data on non-motorized boating trends, particularly regulatory and financial trends. We were also interested in demographic trends (*who* has taken up recreational boating) though, unfortunately, this information was sparse. The data we did find gave us a bit of insight into the state of river access as it pertains to recreational watercraft.

This story map is a rough sketch of river access trends and outlooks. The following sections provide more detail and discussion on the trends we found and some of the implications. First, we will look at previous years of data and how non-motorized recreational boating (sometimes referred to as 'paddlesports') has changed over the last several years. We will also focus on the challenge of funding these activities. Then, we will delve into our survey methods and results, including excerpts from the follow-up interviews we conducted. Lastly, we will highlight key trends in the data and interviews, and offer prompts for further thinking on the topic of river access. We hope this review will be informative and useful to you!

A historical perspective

2013

Prior to the COVID-19 pandemic, states were surveyed by the Oregon State Marine Board to find how many non-motorized watercraft were under some sort of regulation. **27 percent of states registered non-motorized watercraft, 28 percent titled non-motorized watercraft, and only 0.3 percent required a permit on these vessels.**

Of all vessel types, sailboats got the most attention in the titling and registration side of operations, while surfboards and kiteboards were among the lowest in titles, registrations, and permits. Only one state issued permits for pool toys.

Most of the states in the survey issued a flat-rate permit, and only two charged by the foot. Of the latter, one of those states was Hawaii, and they had only titled 25 non-motorized watercraft in 2013. Illinois, on the other hand, titled roughly 66,000 and charged a flat fee. As we will see throughout this report, **there is no one-size-fits-all formula when it comes to non-motorized watercraft regulation**, and consequentially, the management that is required to provide service and safety to users has to be just as specific to the conditions of the region.

Photo: U.S. Coast Guard

2014

A report on paddlesports published in 2015 revealed that paddlesports were gaining in popularity. Apparently, in 2014, **7.4 percent of the American population were active paddlers**, with kayaking being the most popular form. For all the interest in paddlesports, we might expect higher rates of registrations, more fine print in boating laws, and more instruction on boating safety and etiquette, but we found that only some states put more effort into regulatory systems while others were still in the process of building a system to manage the *growing* paddlesports culture.

Lock and Dam 15 on Mississippi River. Photo: USACE

We will revisit the data and insights found in the 2015 report later, when we discuss demographic trends in the world of recreational boating.

2016

In 2016, just a few years before the spread of COVID-19, another survey found that there was **a decline in non-motorized watercraft titles, from 27 to 18 percent**. Sailboats were still the most titled type of watercraft, but 40 percent fewer were titled in 2016. There was also a 37 percent drop in kayak titles and a 44 percent drop in canoe titles.

Interestingly, **registrations increased across the board**. Canoe and kayak registrations just about doubled. Rafts, stand-up paddleboards (SUPs), surfboards, and kiteboards doubled or more than doubled in number. Sailboats were the only type of watercraft that saw only a slight increase.

Permits issued also increased significantly, from 0.3 percent in 2013 to 11 percent in 2016. Permits issued increased for all types of watercraft except surfboards, sailboats, and pool toys.

2020

Kayak camp at Bay Model Visitor Center in Sausalito, CA. Photo: USACE

We were fortunate to also have access to the U.S. Coast Guard's 2020-2021 report which disclosed statistics on registered recreational vessels for all 50 states, D.C., Guam, Puerto Rico, and the Virgin Islands. These were also the initial COVID-19 years.

In 2020, the U.S. (and territories) registered 11,838,188 recreational vessels, most of which were motorized. Some states only required sailboats over a certain length (often 12 feet) to be registered; all other non-motorized vessels could be voluntarily registered.

States that asked non-motorized vessels to be registered had their own unique requirements. Minnesota did not need non-motorized boats less than 10 feet in length to be registered; Iowa was a little more generous, allowing canoes and kayaks under 13 feet in length to pass without registration. It should be noted that Iowa registered 215,321 recreational vessels in 2020, whereas Minnesota registered 819,377.

Not all states that required all watercraft (motorized and non-motorized) to be registered had caveats, but the ones that did often saw higher numbers of registrations overall. Ohio and South Carolina are examples of states that registered thousands of watercraft without exception.

Although we could not compare rates of registrations, titles, and permits from 2013, 2016 and 2020, we noticed that **sailboats seem to stand out among non-motorized vessels, receiving a bit more attention in the fine print of boating regulations**. It's likely due to their size, similar to, if not greater than motorized boats, and their recreational appeal for a variety of occasions.

2021

This year is very similar to 2020 in terms of nationwide registrations, titles and permits, as well as the types of vessels placed under some form of regulation. The same Coast Guard report disclosed that 11,957,886 recreational vessels were registered. If we look closer at individual states, some saw a growth in registrations while others saw a decline. These were in the thousands for most states though, and even for states that register a relatively low number of vessels each year, this year didn't really surprise us. We were curious to see that Arkansas, California, Colorado, Michigan, and South Carolina, to name a handful, were states that experienced pretty significant dips or jumps in registrations. There does not seem to be any pattern here, geographically speaking (see **A geographic perspective** below). Instead, we speculate these states could have been responding to non-motorized boating growth. To know with more certainty, we would have to broaden our scope to all recreational boating in the country, which we chose not to do for this study.

An economic perspective

From what we have found, it is apparent that recreational boating, particularly non-motorized forms, has been gaining in popularity over the last several years, yet there seems to be a discrepancy

Boundary Creek, Middle Fork Salmon River, ID.
Photo: Confluence Research and Consulting

between that ballooning interest and organized efforts to monitor, regulate, and support it.

Secure funding remains a challenge for river access. No federal system really exists to ensure funding, or standardize management practices, so states are on their own to apply for grant money and then distribute what they get as they see fit. Some states do apply their grant earnings to river manager salaries or infrastructure improvements, so it can be argued that a federal system may not be necessary.

On the other hand, since non-motorized activities are on the rise (look out, powerboats), it is going to put more pressure on states with or without a formal system in place, so more attention to this area of recreational boating (at least in an economic sense) will be needed. States can consider implementing a fee structure if one is not already there, or updating their fee structure to match current and future trends in non-motorized activities.

A geographic perspective

Before we really dig into the results of our own Waterway Access Inquiry, let's approach previous years' data from a different angle. First, let's revisit the U.S. Coast Guard report. The map (page 72 in the report) shows recreational vessel registration percentages by state. According to this map, much of the nation's registrations come from Minnesota, Michigan, and Florida, and sure enough, these states have brought in the highest numbers of registrations for the country. There is a table in the report disclosing exact registration numbers for each state, if you are curious. That table also lists exemptions, which there are many. All states require all watercraft (motorized and non-motorized) to be registered but plenty of states only require registration for motorized watercraft. Some that require non-motorized vessels to be registered focus on certain types or lengths of vessels.

Data from the Oregon State Marine Board surveys, and our own survey, reflect this geographic trend. States in the Great Lakes region, California, and Florida rank highest in registrations in the nation and tend to be more picky about which vessels need to be registered. And this is before fees, permits, or titles are factored into the equation. We might expect permitting and titling to happen if registration is required, but this is not always the case. States have their own reasons for requiring all or some of these regulations. In the next section we will explore some reasons.

River access today

River Management Society's own study on river access was inspired by the 2013 and 2016 surveys conducted by the Oregon State Marine Board, with input from Clemson University PhD student Benjamin Fowler. This past summer, we sent the survey, **a set of 53 questions concerning boating regulations, access issues, funding and programs**, as a Google Form directly to RMS members via the RMS News Digest. It was also shared to the RMS Facebook group. Our survey was also sent to the Society of Boating Access (SOBA) and the National Association of State Boating Law Administrators (NASBLA) whose newsletters reached almost 17,000 people. We accepted input from all recipients through November 2022 and have received nearly 50 responses to date. Let's dive into those responses.

We heard from 28 different states (some responses came from different individuals representing the same state) - some of our survey respondents sent us maps of their access area, which you can visit by clicking on a state (online).

The overwhelming majority of our survey respondents were representing a state jurisdiction. Others represented cities, counties, regions or watersheds. We even heard from a private outfitter and someone who previously worked at an NGO. Most of our respondents were involved in access (65%), education (54%), law enforcement (28%), and registration (24%).

Based on the responses, it seems **states' attitudes toward titling non-motorized vessels has not changed much in the last couple of years — still only 9 percent title**, and there are still some that title only under certain circumstances (ex. "sailboats 12 ft. in length or larger"). Most of our respondents did not specify requirements and many said non-motorized vessels are exempt from titling altogether. Titling may be a one-time thing or part of a larger, park access 'bundle.' That said, agencies that do title can generate a significant amount of revenue which can be used to improve accessibility and general area programming.

In terms of permitting, 14 percent of our survey respondents said permits are required on non-motorized vessels (the majority does not require one), but **in the grand scheme of things, there has been an increase in permitting**. The graph (online) shows which vessels need them. This graph represents present-day conditions, showing what could be a response to more people taking up paddlesports over the years and especially during early pandemic years. Though, as with titling, permits are often voluntary. 20 percent of our respondents (a majority) said all vessels are exempt from permitting.

As for registrations, about 12 percent of our respondents said it is required for non-motorized vessels, which is lower than previous years. The graph (online) shows which vessels are asked to register. Yet again, paddlecraft (and sailboats a bit more this time) are being placed under some form of regulation (though, again, many are exempt). It is interesting that permitting is more

emphasized across the board, but, each state has its own history with recreational boating and waterway use, so the numbers alone don't tell the entire story. We will take a closer look at individual states soon.

It seems that *overall*, registration, permitting, and titling are less enforced than in previous years, **but within the small area of non-motorized regulation, the focus has shifted to paddlecraft**, which the pandemic accentuated. The chart below, from the US Coast Guard report illustrates the overall growth in registrations. Though it doesn't show permitting and titling, it does suggest non-motorized recreation is becoming increasingly popular.

The increase in recreational vessel registration implies a growth in interest for non-motorized activities. Credit: U.S. Coast Guard

Fees are another piece of the puzzle, but about 57 percent of our survey respondents had no fee structure to mention. About 22 percent did, and the fees were for entry (20%), parking (12%), and launching (18%). These fees were the same from site to site for 28 percent of those who charge a fee, and varied for 24 percent. **As with access in general, fee structures are uniquely designed**. Some agencies charge daily or once for the year, a few dollars per person or several dollars per vehicle. **It depends on the unique economics, politics, and geography of the area**.

Regulation and fees may become increasingly necessary as paddlesports culture grows. We anticipate steady growth in non-motorized boating recreation, which will probably demand new or improved infrastructure to contend with, and hopefully harmonize with, motorized boating activity. 43 percent of our survey respondents indicated there has been some discussion in their agency or organization about pursuing a fee that supports non-motorized recreational safety, water quality, or access. Most of those interested in a new fee would make it a personal, excise, or sales fee, but the timeframe for implementing the new fee(s) are undefined.

From conversations held with interviewees, it is clear that some degree of organization and action is required for fair and sustainable use of our waterways. 10 of our survey respondents followed up with us for an interview to elaborate on their form response. These folks were from Oregon, Utah, Colorado, Minnesota, Iowa, Illinois, Michigan, Kansas, Pennsylvania, and West Virginia. One curious anecdote we exchanged was the apparent difference between East coast and West coast approaches to regulation. One of our survey respondents from Wyoming noted "we do not deal with titling or registration as land managers; just permitting. It's unsettling to do titling and registration first as they are things we commonly don't see." This can be true *and* there could be some missing layers of information, such as any titling or registration that is happening at a different level of jurisdiction or in another area of the state.

So why bother with permits or fees if some waterways do fine without them? From what we learned, **they seem to help control the number of users on a given waterway**. If the river is very popular or there is conflict with motorized boats or landowners, requiring a permit or issuing a fee can help reduce the traffic or tension, and the revenue generated can go back into paying for management, programming and other needs. On the other hand, a fee may upset or deter users. 18,000 paddlers enjoy West Virginia's open-access water trails each year, some of whom visit on special occasions such as the Yak Fest. But in Iowa, which sees plenty of paddlers, fees have not been an issue, and we speculate it may be due to their fee structure — anyone coming in with a canoe or kayak over 13 feet pays only $4.50 for the year. In Utah, on the Green River, permit prices have doubled in the last 5 years to accommodate the increase in user interest. So, while permits and fees *can* support an agency in their access responsibilities, they don't seem necessary for a system to adequately serve its user base.

Our interviews with survey participants (30 minutes each, on average) added another layer of insight to our study. Aside from asking about fee structures and registration data, we learned about the individuals making it all happen. Our interviewees were from state agencies and private businesses alike. Many of them are recreational boaters themselves. A few of them noticed **a slight decrease in canoes in the last several years and an increasing interest in kayaks**. One of them speculated it may be due to the independence offered by a kayak and the ease with which it can be carried and launched. However, with higher rates of paddlers comes the risk of accidents. **When asked about existing or future safety programs, about a third of our interviewees had any to speak of**. According to the data from the US Coast Guard's most recent report, fatalities due to accidents seem to be on the decline (overall), but we hope to see more attention paid toward non-motorized watercraft safety, given the growing popularity.

So, who makes up the current and growing population of paddlers? We know from data from 2015 that males made up most of the members in the paddling community (53% in kayaking, 57% in canoeing, 60% in rafting), and the overwhelming majority of paddlers were Caucasian. Moreover, at least half of paddlers were over the age of 25 and had some college experience. In the category of canoeing, 48 percent of paddlers earned at least $75,000 a year; 55 percent of kayakers made at least that much, and 47 percent of rafters fell into that income bracket as well. We hope, as the non-motorized boating population grows, agencies and organizations will take demographic information into consideration. We wish we had more current data on demographics to share but this layer of information is often underprioritized by agencies and organizations. About 17 percent of our survey respondents said

they collect this type of data; the majority do not. It could be due to a lack of staff or no direct contact with users, or it is simply an afterthought. One of our interviewees aptly noted that this data is "sorely needed."

Ultimately, river access should be about river users. There is a lot of opportunity for agencies, organizations, and businesses to improve accessibility. While it seems a handful of states are still gathering their resources, there are some hopeful changes on the horizon for the non-motorized community.

WDFW's management has historically focused on general boating access for fishing. Emphasis has been motorized. We're developing a new management planning framework that will better account for increasing non-motorized uses. The first planning process is expected to occur within the next 1-2 years. — Shane Belson, WA

We are right now (Summer 2022) spearheading a legislative effort to enact a new bill granting easement access to paddlers to [Illinois] rivers statewide. — Scott Hays, IL

Some areas are relatively free of conflict between motorized and non-motorized boaters, though 46 percent of our survey respondents indicated that such conflict is an issue at some or all of their access sites. Another common conflict is between paddlers and private landowners. In Illinois, "most of [their] statewide paddleable rivers remain legally the private property of riparian landowners." Also, in Kansas, landowners are generally unhappy with the state's decision to designate its rivers as water trails, making them open to the public. This could be another major incentive for issuing fees, or at least pushing for better allocation of funds — **the non-motorized boating community needs equitable, safe access, and diversification as it continues to grow**.

Final thoughts

As a nation, our approach to river access for non-motorized watercraft has not changed significantly in the past several years in terms of fees, permitting, and titling, even though we are seeing growth in terms of registrations. While plenty of states do not require a vessel to be registered, permitted, or titled, it may become necessary to do so. A growing non-motorized recreational boating community will require states to add or improve access sites that accommodate the needs specific to these members.

Our survey of individual states has led us to believe that each state is individually responsible for how it opens access to non-motorized boaters, as well as how it manages money and enforces rules to create a safe, satisfying, and equitable experience for everyone on and around the water. We got the sense that many states are aware of growing rates of paddlers and want to (re) structure their programming accordingly.

We believe there is also room for discussion around the paddling community's demographics, particularly how to welcome and support underprivileged and minority river users. This will benefit the community as a whole. We encourage river managers to think about the socioeconomic dimension of river access. Demonstrating respect for all members of the community will garner their support, which is vital for river access planning going forward. We are hopeful states will be able to respond to the growing needs of the recreational boating community, particularly the paddlers! Many of our survey respondents demonstrated the commitment and enthusiasm necessary for the task. Thanks to them we can offer this rough sketch of river access in our country.

Further reading

- A Guide for Multiple Use Waterway Management, 3rd Edition
- River Access Planning Guide: A Decision-Making Framework for Enhancing River Access
- Prepare to Launch! Guidelines for Assessing, Designing, and Building Launch Sites for Carry-in Sites
- The good, the bad, and the unusual: What makes a boating access work (or not?)
- Inside the plucky (and unofficial) campaign to make St. Louis a mecca for big-river recreation

Acknowledgements

Thank you so much to all who participated in our 2022 Waterway Access Inquiry and interviews. Your input helped us build a rough sketch of river access in our nation, and your discussions with us provided much-needed nuance. We hope you will continue your participation and membership with River Management Society so we can all support each other in providing and improving river access for all.

RMS / Risa Shimoda, Bekah Price, James Major

Clemson University / Benjamin Fowler

U.S. Forest Service / Steve Chesterton, Tangy Ekasi-Otu

U.S. Coast Guard / Jeffrey Decker

U.S. Army Corps of Engineers / Pam Doty

American Canoe Association / Robin Pope

SOBA & NASBLA / Taylor Matsko, Pam Dillon, Ron Sarver

2022 Waterway Access Inquiry participants / John Newman, Scott Hays, Jaydon Mead, Nancy Stewart, Jeffrey Hammond, Tappan Brown, Laurel Anders, Scott Brown, Oren Kennedy, John Wenck, Bill Currey, David Cernicek, Bobbie Jo Roshone, Tristan Leong, John Kreski, Mike Wishrowski, Mark Brown, Ellen Deleo, Larry Freilich, Tom Waters, Shane Belson, Jeff Conley, Jason Olive, Aaron Deters, and many others!❖

Karyna Kloude was a Fall 2022 RMS intern, whose article has been co-published online as a story map.

How a Tennessee river business is inspiring appreciation for outdoor recreation and making a splash in regional tourism

by Allie Bynum

In 2021, Tennessee saw record-breaking statistics from the economic impact of domestic and international travel. Along with a 99% recovery in total travel spending since 2019, and an 8% increase in employment, U.S. Travel Association, Tourism Economics, noted that "Travelers in Tennessee spend an estimated $66 million per day." This is also the case in the small town of Erwin, Tennessee, where residents are witnessing an influx of visitors to the banks of the Nolichucky River. This has been a boon for the regional economy and largely results from the draw of the river's Class IV whitewater, and one company's increasing lodging and outdoor recreation opportunities.

"We have folks coming from all over the Southeast and beyond to go rafting, so we realized we should be taking this opportunity to introduce them to more," said Matt Moses, USA Raft Adventure Resort Managing Partner. "We now offer fishing, caving, tubing, camping, stand-up paddleboarding (SUP), and OneWheeling and encourage people to go hiking on the nearby Appalachian Trail. Many of our visitors are families and couples who might not otherwise know where to start or how to access these kinds of activities. So it's a win for them and for our local economy while increasing appreciation for our incredible natural resources."

Guided whitewater rafting trips are one of the best opportunities to introduce locals and visitors to the beauty of the river. Photos: USA Raft

The beauty of the Nolichucky Gorge is that it's so deep and rugged — teeming with native fish, birds, and big game — and completely undeveloped, aside from the railroad that runs through it. In fact, designation as a National Wild and Scenic River was first proposed in the mid-1990s to protect its scenic and recreational values, and efforts continue today to advocate for designation of the gorge.

Over the years, only a handful of outfitters have made this river their home, but these few have introduced thousands of visitors to the gorge and established a close-knit river and outdoors community. USA Raft is one of these outfitters. When Moses took over management in 2011, the company operated primarily as a whitewater rafting and caving outfitter with a bunkhouse for group rentals. In just over a decade, USA has blossomed into a full-service adventure resort offering riverside lodging, camping and glamping at two campgrounds, and additional activities like whitewater SUP and OneWheeling. The increasing popularity of the Nolichucky and access to these new opportunities have attracted both domestic and international tourists to the small town of Erwin, Tennessee. Guests come for

Nolichucky River. Photo: Johnson City Aerial Photography. Inset: You never know what you'll see on the river! Photo: USA Raft

church retreats, family reunions, youth trips, and some by foot on the Appalachian Trail. For many, it's their first experience paddling, caving or camping.

"We do our best to ensure that folks have a safe, fun experience that inspires them to check out the other outdoor recreation opportunities in our region," said Moses. "Our hope is that they leave with a new sense of adventure and come back ready to explore some more."

Beyond the draw of rafting, several people have gotten their feet wet by attending USA's annual festivals or other weekend events featuring live music or storytelling, food trucks, and a seat at the riverfront Take Out Tap House. Nolifest takes place in April where whitewater enthusiasts and music lovers come out to kick off the high-water season. Sol Slam Mountain Jam wraps up peak season on Labor Day Weekend with three full days of live music, activities, and on-site lodging for guests. All of these events introduce thousands of visitors to the beauty of the Nolichucky and add to the diversity of this growing river community.

Regional partnerships have been essential for keeping up this momentum and raising awareness about opportunities and resources beyond those offered by individual organizations. Through participation in organizations like the River Management Society, Southern Appalachian Highlands Conservancy, Northeast Tennessee Tourism Association, local Chambers of Commerce, American Whitewater, and Tennessee Hospitality Association, Moses hopes to increase advocacy for and access to outdoor recreation opportunities in the Southeast. Along with the Nolichucky River, the Appalachian Trail snakes throughout Northeast Tennessee with nearly 100 miles of trail in the state. The trail runs parallel to USA Raft Adventure Resort, boosting in-season thru-hiker foot traffic. From resorts to Destination Marketing Organizations, to local trail clubs, fishermen and kayakers, it is vital that these entities work together to protect local resources like trails and rivers.

Leave No Trace ethics are at the core of many regional organizations. Last year, the Northeast Tennessee Tourism Association (NETTA) launched the "Leaders for a Litter-Free Tennessee" campaign. With an influx in visitors to the state during the pandemic, local trails were witnessing a mess of trash and folks who weren't recreating responsibly. As part of this campaign, NETTA interviewed local leaders and delved into how they are practicing good outdoor recreation ethics in their own lifestyles and businesses. Moses participated in these interviews and spoke about how conservancy groups in the local region work together on projects like large-scale river clean-ups.

As local river communities across the country continue to grow, it's vital for outfitters to understand their roles as leaders inspiring the next generation of river managers, stewards, and outdoors enthusiasts. "As thousands of people's first point of contact with whitewater and outdoor recreation, it's our job to make all people feel welcome, to provide safe opportunities to explore outdoors, and to set the standard for responsible conservation and management of precious resources like the Nolichucky River," said Moses.❖

Allie Bynum is Director of Communications at USA Raft Adventure Resort.

From Public Sewer to Public Park: The Story of the James River in Richmond, VA

Two reviews of member Ralph Hambrick's book *Transforming the James River in Richmond* (The History Press, 2020) —

Book Review (1 of 2) by Todd Lookingbill, Associate Professor and Chair, Department of Geography, Environment, and Sustainability, University of Richmond

I was first introduced to the complex history of the James River through Ann Woodlief's *In River Time: The Way of the James* (1985), which tells the 600 million year history of the "River of Kings" through beautiful prose that covers both its human and physical geographies. I continue to assign it as required reading in my classes. Other excellent histories, including T. Tyler Potterfield's *Nonesuch Place* (2009), have described the special relationship between the James River and Richmond, Virginia. Ralph Hambrick's *Transforming the James River in Richmond* (2020) carves out a well-deserved place in this canon by providing a detailed chronology of the recovery of the James. While Hambrick acknowledges the recovery is a work in progress, he offers a generally upbeat description of the paradigm shift that has led to a renewed focus on the health and beauty of this urban river. I can't wait to share this book and perspective with future students.

The James River undoubtedly holds a special place in American history, and its revival provides a gripping and unique story. But the story is also universal in its depiction of the recovery of many urban rivers in recent years from "public sewers" to "public parks." Different chapters catalog the many actions that have led to that change in Richmond including the construction of a sewage treatment system, the rejection of a proposed riverside parkway, and the increase in access and protection of the city's river shoreline through the creation of a robust park system, placed in permanent conservation easement. Other chapters describe the challenges associated with constructing a floodwall, drafting a comprehensive riverfront plan, and showcasing the rich and sometimes sobering history of the landscape. Each chapter is handsomely illustrated, including a gorgeous set of color plates.

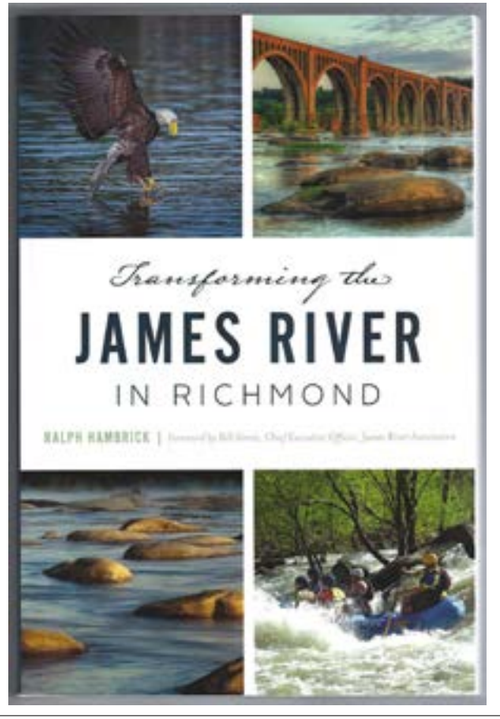
The scale of the book is decidedly local, and like the James River itself, it is a gem for local readers. But it should also have wider appeal. With each additional anecdote, Hambrick pieces together a compelling argument that local action is the primary driver of environmental change. The book provides a powerful case study of a water body that has come back to life thanks to the dedication of citizen volunteers and the persistent advocacy of some key environmental champions and organizations. The "transformation" did not occur through alchemy but through the hard work of these individuals, and their stories provide general lessons for environmental movements. All readers should enjoy well-told Richmond lore like Newton Ancarrow's plopping down bottles of James River water at the feet of the City Council and daring them to take a drink.

The book ends with a clear-eyed glance to the future for the River City and its eponymous landmark. It describes a new river ethos that values rather than exploits the city's most treasured resource. Yet, Richmond is still grappling with an infrastructure that includes combined sewer overflows. Access to the water and its amenities are still inequitable with many neighborhoods unable to safely reach the James. More diverse voices are still needed to better understand this river. As we continue to seek redress for these challenges, books like *Transforming the James* remind us of how much progress has been made but also of the many missed opportunities along the way. Much has been accomplished but there is much work yet to do.

Book Review (2 of 2) by David J. Hirschman, Principal of Hirschman Water & Environment, LLC

The James River binds many Virginians together, as the river winds for 340 miles from its headwaters in the Alleghany mountains to its emergence into the Chesapeake Bay in the Tidewater area. And Richmond is in many ways the heartbeat of this river community as the major urban center directly along the banks of the James.

Based on this, I was intrigued by Hambrick's book to learn more about how the James transformed from "sewer to park," or, as Hambrick notes, from utilitarian uses for industry and waste disposal to a true amenity and economic driver unto itself. The book indeed was full of details about this transformation,



from history, politics, ecology, recreation, and culture. While many rivers in the U.S. underwent transformations over the past seventy years or so, Hambrick's book provides the particulars of one such instance on one of the nation's most celebrated rivers.

The transformation of the James in Richmond was not always a smooth and poetic process, like a butterfly from the chrysalis. Indeed, it was one hard-fought change after another, requiring commitment from many individuals, citizen groups, and government agencies, often abetted by historical shifts in attitudes and economic conditions. Hambrick details the many conflicts along the way, from trying to clean up the "river as sewer" and the combined sewer infrastructure in Richmond to use of the historic canal, providing recreational access, desired uses of parkland, breaching of dams, the planning and fighting of a major expressway along the banks, the types of native and introduced species supporting a sport fishery, and the construction of a floodwall. Hambrick details the people, organizations, and outcomes of each conflict or controversy, and also the "show us the money" part where substantial budgets were needed to make a significant improvement.

One of the most interesting chapters for me was the detailing of eight major floods along the river from 1969 to 1987, including Hurricanes Camille and Agnes. In many ways, Richmond's experience presaged what we are all witnessing with more climate-induced flooding and the real difficulties of a city living alongside the banks of a river, along with the many opportunities inherent in that relationship. The book left me with a fuller understanding of what a treasure the James River has become in Richmond and beyond, and the fact that the many gifts the river provides did not manifest automatically or easily. Like a kayak navigating the rapids, each generation had to navigate the political, economic, and ecological options and fight with tenacity towards desired outcomes.

These stories of river transformation are worth telling, and it would be most unfortunate to lose these storylines or take the efforts of those involved for granted. Perhaps Hambrick's book will inspire others to tell their unique stories of other treasured rivers and how we, who have inherited the rivers in their improved by far-from-perfect conditions, can keep the story going.❖

Chesapeake Bay Program offers photo and video archive for public, non-commercial use

Need river photos or videos? The Chesapeake Bay Program maintains an archive that is freely available for public, non-commercial use, with written permission accepted at requests@chesapeakebay.net. The archive includes over 15,000 photos currently and is hosted on Flickr at www.flickr.com/chesbayprogram. They also make raw video footage available separately. Their video stories can be found at www.vimeo.com/chesapeakebay as well as their flagship website, www.chesapeakebay.net. More information on terms of use can be found at: www.chesapeakebay.net/site/terms-of-use. (Shared by Will Parson, Multimedia Manager, Chesapeake Bay Program)

WOKA Welcomes You to the Illinois* in Oklahoma, near Arkansas!
*Illinois River, that is...

by Risa Shimoda, based on correspondence with Jared Skaggs and Ed Fite

A major new destination for river recreation will open in 2023, resulting from work by RMS members and nearly countless partners for years. By visiting www.visitwoka.org, you'll see the following (April 2023):

The Grand River Dam Authority and the City of Siloam Springs, Arkansas, are collaborating to bring a new, national-caliber whitewater adventure park to the Upper Illinois River in the Ozark Mountains. Philanthropic support from the Walton Family Foundation provided funding for the design and construction of the park.

WOKA Whitewater Park will feature heart-pumping wave action for kayakers, surfers and tubers of all skill levels. Relax and enjoy the serene beauty of nature on a stand-up paddleboard or watch the action from the waterfront spectator seating.

Richard "Jared" Skaggs, Director of Outdoor Experiences, Grand River Dam Authority Scenic Rivers Operations, has shared the basic statistics of this river diversion, designed as a modern version of the granddaddy of whitewater parks built for the 1972 Munich Olympics, the Eiskanal, located nearby in Augsburg, Germany. This video is a view of the site shot in mid-2021. (https://www.youtube.com/watch?v=aUGo43wTXbs)

- The course is roughly 1,200' long and 100' wide.
- The channel features eight low-hazard drops, two adjustable entry gates, and one gate at 'Drop 6' that can be adjusted.
- The course will be tuned with breaking waves for kayakers, green (i.e. smooth) waves for surfboard surfing, and a set of three drops designed specifically for tubing and young children.
- Single-track mountain bike trails are being built adjacent to the whitewater park.

WOKA Whitewater Course - Overview Perspective.

While the course starts above and goes around the St. Frances Dam, the design team has added 'stair step' elements to the downstream side of the dam to increase its safety character.

Ed Fite, Water Quality Manager for Ecosystems Division, Grand River Dam Authority, offers a bit of historical context.

WOKA along with the development of other whitewater venues in this region will be a game changer, putting northwest Arkansas and northeast Oklahoma on the list of states in which paddlers "must go to surf and kayak." The excitement is building among kayaking and surfing enthusiasts who've been anxiously awaiting the WOKA Whitewater Park to open this summer. WOKA got its start as an idea in 2011 in a conversation I had with David Cameron (former city administrator) and M.L. "Moose" Van Poucke, long-term serving mayor for the City of Siloam Springs, Arkansas.

Short background:
Their city's owned-and-operated Lake Frances, an impoundment built in the upper reach of the Illinois River in Oklahoma, is a lake that was originally approximately 700-surface acres in size and used as the city's raw water supply. The lake had been a point of contention regarding dam safety concerns and water quality impacts between the City of Siloam Springs and the former Oklahoma Scenic Rivers Commission.

In May 1990, a portion of the main spillway area failed during a flood event (mentioned elsewhere in this issue). Following the breach, exploring varied remedial options failed to develop a consensus among stakeholders to restore the lake back to pre-breach conditions. In that conversation mentioned above, some 21 years after the breach, David and Moose mentioned that the city was partnering with the Walton Family Foundation to build a small "two drop" whitewater park at the Fisher Ford area on the Illinois River, approximately seven miles upstream of Lake Frances, in Arkansas. I listened intently that day to their description of the proposed project.

I don't remember how much time passed after that conversation, but it wasn't too long afterward that I contacted David to suggest that the city consider a likened project to use the area immediately adjacent to the Lake Frances Dam to build a whitewater course around that structure. Approximately six months later, David called with news that officials from the Foundation were giving the idea some consideration and a series of many conversations, a design charrette hosted by the University of Arkansas, and other meetings began, and have continued. The former Oklahoma Scenic Rivers Commission carried much of the water on the run-up to WOKA coming to fruition. When the Commission was consolidated by an Act of the Oklahoma State Legislature (effective July 1, 2016) into the Grand River Dam Authority, the WOKA Project began to solidify. I continued to be involved in the scoping project through formal planning, Section 404 CWA permits, selection of design-build contractor, and several other steps … most importantly in the securing funding.

When WOKA opens later this summer, the principles who are to be credited for pulling the project together are Holly Moore, Director of GRDA Properties; Richard "Jared" Skaggs, Director of GRDA Outdoor Recreational Experiences; Laura Hunter, Executive Vice-President of GRDA Shared Services; and, Mike Brown, Special Projects Director to Jim Walton. These four individuals have been responsible for shepherding WOKA to its reality. Their work has been supported by literally hundreds of groups, agencies, tribal organizations, and individuals who share their commitment and passion.

WOKA Whitewater Course - One drop, pre-opening overhead view.

Jim Walton and the Walton Family Foundation have made a quality-of-life investment that will benefit untold future generations residing in, working in, and recreating/visiting the Illinois River Basin.❖

Note: Jared Skaggs and Ed Fite are RMS Midwest Chapter members. Ed is the Midwest Chapter President and has offered leadership, enthusiasm, and reminders of the importance of our mission for well over thirty years.

The RMS Midwest Chapter is Revitalized

by Ed Fite

Jared Skaggs (left) and Ed Fite.

It's safe to say that I've been involved with the River Management Society for about as long as anyone else who is currently a member. Prior to the existence of RMS, most states that had scenic rivers programs were members of the National Association of State and Local River Conservation Programs (NASLRCP). In the mid-1990s, the NASLRCP merged with the American River Management Society, ARMS, prior to the addition of the Canadian Chapter and the organization's name change to the River Management Society in 1999. Thereafter, when attending RMS symposiums, I would tell people I was from Oklahoma and talk about the scenic rivers program, and they would say they didn't realize we had scenic rivers.

In fact, we have six state-designated scenic rivers, named in the early 1970s. When Congress enacted the National Wild and Scenic Rivers Act in 1968, Oklahoma was identified as one of the states with rivers that could potentially be designated for inclusion. The reaction in Oklahoma was similar to that of stakeholders in other states that chose to pursue their own scenic rivers designations, given that the federal act used eminent domain to achieve its purposes. From 1968 until 1970, Oklahoma struggled with various attempts to establish protection strategies for its rivers. The Oklahoma Legislature responded with enactment of House Bill 1152, the Oklahoma Scenic Rivers Act of 1970, naming four Oklahoma rivers that were placed into our state's scenic river system: 1) Flint Creek and Illinois River above the 650-foot elevation level of Tenkiller Reservoir in Cherokee, Adair and Delaware counties; 2) Barren Fork Creek in Adair and Cherokee Counties from the present alignment of U.S. Highway 59 west to the Illinois River; and, 3) Upper Mountain Fork River above the 600-foot elevation of Broken Bow Reservoir in McCurtain and LeFlore counties.

In 1974, the Oklahoma Scenic Rivers Act was amended by House Bill 1639, to include an additional river: Big Lee's Creek, sometimes referred to as the "Big Lee Creek," located in Sequoyah County. Two more pieces of legislation were enacted by the Oklahoma Legislature in 1977. First, House Bill 1015 was enacted to add Little Lee's Creek, sometimes referred to as "Little Lee Creek," located in Adair and Sequoyah counties, beginning approximately four miles east-southeast of Stilwell, extending downstream to its confluence with the Big Lee's Creek, as Oklahoma's sixth designated scenic river area. In that same legislative session, Senate Bill 285 was enacted, creating the Oklahoma Scenic Rivers Commission. I began serving as administrator of that agency in 1983.

In 2016, after 39 years, the OSRC was terminated by an act of the Oklahoma legislature and its mission was consolidated into the Grand River Dam Authority (GRDA). While my functions have migrated away from day-to-day oversight of scenic rivers, I'm still actively involved as the authority's water quality manager, which oversees these rivers along with other water bodies in northeast Oklahoma. As such, I've continued to be involved in the RMS, attending the biennial symposiums, along with participating in training and other river-relevant webinars.

Over the past few years, I found myself asking Risa Shimoda and Helen Clough about the status of Oklahoma: are we in the RMS Southwest Chapter or the RMS Midwest Chapter? During the course of several webinars, the question bubbled to the surface, and the RMS board voted to change the jurisdiction of its chapter to redefine Oklahoma as a state in the Midwest Chapter. In early 2022, following one of the webinars, Risa asked me to consider running for president of the Midwest Chapter, as part of an effort to revive the chapter. I was honored to become a new voice in the southernmost area of the Midwest states and look forward to working alongside Ed Sherman (Chapter Vice President) who works as the Zone 2 Recreation Manager for the Mark Twain National Forest in Missouri (and oversees the Current, Eleven Point, Jacks Fork, and Black Rivers), and Bobbie Roshone (Chapter Secretary), who works as a Park Ranger for the Niobrara National Scenic River in Valentine, Nebraska. Together, we encourage active participation by other river managers, staff, and organizations in the 14 states that comprise the Midwest Chapter.

When I became the OSRC Administrator, I began attending

various river advocacy group meetings all around the country. I knew a lot of people and would meet new people at every meeting. During this time, the state of Oklahoma was involved in a lawsuit regarding the discharge of effluent from the city of Fayetteville, Arkansas. My name seemed to come up a lot with regard to that issue, and I spent many hours discussing the importance of protecting water quality in the area of the state where my family had lived for four generations.

Over the course of the next year, I plan to work closely with other river managers in the Midwest Chapter to develop a cohesive group that communicates regularly and gets together for float trips and other activities. We'll put together a network of folks to advocate for rivers in the 14-state area. The Oklahoma strategy for managing rivers is different than that of other states, and I'd like to spend some time talking about that. Currently, Oklahoma is involved in trying to reach a settlement in the recently ruled upon poultry case which was filed in 2005 against 11 poultry companies located in northwest Arkansas. Additionally, we've focused efforts to remediate the area around the old Lake Frances Dam. The dam was partially breached in May 1990 during a flood event and for many years has been in a deteriorated condition, yet remained the raw water supply for the city of Siloam Springs, Arkansas. Today, while the river is still used for that supply, its water is piped to a location on the south side of the city for storage, treatment, and distribution.

Since the breach, a number of options were evaluated for restoration of the lakebed. In 2016, a mere 26 years after the breach, the GRDA, along with the Walton Family Foundation, the city of Siloam Springs, Cherokee Nation, Illinois River Watershed Partnership, and Adair County officials teamed up to plan construction on what will be a world class whitewater park, immediately adjacent to the old dam. Further, the office of the Oklahoma Secretary of Energy and Environment has taken the lead working with agencies, academia, and local stakeholders (that includes sister organizations in Arkansas) to develop a restoration plan for the old lakebed. Their objective is for it to become a functional wetland that stores floodwaters and releases them slowly back to the environment. The wetland will also provide wildlife habitat, enhance water quality, and offer passive recreation and outdoor/nature learning opportunities.

What's particularly important about this functioning wetland strategy is that it will support the Illinois River Basin's exponential population growth and associated urban sprawl. When I started working with OSRC in 1983, there were approximately 180,000 people living within the 1.1-million-acre Illinois River watershed. To put it in perspective, that translates to six acres of land per person. Beginning that year, I spent the lion's share of my time dealing with the impact of proposed wastewater treatment plant expansion in Tahlequah and a new discharge of treated wastewater from Fayetteville. At that time, Tahlequah wanted to increase the flow and potential loadings therein released into the Illinois River. Fayetteville wanted to split the flow of treated wastewater which had historically been discharged to the White River Basin and begin discharging half of it into the upper Illinois River, where it would cross the state line and potentially impact water quality in the Oklahoma portion of the watershed. Both proposals as presented were deemed violations of Oklahoma water quality standards established for scenic rivers. Both required proactive efforts to address potential impact to water quality. The Fayetteville case eventually reached the U. S. Supreme Court, which ruled that Fayetteville was obligated to meet Oklahoma's downstream water quality standards as approved by U.S. Environmental Protection Agency.

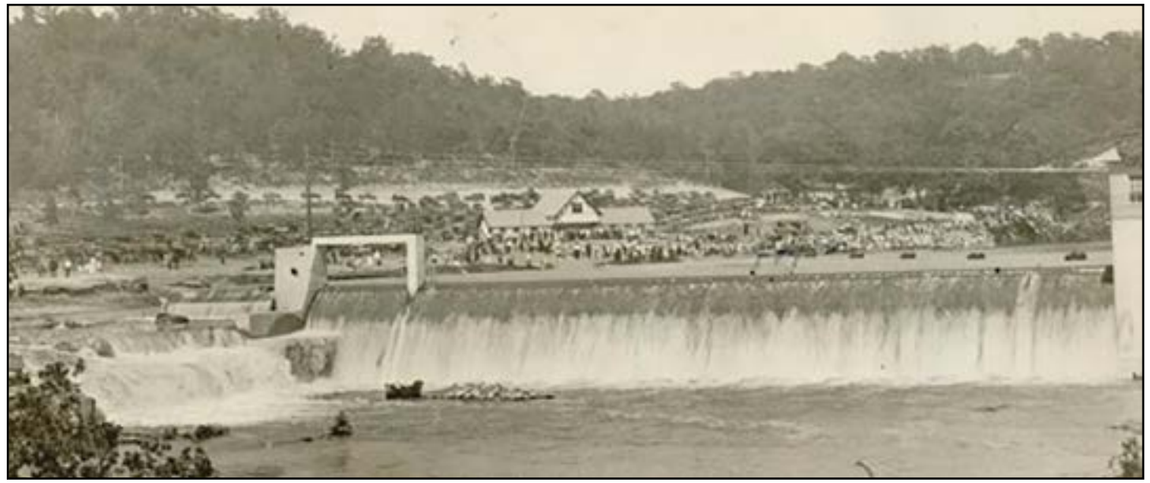
By the time the highest Court ruled in 1992, the population in the watershed had increased to a level that reduced the average number of acres per person to 4.4. Moving forward in time, the overall population in the Basin has continued to grow and now exceeds 600,000, the majority being in the headwaters area of northwest Arkansas. That area is renowned for its robust economies of Bentonville (headquarters of Walmart), Rogers, Springdale, Fayetteville, and other northwest Arkansas communities. The result has further reduced the average land size to 1.5 acres per person. Demographers suggest that the watershed's population could double to 1.2-1.4 million by 2045-50, further reducing per person land allocation to .9 acres and .7 acres, respectively.

Given this outlook, it is incumbent on Oklahoma and Arkansas to partner at every opportunity to implement strategies that will protect and preserve water quality. A number of individuals who are now invested in this effort have begun to realize that the challenges we've been dealing with for the past 40 years — that we thought were overwhelming — will not even compare with those we will face over the next 20 years. In other words, as the population increases exponentially, the stress on our natural resources will surpass what we've experienced, and we cannot do enough to prepare for demands on water resources in the years to come. Simply, if the population doubles as projected, to accommodate that means we'll have to plan, fund, and build out 100% increase of the housing, infrastructure, and other amenities that exist today to accommodate the growth.

To this end, we must groom new leadership ready to take the reins and continue the good fight. Jared Skaggs (Director of Outdoor Experiences) is my successor at GRDA, and he's hit the ground running toward the challenges. In terms of grassroots efforts, such as those exemplified by the nonprofit organizations Save the Illinois River, Inc. (founded in 1984) and Illinois River Watershed Partnership (founded in 2005), young and enthusiastic river advocates must be identified and educated to continue the noble fight for clean water. My intention will be to put Oklahoma on the map in terms of national awareness of the scenic rivers that grace our state. Many who travel coast to coast in search of quality river experiences will fly over the Midwest not realizing that beneath them on their journey flow the finest jewels among the nation's rivers.

These rivers, like many rivers across the United States, are going to be the catalysts for population centers. Communities must strive to place water atop the three-legged stool as their priority and balance it upon a robust economy, a good environment, and access to quality-of-life opportunities for their citizens centered around water. And by creating open space for walking trails, sightseeing, bicycling, kayaking, fishing, running, picnics, and other outdoor activities, the result will be a place everyone wants to be.

In closing, allow me to make two final observations… the first, always wear a lifejacket within 10-feet of or when out on a river. I've never recovered the body of a drowning victim that was wearing a lifejacket, and second, I encourage everyone to take pause in your daily routines to pick up two pieces of litter and properly dispose/recycle it… think what the synergy of such effort would result if we all did that every day.❖



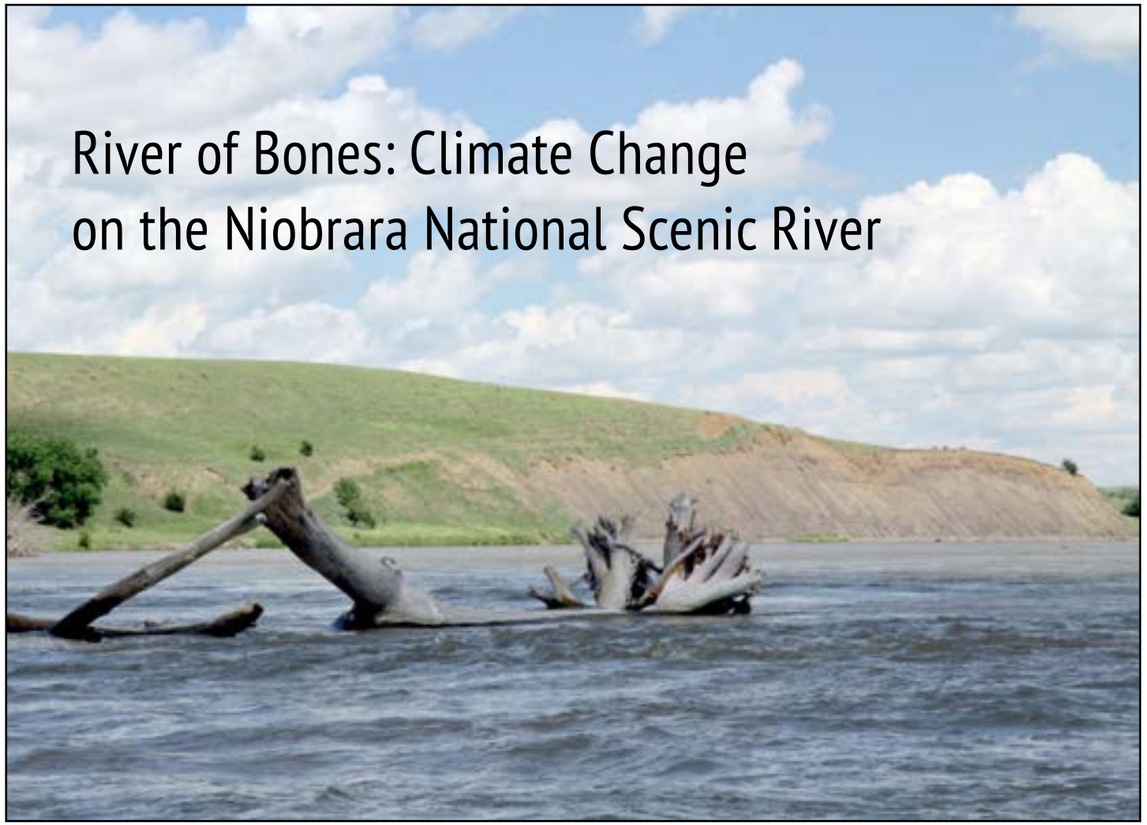
Historic photo of the dam in the early days with folks in the background enjoying the Lake Frances Resort.

Close-up look of dam's main spillway before partial breach occurred in May 1990 flood. (Right) Main spillway after partial breach. Photos: Ed Fite

Illinois River Basin

This map depicts the 1.1-million-acre (1,640 sq mile) Illinois River Basin. Lake Frances' dam impounded an approx. 700-acre lake. The majority of the lakebed is located just inside the Oklahoma boundary, five miles southwest of Siloam Springs, AR, near the town of Watts, OK.

River of Bones: Climate Change on the Niobrara National Scenic River



Downed Cottonwood in the river. Photo: Gordon Warrick, NPS

by Bobbie Roshone

"There are bones in the river." Depending on which division you work in, your first thought varies. For Visitor and Resource Protection it might spawn images of search and rescues turned recovery. If you are in Natural Resources, it might be a predator kill or a case of natural causes that wound up in the river due to rainfall and erosion. A staff paleontologist would wonder if they were animal bones older than 10,000 years — or an archeologist might wonder if the bones are historical human remains. An interpreter will wonder, research, create, and tell the stories of those items.

While the Niobrara River doesn't have many human recoveries, we run the gambit on wildlife and fossils tumbling into the river. There is an extensive fossil record dating back to the Paleocene Era. The Age of Mammals along the Niobrara River continues to be a source of information for paleontologists, giving valuable information on climate change and adaptations of mammals into the modern era.

Throughout time, this part of Nebraska hosted ocean life, swamp life, forests, savannahs, and Ice Age megafauna. Predominant sites, aside from Niobrara National Scenic River, on or near the Niobrara River that highlight the fossil history are Agate Fossil Beds National Monument and Ashfall Fossil Beds State Historical Park. Prior to becoming the Niobrara National Scenic River, several locations along the now designation area were significant bone quarries to early paleontologists. Fifteen sites in the Niobrara River study area are of world class (international) significance, 46 are of national significance, and 106 of regional significance. First discovered in the Niobrara River Valley were 80 species of extinct vertebrates: 56 mammals, 8 amphibians, 13 reptiles, 2 birds, and 1 fish. This list doesn't contain the numerous plant fossils found in the area, either. Petrified wood, plant adpressions, and seed pods from grasses and hackberry trees, also have been found in the river corridor.

Lately, we've noticed downed trees tumbling into the current. Over time, leaves and bark succumb to the slow smoothening of current and sand leaving behind a hauntingly beautiful skeleton sticking out of the sand and water. Most of the trees have one thing in common — they are all *Betula papyrifera*, Paper Birch. Occasionally, due to a severe rain, wildfire, or wind storm a Cottonwood, Ponderosa Pine or Eastern Red Cedar might find its way to the river but normally it is the Paper Birch, a species that is usually short-lived and seldom seen in Nebraska. Along the Niobrara it is an ice age relic — the slot canyons with cooler temperatures due to year-round ground water springing forth created a sustainable haven for the Paper Birch for many years.

The Smiths Falls Aspen (a hybrid of the Quaking and Bigtooth Aspen) is also found along the banks of the Niobrara. During the ice age when we had a cool moist climate the two species were naturally found here, and they comingled. This co-mingling led to the first generation product of hybridization called an F-1 hybrid. Through the hybridization event a series of first-generation clones were established and continue to sprout new clones. However, due to a lack of natural disturbance events that aspens need in order to thrive, the forest canopy is becoming overgrown by cedar trees and others that are preventing needed sunlight. There is additional concern about the rising temperatures creating a more humid environment in the slot canyons — aspens need cool, moist temperatures to thrive.

Fire suppression along the Niobrara River is also having an effect on native wildflowers, grasses and the ponderosa pine forests. Regular prairie fires assisted in wildflower and grassland cycles and assisted in maintaining ponderosa growths along the river. These fires added nutrients back to the soils, helping the native plant community flourish. Timing of prairie fires played a huge factor in regulating fire intensity. A fire that was too hot would make the ground sterile for an extended period of time and a low-key fire would not keep the invasive plants at bay.

Previously, when fire was seen as a bad thing, this period saw the rapid expansion of invasive plants. The loss of useable ground started becoming an issue for many landowners. The increase of chemical use, machines, and fire (prescribed or natural) are now playing a major part in trying to restore native vegetation areas. Management is a must for helping maintain the landscape for all uses.

Interpretation gives a voice to all these cascading issues facing riparian zones, especially along the Niobrara National Scenic River. Our visitors respond across the board on issues related to climate change. The majority do see the climate changing — some contribute it to natural cycles and others to man-made climate change. Luckily, the Niobrara lends itself to the climate conversation well. Most of our interpretative rangers, visitor and resource protection rangers, and biological technicians can give a brief program about the fossils and various epochs in natural and geological history.

Fossil teeth in the river. Photo: NPS

Usually, the individual ranger specializes on a fossil topic of personal interest. For example, one ranger stationed at Smith Falls State Park gave a program about Ice Age mammals and was able to incorporate the Smiths Aspen into the discussion. Prehistoric relatives to modern deer and muskrats would have used the aspens as a food source just as today. The wonder people have of an Ice Age relic still standing in Nebraska is inspiring. Then the ranger turned the conversation to how the temperature is increasing, even in the cooler river slot canyons and how the aspens were being affected. The ranger also pointed out that over the last seven years the climate shifted rapidly — not to the standard cycles we had pre-industrial revolution. That wonder can turn to concern when the visitor finds out that there has been rapid decline to the aspens due to warming in the slot canyons. Those who listen to this program are often asked, "is it possible?" and then given time and space to reflect on it. They are offered an opportunity to provide an answer and discussion if they wish.

We can use the big picture view to talk about the smaller picture when it comes to climate science. Utilizing language that helps connect people to the resource can also have a tremendous impact in community buy-in and activism. However, we cannot sidestep that the climate is being affected, and we must also be willing to provide solutions or ways people can help. These are tough conversations to have but our rivers are excellent creators for these powerful discussions.

"There are bones in the river." These bones are like the river. They are ever-changing and move like the current — offering us new adventures of discovery. From, who are they? What happened to them? When did they occur? Where did they go? What adventures did they have? Inciting questions related to the resource led to visitors learning that in the past shifting climate changed the animal and plant diversity and brought forth questions about what is happening now.❖

Bobbie Roshone is a Park Ranger (I) at Niobrara National Scenic River.

An Assessment of Water Quality in Tahlequah Creek –

A State-Designated Scenic Illinois River Tributary in Oklahoma

by Sandra Juliane Perry

The Illinois River, designated under the Oklahoma Scenic Rivers Act, is located in northeast Oklahoma. The river has several tributaries, including Tahlequah Creek and more specifically, a segment known as "Town Branch." Town Branch stretches approximately four miles and runs through the campus of Northeastern State University (NSU) and much of the town of Tahlequah before outflowing into the Illinois River. This creek is home to more than 30 species of fish and provides necessity for numerous other wildlife, along with creating beautiful places of recreation and scenery for the community.

The research I did as an undergraduate at NSU and collaborating with the Grand River Dam Authority (GRDA) Scenic Rivers and Watershed Lab, was an assessment of water quality and possible nutrient sources in Tahlequah Creek. We compared current water quality data with past data from a study conducted in the mid-1980s by the Oklahoma Water Resources Board (OWRB). Since that assessment, a new wastewater treatment plant has been built for the city of Tahlequah. Improvements this new plant brought included replacing chlorine water treatment with ultraviolet and introducing tertiary treatments and phosphorus removal.

The infrastructure was also moved from upstream to a much more downstream location along Tahlequah Creek. We obtained water samples from seven sites along the creek from its headwaters to its confluence with the Illinois River. At each site, we assessed physical parameters including dissolved oxygen, temperature, pH, and conductivity with a YSI EXO water quality sonde. We also assessed nutrients and fecal coliform bacteria levels. Specifically, we analyzed each sample for total nitrogen, total phosphorus, orthophosphate, and nitrate.

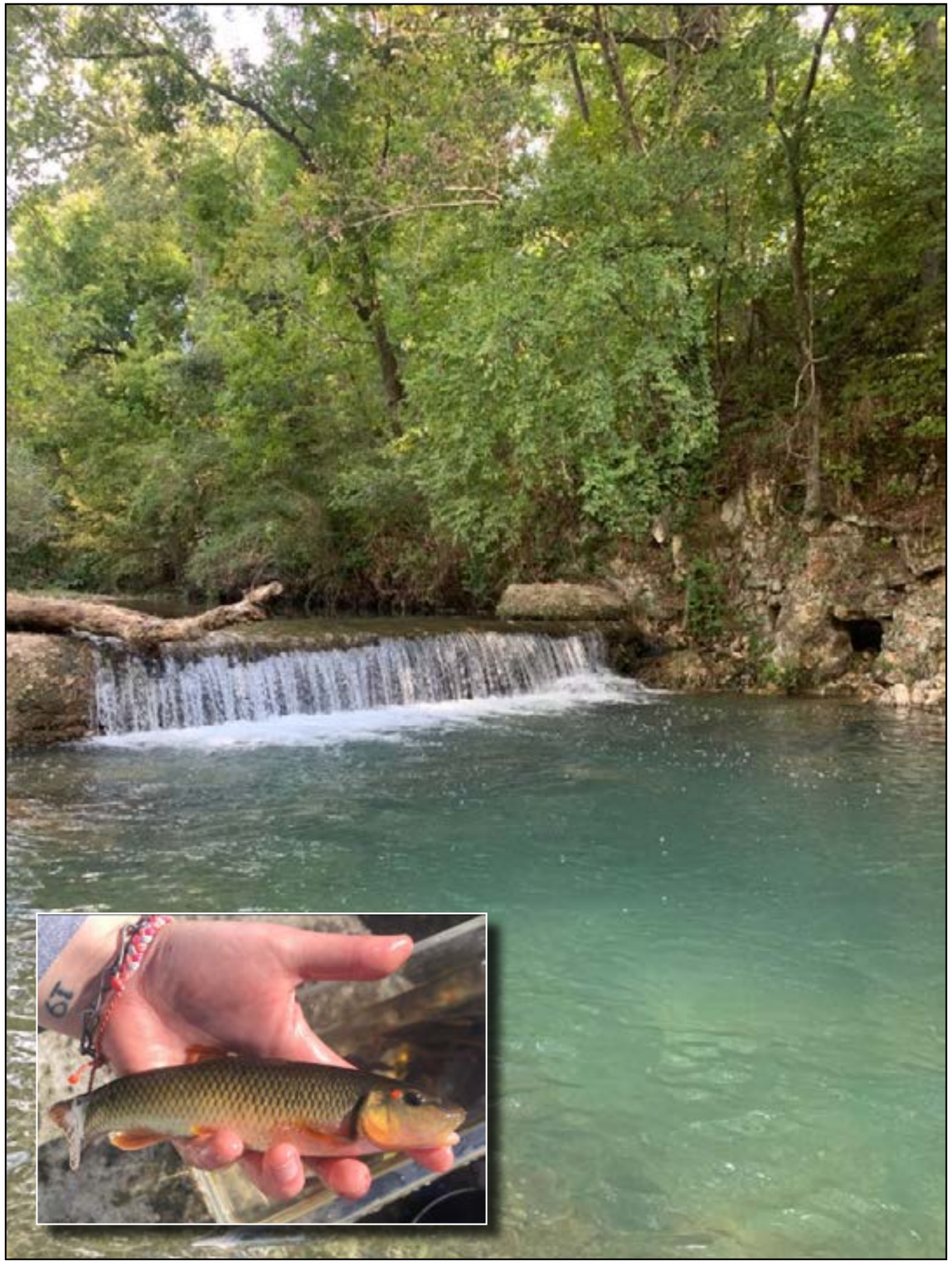
Sampling began in September of 2021 and ended in January 2022. We started by site tracking and finding the locations we wanted to use for our sample collections. We decided on four upstream sites and three downstream sites — the first site being at the headwaters where the creek is spring fed, and the last site being where the creek flows into the Illinois River. Samples were collected once per month from all seven sites. We collected one sample to be used for nutrients analysis and one sample to be used for fecal coliform bacteria levels analysis. After collecting each sample, we returned to the GRDA Scenic Rivers and Watershed Lab located on the NSU campus and processed the samples. We used HACH kits to prepare the samples and a HACH Spectrophotometer to obtain data.

We hypothesized the infrastructural changes that took place since the OWRB assessment in the 1980s caused significant increases in the water quality of the Town Branch portion of Tahlequah Creek by decreasing the levels of phosphorus in the stream. Our hypothesis was supported by our results. Our data showed significant decreases in total phosphorus and orthophosphate levels compared with previous findings. My research demonstrates that the infrastructural changes that occurred such as the phosphorous removal procedures, have been effective in enhancing stream water quality. The physical water quality parameters, such as conductivity, showed a consistent increase downstream, which is consistent with how these parameters typically present themselves in streams. The total nitrogen and nitrate levels were similar to those found in the 1980s assessment as expected. Fecal coliform bacteria levels showed improvements throughout the stream and contamination was below water quality standards for body contact recreation. We found elevated fecal coliform bacteria levels at site one which is located at the headwaters of the stream. However, we determined that those high levels were due to the abundance of Canada Geese residing at the site in comparison with the very low water depth and flow.

An assessment of current water quality is not only important in determining whether these infrastructural changes have improved water quality, but they also allow us to investigate the potential for any new possible threats to instream water quality. Ultimately, understanding the water quality in Tahlequah Creek is important for our understanding of water quality downstream in the Illinois River. Many people do not realize that what they dump, leach, or spill into the streets and even their own backyards in their towns can have serious impacts on watersheds downstream. I believe that educating the public on the importance of water quality is extremely crucial in maintaining and ensuring the water quality of our bodies of water and making sure these resources can be used and enjoyed for years to come.

> "Many people do not realize that what they dump, leach, or spill into the streets – and even their own backyards – can have serious impacts on watersheds downstream."

I would like to thank several people who worked on this research project with me. Without them this project would not have been possible and I would not have the knowledge I have today. I would like to thank my faculty advisor Dr. Richard Zamor for his constant guidance and support not only on this project, but throughout my time at Northeastern State University. I would like to thank Cale Corley for his assistance in the field collecting samples and going to enormous lengths to ensure I obtained the data I needed. Lastly, I would like to thank Kate Wollman for her instruction and guidance in the lab — without her, I would not have been able to process my samples and come up with the data to complete this project.❖



Redspot Chub (Nocomis asper) caught in Tahlequah Creek, OK.

RMS Board (Back row from L): MW Chapter President Ed Fite, Board Secretary Helen Clough, Board VP Shannon Bassista, SW Chapter President Matt Blocker, Board Treasurer Rob White. (Front row from L): PC Chapter President Kristina Rylands, Executive Director Risa Shimoda, NE Chapter President Emma Lord, Board President Judy Culver, NW Chapter President Lisa Byers. Photo: Bekah Price

What's downstream for RMS?

Board updates five-year strategic plan

by Judy Culver and Bekah Price

Record high membership, engaged national and regional leaders, and overall satisfaction with our workshops and resources are all a reflection of the increasing importance of our mission. The recently published 2023-2028 Strategic Plan outlines an ambitious strategy to build on these successes, further supporting professionals who study, protect and manage rivers.

"I cannot begin to describe our appreciation for the heavy lifting that has been completed by RMS members, volunteers, staff, and officers, which has brought RMS to this point," said RMS President Judy Culver. "RMS is nationally recognized for its contributions to river management, and we are encouraged by the excitement and passion seen through the eyes of new members who joined us at the 2023 Reimagine River Access Symposium."

Key components of the Strategic Plan include:

- **Creation of a River Management Core Competency-Based Certificate** through the River Training Center
- **Expanding resources** like the National Rivers Project and creating new resources such as a video toolbox for newly designated Wild and Scenic Rivers, as well as Core Competencies for Hydropower Practitioners and Stakeholders
- **Continuing training offerings** through the River Training Center like River Management Roundtables, Career Prep series, Wild and Scenic series, and river-specific trainings; as well as **launching new trainings** like a Wild and Scenic River Eligibility/Suitability Training Program and a FERC Relicensing Training that involves Section 7 Analysis
- **Supporting the next generation** of river professionals by developing partnerships with additional universities to offer the River Studies and Leadership Certificate and increasing support for active RSLC schools
- **Cultivating diversity and inclusion across membership and members' professions** through outreach and facilitated discussions
- **Increasing regional in-person river trips** and workshops
- **Improving communication** with members and partners through our website, RMS Journal, social media, and outreach efforts

As part of the planning process, the Board created a vision statement for the organization, which is "to be the national and international leader in river management education, collaboration, and training, whose members, volunteers, and partners represent the nation's leaders of thought, agents of change, and resources for all things related to the holistic management of rivers and river environments."

Read the full five-year Strategic Plan and a one-page summary by visiting https://www.river-management.org/plans-and-policies.❖

The Next Generation of River Professionals – River Studies and Leadership Certificate Alumni

by Bekah Price

RMS launched the River Studies and Leadership Certificate (RSLC) program in 2015, in partnership with various universities, to help students build a foundation of knowledge, skills, and experience in river-based science, policy, conservation, education, and recreation. Since then, 36 students have graduated with the certificate, and most have gone on to pursue careers in river management and stewardship. In this RMS Journal column, we showcase their success so that our members can get to know them and learn more about what the pathway from student to river professional looks like today.

Welcome Student Members!

Fort Lewis College
-Kennedy Perry, Durango, CO
-Lia Young, Lakewood, CO

Northeastern State University
-Zakori Blackwell, Tahlequah, OK
-Ashton Blackwell, Tahlequah, OK
-Ainsley Cunningham, Barnsdall, OK
-Leah Fletcher, Tahlequah, OK
-LaTosha Hobbs, Tahlequah, OK
-Emma Mills, Broken Arrow, OK
-Austyn Rice, Tahlequah, OK
-Keegan Stallings, Tahlequah, OK
-Viktoria Stallings, Tahlequah, OK

Northern Arizona University
Erica Rackley, Flagstaff, AZ

University of Arizona
Alexandra Spielhagen, Tucson, AZ

University of Tennessee - Chattanooga
Keyle Bryant, Nashville, TN

Virginia Commonwealth University
-Jennoa Fleming, Richmond, VA
-Patrick Reilly, Mechanicsville, VA
-Richard Garrett, Midlothian, VA
-Toolen Meyer, Student Trip Leader, Richmond, VA

Western Carolina University
Adam Mottershead, Cullowhee, NC

James Major helps make trip planning easier for paddlers by gathering authoritative data and mapping recreational river reaches across the country.

Where are they now?

James Major
RMS National Rivers Project Coordinator

I curate the National River Recreation Database (NRRD), a repository of information important to paddlers regarding boatable rivers, and especially focusing on Wild & Scenic rivers, water trails, and whitewater rivers. This information is available through the National Rivers Project website and is different from other river information sites in that the data displayed is not crowd-sourced but instead collected by the River Management Society and reviewed and approved by agencies and organizations with ties to the management of the rivers, access points, and campgrounds included. I work with river management entities to identify rivers to add to the database, collect relevant data, get data approved, and add that data to the NRRD. One of the best aspects of my work is getting to virtually explore many rivers that I have not visited in person, and of course add them to my "rivers to visit" list!❖

River Management Society Involved in Stream Restoration Training

by John Field

The River Management Society partnered with Field Geology Services to offer a virtual short course in September 2022 entitled "Using Fluvial Geomorphology to Improve Stream Restoration and Watershed Management." The course had a focus on New England rivers and streams but of the more than 30 participants approximately 25 percent of the registrants were from outside that region, including from Maryland, Virginia, North Carolina, and even two from California. Most participants had some professional involvement with stream restoration — with consulting engineers, biologists, or other technical experts involved in designing and implementing restoration projects the most numerous group. Government employees responsible for funding, permitting, or setting policy for restoration projects were also well represented. Other participants included those from nonprofit environmental groups involved in protecting and enhancing river systems.

Stream restoration has become a catchall phrase in the United States for nearly all instream projects related to bank stabilization, flood control, sediment management, or habitat enhancement with over $1 billion spent annually nationwide. However, the success and sustainability of such projects is mixed at best, with many projects failing after only a few months (Figure 1) because of a poor understanding of river processes and the factors leading to the problems being addressed. Fluvial geomorphology, the study of river processes and adjustments, therefore, is critical to stream restoration project success and for identifying watershed management strategies that will allow streams to self-heal while avoiding expensive and risky instream projects. Towards this end, the first morning of the short course focused on the basic underlying tenet of fluvial geomorphology – the concept of equilibrium. The importance of equilibrium in understanding where, why, and how rivers will respond to natural watershed conditions and human impacts is memorably captured in a simple pithy statement repeated numerous times throughout the course: "Rivers do not like fast changes"! Where humans create fast changes on a river such as at culverts much narrower than the natural channel, channel adjustments should be expected as the river tries to reestablish an equilibrium condition where change is ultimately minimized along the length of the river. The concept of equilibrium was reinforced in the afternoon through a series of small group activities that introduced participants to topographic maps, aerial photographs, scientific literature, and other resources used by fluvial geomorphologists to locate likely areas of channel instability (by looking for fast changes) and to understand how the river will adjust to establish equilibrium.

The second day of the short course focused on stream restoration. For most of the day participants worked in small groups to analyze restoration case studies from New England, the Pacific Northwest, and the Chesapeake Bay watershed. Each case study first showed a project immediately after its completion and challenged participants to anticipate how successful the project was before revealing what happened to the project after the passage of time – usually less than a year. Where the project performed poorly, examples of more appropriate techniques were provided, and for successful projects a discussion was held on how the same project might not succeed in different settings because what works in one area might not work in another. The format of the day required repeatedly switching between small breakout groups to discuss the case studies and then reconvening with the whole group to consider alternatives or improvements to the restoration project being analyzed. The River Management Society's River Training Center was instrumental in ensuring smooth transitions between the small and large groups within a virtual format and greatly enriched the experience for all participants who were able to interact with like-minded professionals throughout the day.

Approximately half of the participants were also able to join one or more of the three optional one-day field trips held near Portland, Maine (focused on urban stream restoration), northern New Hampshire (focused on the restoration of straightened and channelized streams), and the Pioneer Valley, Massachusetts (focused on reducing downstream sediment loading through restoration). Each field trip first visited sites to illustrate the problem being addressed with restoration projects visited later in the day. A commonality to all of the restoration projects observed on the three field trips was the use of large wood in various ways, reflecting the importance of wood in the proper geomorphological and ecological functioning of streams in temperate climates such as New England (Figure 2). Especially for the visual learners, the field trips provided excellent reinforcement of the concepts discussed during the two-day short course.

While some of the one-on-one interactions of a live in-person course are difficult to replicate, the virtual format of the short course provided several advantages that recommend its continued use. First, the course, including small groups, was videotaped enabling a couple of participants to take the course who were unavailable during the scheduled time. Second, the virtual format makes the course available to individuals throughout the country without the need for expensive travel arrangements, although participants in the Pacific time zone did have an early start time for the course scheduled on Eastern time. Third, instant anonymous feedback on course content and participant interests could be gathered by asking questions using the polling feature available on Zoom or other webinar software. The course was highly rated on evaluations with several excellent comments provided on improving the course in the future. Given the positive feedback, future courses are likely to be offered with focus areas on other regions of the country. Please let us know through email (training@river-management.org) if you are interested in future courses and if you think the region you are working in could benefit from using fluvial geomorphology to improve watershed management and stream restoration outcomes.❖

==

Dr. John Field
Field Geology Services

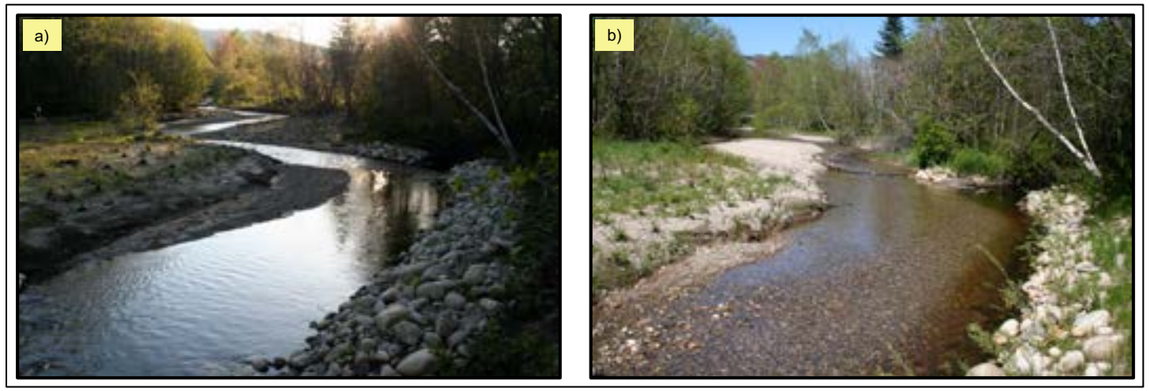


Figure 1. A stream restoration project on Barker Brook in Newry, Maine a) created a meandering planform as part of the project but b) within one year had straightened itself out because the designers did not appreciate how the natural setting at the foot of a mountain encouraged sediment deposition as the stream emerged from the confined setting upstream with high sediment loads exacerbated by human land use in the much steeper upper watershed.

Figure 2. Participants on the northern New Hampshire field trip observe an engineered log jam on Nash Stream built to encourage pool formation and the redevelopment of meanders on an artificially straightened channel heavily impacted by log drives decades ago.

The River Management Society, based on participant feedback from the last course, is pleased to announce that the next virtual short course organized with Dr. Field will be expanded to three days to provide additional content, allow for more detail, and enable for more hands-on and interactive content. The dates of the course will be November 6-8, 2023, with an optional virtual field trip on November 9. More details on the content, price, and registration can be found at: https://rms.memberclicks.net/stream-restoration-course-2023

The Farmington River Watershed Association (FRWA) Celebrates 70 Years of Stewardship

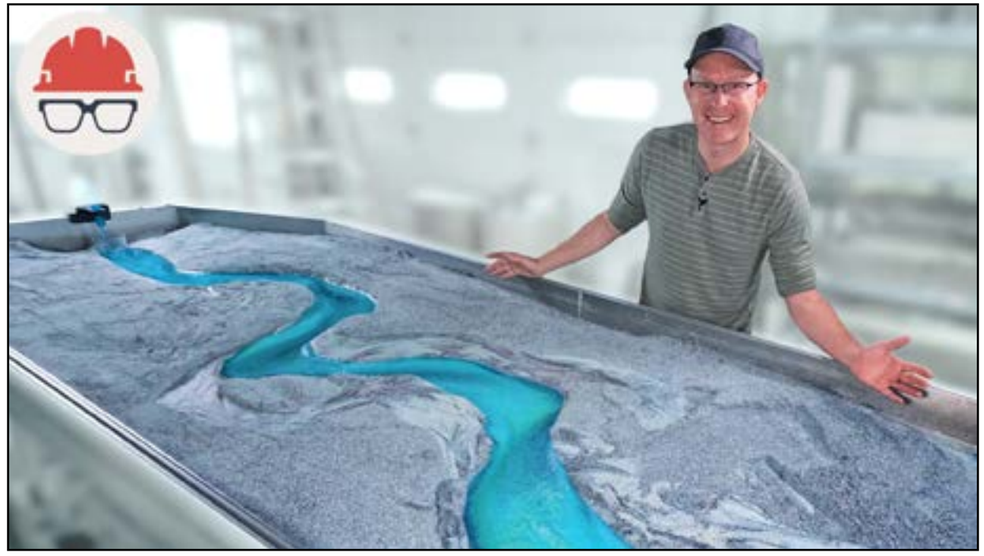
The following, reprinted with permission, is an excerpt from the Spring 2023 FRWA Newsletter.

70 Years Strong with New Grants and a New Website

In 1953, a group of 70 concerned citizens met at the Ensign-Bickford Toy Building in Simsbury, CT, and formed the Farmington River Watershed Association in order to address issues in their watershed. Since then, FRWA has exercised leadership in issues including water quality protection, wetland and floodplain preservation, water allocation, land and habitat conservation, and recreational usage. FRWA has conducted two studies that have led Congress to pass legislation that protects over 75 miles of waterways in the Farmington River watershed. The Upper Farmington River Wild & Scenic designation was awarded in 1994, which protects the 14-mile segment of river stretching from Colebrook to Canton. The Lower Farmington River and Salmon Brook Wild & Scenic designation was awarded in 2019, which protects 61.7 miles of waterways and added 1.1 miles in Canton to the Upper Farmington River designation.

Today, FRWA still works to promote an understanding among our members and the citizens of the watershed of the need for conservation. This year we have been awarded a grant from the National Fish and Wildlife Foundation's Long Island Sound Futures Fund to promote the River Smart program in several towns throughout our watershed, which will provide residents with information on how they can reduce stormwater pollution. You can learn more about how to be River Smart at riversmartct.org. We have also received an Aquatic Invasive Species grant from the Connecticut Department of Energy and Environmental Protection (CT DEEP) to continue researching cyanobacteria blooms on Rainbow Reservoir in 2023. FRWA staff spent the winter compiling our 2022 water quality data to prepare our first ever Farmington River Watershed Water Quality Report, which is published on frwa.org/resources. Also, have you visited our website lately? We've kicked off our 70th year with a new and improved frwa.org, so be sure to visit and stay updated about upcoming FRWA events, programs, publications, and more!❖

Intern Ciara Kilkenny (left) and Education and Outreach Manager Heather Geist (right) perform macroinvertebrate assessments with volunteer Susan Pearson from the Hartland Land Trust (center). Photo courtesy: FRWA



Why Rivers Move

Fluvial Geomorphology Explained in New Video Series from Practical Engineering and Emriver, Inc.

by Katherine Poulos

RMS member Emriver, Inc. has collaborated with Grady Hillhouse of Practical Engineering to create his latest YouTube series on fluvial geomorphology. The first video, "Why Rivers Move," premiered in March, and the second installment is set to be released on April 4th.

Grady Hillhouse is a renowned author, civil engineer, and science communicator who is best known for his educational video series, Practical Engineering. With over 3 million subscribers, his channel is one of the largest engineering platforms on YouTube. Emriver, Inc. specializes in designing and manufacturing stream tables and flumes, providing tools for hands-on education in fluvial geomorphology for learners of all ages.

These engaging videos showcase the impressive four-meter-long Emriver stream table, effectively demonstrating the complex interactions between rivers and the Earth. Grady combines the model demonstration with beautiful real-world images and an animated application of Lane's balance to explore the dynamics of sediment transport. The second video will delve into how engineered structures interact with rivers.

Don't miss this opportunity to deepen your understanding of river dynamics and the engineering principles behind them! You can find both videos on Practical Engineering's YouTube channel.❖

Katherine Poulos is the owner of Emriver, Inc.

Between two rivers, a city's hopes are tied to healthy waters

The Clean Water Act revived the James and the Appomattox, allowing Hopewell to seek its own renewal

First published by the Chesapeake Bay Program, 9/15/22, and reprinted with permission from the author, Will Parson, Multimedia Manager with the Chesapeake Bay Program.

Above: The Appomattox River flows past Hopewell to join the James River, right. After a history of environmental pollution, the city is working to capitalize on its restored waters. Photo: Will Parson

Standing on the deck of Ban Rafey's house above the Appomattox River one can spot blue herons hunting along endless wetlands and hear fish periodically splashing out of the water. The scene makes it hard to imagine what her hometown looked like in the early 1970s. Back then, Hopewell was still known proudly as the "chemical capital of the South" but its revered local industry was beginning to bring environmental degradation to the nearby Appomattox and the James River. As a high school cheerleader during that time, Rafey can recall the taunts that opponents used. "One of them was 'I smell, you smell, we all smell Hopewell,' Rafey recounts. "And then there was 'Bobby socks, knee socks, nylon hose. Here comes Hopewell, so hold your nose.' We've lived through that, and it was kind of an embarrassment."

In the decades after World War I, when the chemical company Dupont first manufactured explosives at the confluence of the Appomattox and James rivers, Hopewell's rapid rise was tied to industries that eventually extracted a heavy environmental toll. In the summer of 1975, pollution issues that had only garnered attention at the local and state level erupted into national awareness when a toxic pesticide known as Kepone was revealed as the source of a mysterious illness afflicting dozens of workers at its manufacturing plant with tremors and other symptoms. The facility had also been dumping tens of thousands of gallons of Kepone waste daily into Bailey's Creek, causing fisheries in 60 miles of the lower James River to be shut down for up to 13 years afterward. "When we were young, we would go into Bailey's Creek with our little paddle boat or something, and it was just—you could smell it," says Matt Balazik, who grew up in Hopewell in the 1980s and is now a research scientist at the Virginia Commonwealth University Rice Rivers Center. "It was…almost like a dying area."

Bailey's Creek, once ground zero for industrial waste pollution, flows past the Hopewell Regional Wastewater Treatment Facility, now known as Hopewell Water Renewal, completed in 1977 and upgraded in 2016 to treat additional nitrogen waste from industry. The plant has been funded by a combination of city, state and industry partners, and is unique in its ability to treat both residential and industrial waste. "We're one of 5 or maybe 10 plants in the country that can do what we do," said Jerry Byerly, director of Hopewell Water Renewal.

Though 1975 cast a shadow on Hopewell, officials at that time were already laying the groundwork for the river's long recovery. That same year, construction began on a new wastewater treatment plant, completed in 1978, that is one of only a handful in the country that can handle both domestic and industrial waste. In a turnaround spurred by the Clean Water Act of 1972, the river ceased to be a catch-all dumping ground for all types of pollution. Today, Hopewell continues to recover, and efforts to not only reduce pollution but increase access to the river are improving the outlook of the community. The city still ranks near the bottom statewide for health outcomes and quality of life, and the poverty rate is nearly twice the state average. But the natural appeal of Hopewell's waters is creating opportunities to improve the health and livelihoods of roughly 23,000 residents. "I just think it's a slow and steady improvement and you're really starting to see it now," Balazik says.

For a long time, pollution kept Hopewell residents away from its waters. Even after the rivers' recovery was well underway, limited access made it hard for many to fish, boat, paddle or otherwise enjoy themselves. Local leaders began to acknowledge that people needed a stronger connection to the water if the city was going to fully reap the benefits.

Laboratory technician Reese Phillips conducts water quality tests at the plant. Phillips began as an apprentice while still a student at Hopewell High School, a program that the plant resumed after a hiatus caused by the coronavirus pandemic.

LEFT: Ban Rafey, a lifetime Hopewell resident, remembers the industrial smell that used to greet fresh visitors to the city.

'It's the river, stupid'

On a hot July day, Marvin Johnson drives a little over five miles from his home in Prince George, arriving at City Park in Hopewell before 7:30 a.m. in order to beat the heat. Once there, he steps onto the Riverwalk for his usual four laps back and forth, walking over two and a half miles on the one-third-mile boardwalk. He stops to take video and pictures of two red foxes visiting the bank of the James. He says he once filmed a family of deer along the water—a buck, doe and fawn all together. "You get to walk the river edge and see nature," says Johnson, who started using the Riverwalk for exercise in March and comes six days a week. "I love it," Johnson says. "I wish it was longer."

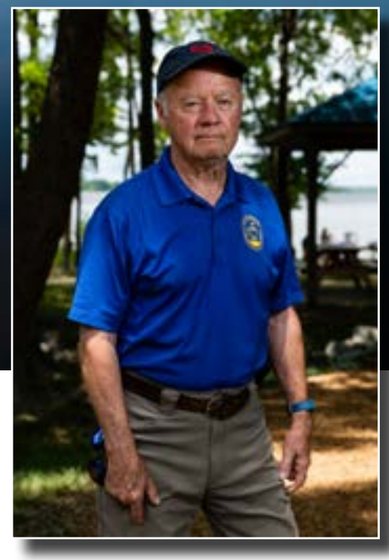
The Riverwalk has proven extremely popular, garnering roughly 60,000 visits in 2021, measured by trail sensors monitored by the Friends of the Lower Appomattox River (FOLAR). In fact, the city of Hopewell has already funded the second phase of the Riverwalk, which will nearly double in length and connect to a second entrance at Hopewell City Marina. But twenty years ago, according to former FOLAR chairman Wayne Walton, public river access in Hopewell was pretty much limited to the marina and City Point, a unit of Petersburg National Battlefield that is owned by the National Park Service. "Hopewell sits on the two most famous rivers in the country, two of the most famous rivers," Walton says. "And we were not taking advantage of the water." In 2003 he started cleaning up City Park, where invasive vines had made the shoreline of the James unusable. "Pretty much by myself, had a lawn mower, just cut through the kudzu," Walton says. He and his wife, Ann, hauled out broken glass and other trash. Over the course of about 15 years, he attracted thousands of volunteers and corporate donations of materials like stone for trails. Walton and another key advocate for the park, FOLAR's first chairman Richard Taylor, "took out thousands of tires," says Paul Reynolds, a FOLAR board member and chairman of the Hopewell Planning Commission. Paul and his wife Craig are regular kayakers who moved to Hopewell four years ago, lured by its revitalized natural appeal. "[City Park] was the place not to go…and Wayne saw the possibilities."

Walton says the park allows low-income residents a place they can visit easily, for free, where "they can bring their kids down here and safely swim." When Walton was elected to the Hopewell city council in 2008, he pushed for projects like the Riverwalk. His attention-getting slogan: "It's the river, stupid." After Walton and others literally cleared the way, additional efforts by the city took shape at City Park. Today it is home not only to the Riverwalk, but a nature-themed playground and a small patch of native meadow plants have taken the place of trash and vines.

Reducing stormwater pollution and protecting green space

The Riverwalk complements other environmental projects that have improved quality of life in Hopewell. Once the second phase of the Riverwalk is completed, for example, it will connect to the Riverside Park Greenway, a 1,100-foot forested trail constructed alongside a 2,200-foot stream restoration. Someone walking from downtown Hopewell could enter City Park, follow the Riverwalk to the marina, and then continue along the Greenway into the adjacent neighborhoods. The Riverside Park Greenway project was funded in part through a grant by the Chesapeake Bay Program, administered through the National Fish and Wildlife Foundation (NFWF) Chesapeake Bay Stewardship Fund. Two additional NFWF grants have allowed the nonprofit Chesapeake Bay Foundation (CBF) to establish and continue an initiative it calls the Hopewell Restoration Project.

In 2021, under one of the grants, CBF worked with the city to restore Cabin Creek at Hopewell's Mathis Park, reducing erosion and stemming silty floodwaters that used to cascade across a parking lot and flood a playground area. Cabin Creek collects water from nearby neighborhoods and the Hopewell High School campus before flowing through Mathis Park to



The Riverwalk currently spans 1,736 feet of Hopewell riverfront. RIGHT: Wayne Walton, seen at City Park, is a lifelong resident of Hopewell who championed its rivers as a chair of FOLAR and a city council member. His initial volunteer efforts at City Park led to wider support from the city and organizations such as the Cameron Foundation and Randolph Foundation. "[I] probably ask forgiveness better than permission to do things, you know, to get it kicked off," Walton said.

the Appomattox River. "Just imagine a scoured creek bed that ranged anywhere from five to 10 feet deep," says Johnny Partin, vice mayor of Hopewell. "There was just total erosion going through—trees, falling over, everything messed up." Partin—who Walton says is his younger "clone"—has participated in over 100 trash pickups around Hopewell. For morning walks, he and his friends make frequent use of its parks, including a new mulched trail along Cabin Creek. "When I come out here walking myself, I've seen a handful of folks and they thoroughly enjoy it," Partin says. "They also love the fact that we're trying to put in more trails, more walking areas and trying to protect some of our green space here in the city." Partin says the Mathis Park project is the one that pushed Hopewell past its goal for reducing pollution under the Chesapeake Bay Total Maximum Daily Load, the federal framework for limiting the flow of harmful nitrogen, phosphorus and sediment into the Chesapeake Bay.

In 2018, under the same grant as the Mathis Park work, CBF also began an urban tree planting effort. Trees help soak up stormwater runoff pollution, and an initial tree canopy assessment also showed that the areas of Hopewell that lack trees are disproportionately low-income and also have lower life expectancies. Urban trees can help improve both health and economic outcomes by keeping entire neighborhoods cooler, reducing heat-related illness and lowering energy bills. To make sure newly planted trees survive to maturity, CBF trained roughly a dozen volunteers who have since spun off into a nascent nonprofit called Hopewell Tree Stewards.

Altogether, NFWF grants have contributed nearly $1 million to restoration efforts in Hopewell. Along with other efforts, including a $76 million upgrade to Hopewell's wastewater treatment plant in 2016, the stormwater work aims to improve the health of downstream tributaries and the Chesapeake Bay. But it's also locals who are seeing a change for the better. "I think it's certainly changing our name and our reputation here in the Commonwealth of Virginia," Partin says. "Certainly, the [environmental] work that's been done over the past 10 years here in the city of Hopewell has really been remarkable."

One Hopewell

Despite Hopewell's environmental gains, the progress has yet to translate into improved health and economic outcomes for all of the city's residents. To help close that gap, local leaders are increasingly recognizing the intersection between environmental and social challenges in order to find new ways to address both. Jasmine Gore, a Hopewell council member and former mayor, uses the federal response to the covid-19 pandemic through the American Rescue Plan Act (ARPA) as an example of thinking holistically in order to identify additional resources.

"How can you go get this ARPA fund to do an infrastructure project that might address what you're doing with the watershed—but then also improve the community so you can hit two things at one time?" Gore says, "You have access to that pool of money because you're looking at it from that angle." Gore, who is also the current chair of the Chesapeake Bay Program's Local Government Advisory Committee (LGAC), champions an effort called the One Hopewell Initiative, shaped by grants from the National League of Cities and the Cameron Foundation, to address the social determinants of health in a comprehensive way. "When it comes to social determinants of health, that is all factors that influence where you are born, grow, live, work, play and age," Gore says. "So that is your environmental factors. It is your work. It is your education. It is your housing. It is your access to transportation. It is all of those things that tie into how long and how well you live." As you chip away at those factors, a community's health improves, Gore says. And she sees "plenty of opportunity" for watershed restoration to "impact people's daily lives, even if they don't realize it." "One side of the city, I believe, lives ten years longer than the other side of the city," Gore says. "That is the problem that we are trying to fix, in a nutshell." An early accomplishment through One Hopewell was to get Hopewell and neighboring Petersburg added to City Health Dashboard, a platform that provides access to local health data across a range of metrics including everything from income inequality and unemployment to access to parks and healthy foods. "When you start overlaying those elements, you get to see which communities are in greater need than others," Gore says. Officials undertaking watershed restoration efforts should look beyond the immediate impact of their work to also consider effects in communities, Gore says. Maybe fixing an erosion issue also fixes a road that people depend on, or a flood control measure lets children play in their yard without being bombarded by mosquitos. In that sense, the Riverwalk, the new park trails, and waters that are fishable and swimmable contribute to the same goal of community health as efforts like One Hopewell Initiative's development of farmers' markets to address food insecurity, or the Hopewell Downtown Partnership's efforts to revitalize a prosperous business district near the river. "One of the things I've been advocating since I've been on LGAC, especially as chair, is looking at equity and diversity as it comes to these issues and not only looking at watershed restoration or stormwater or these other things that people are interested in," Gore says. "It needs to be more than that."❖

Industrial facilities line the James River in Hopewell.

Jasmine Gore, a former mayor and current council in Hopewell, worked with the city's Director of Development and Planning on grants that spawned the One Hopewell Initiative. "Now we have a full emphasis on social determinants of health, looking at it through a covid lens and looking at how can we improve those stressors," Gore said. "Education, job attainment, housing, transportation, child care, home ownership, your physical environment, crime in your environment—all those things impact your health."

Feasibility Study for Dam Removal is Closer

Corps and River Falls agree to feasibility study and Horvath named Fly Fisherman's national 2023 Conservationist of the Year

L to R: Gary Horvath (Kiap-Tu-Wish VP and Conservationist of the Year), Brian Smolinski (Lund's Fly Shop & R4F Flyfishing Film Festival), Judie Babcock (KinniCC President), Andy Roth (Gray Goat Fly Fishing & R4F), Missy Handson (Kiap-Tu-Wish), Chris Bye (R4F), Suzanne Constantini (Kiap-TU-Wish Treasurer), Dr. Brian Senoraske (Kinni Valley Chiropractic & R4F)

by Duke Welter

The Kinni River dams removal effort moved forward February 28, 2023, as the City of River Falls, Wisconsin, signed a contract with the U.S. Army Corps of Engineers to conduct a study of the feasibility of removing the Junction Falls and Powell Falls dams, which it owns, to restore the 1.5-mile reach the dams have inundated.

That's a major step forward. Once it determines the feasibility of its involvement in the project, the Corps would bring $10 million to the effort. Early estimates of costs to remove both dams run in the $13-15 million range.

One more important step, made possible in large part by Trout Unlimited's support, took place with the signing of the City-Corps feasibility study contract. The Kinni Corridor Collaborative (KinniCC), the nonprofit formed at the city's request to help raise funds and educate the public about the project, encouraged the city to enter into the study by pledging to raise half of the city's $350,000 share of the study costs. The Corps will cover the remaining $450,000 for study costs.

The KinniCC has now contributed $50,000 toward its share of the study costs thanks to considerable effort by members, especially from the Troup Unlimited Kiap-TU-Wish and Twin Cities chapters. A second payment of $50,000 is expected to be made shortly by KinniCC from funds raised mostly by the Kiap-TU-Wish Chapter. The remaining $75,000 of the pledge, nearly $40,000, has also been raised.

However, in this project, most of the usual study topics have been covered in the course of the two dams' relicensing or a license "surrender (if the continuation of the dam's operation looks like it will not be economically viable)" over the past three years. The Corps paid for some of those studies and its experts in fields like hydrology, sediment management, dam removal engineering, and endangered species have been reviewing the findings.

The study will consider several alternatives for action including removing one or both dams, and no action at all — Corps personnel have suggested that removing only one of the two dams would not be of sufficient ecological benefit to the river to warrant Corps involvement.

While the lower, Powell Falls dam had been slated for removal this winter, it would be a benefit to the river to remove the upper dam first and use the lower dam as a sediment trap. The upper impoundment, about 15 acres and about 20 feet deep, is almost 90 percent filled with sediment, and with removal, the river would cut through that sediment to make a new channel. That slug of sediment might take time to work downriver to the St. Croix River seven miles downstream. If much can be captured, it will have less impact on the lower Kinni.

When the City Council voted in 2018 to remove both dams, it adopted a timeline of removal of the Powell Falls dam by 2026 and Junction Falls dam by 2046 or sooner as funding may dictate. Dam removal advocacy resulted in an increase of state support, which has led to a one million dollar grant from the Michigan Department of Natural Resources and the prospect of a second, similar grant. The City, whose utilities have dammed the river since the early 1900s, is expected to support removal with utility funding and through its capital projects budget.

For now, KinniCC and its team of volunteer fundraisers will work to raise the remaining $35,000 toward the feasibility study. Hopefully, support for a free-flowing Kinnickinnic River will continue from TU members and chapters, outdoor businesses, foundations, and individuals.❖

Midwest

Remembering the Amazing Sig

Midwest Chapter member and volunteer Sigrid Pilgrim paddled away December 21, 2022.

Sigrid's record of leadership in paddling clubs and state and national advocacy organizations, her promotion of paddling safety, and her service as an instructor and river conservationist is inspiring. She was recognized with a Lifetime Achievement Award as the founder of the Illinois Paddling Council who helped steer growth and membership of their promotion of safety, access, communication, competition and conservation, and by the American Canoe Association its President's Award, "for outstanding service to the ACA on a national level":

"An avid paddler of canoe and kayaks for three decades, Sigrid's main interest has been to provide information about paddlesports to the public to participate safely and to engage paddlers in becoming stewards for the environment. Sig has been a lifelong advocate for paddling instruction and safety, a state and national paddling community leader, and one of the founders of the current incarnation of the Illinois Paddling Council. A certified kayak instructor, Sig was an active member of Chicago Whitewater Association and for fourteen years organized and taught the club's Evanston pool sessions. She was instrumental in orchestrating the Safety on the Water Conference at the College of DuPage seven years ago; the first Adaptive Paddling workshop in the Chicago area; and the successful 'Paddling in the Park' festival for twelve years, connecting local retailers, clubs and low-cost paddling skills instruction."

The above citation and acknowledgement of Sig's contribution was written in 2004. Since that time, she continued to support paddlesports, safety, and wise river management until days (literally) before her passing. Two RMS members reflect on but a portion of her contribution to her passion and commitment:

I met Sigrid while working to develop the Fabulous Fox! Water Trail along the Fox River in Wisconsin and Illinois. She was a Director with the Illinois Paddling Council (IPC), became an avid supporter immediately, and invited me to speak at the IPC's Annual Meeting. A couple of years ago, Sig helped us apply to the National Park Service for hopeful designation as a National Water Trail. She was very knowledgeable about paddling and paddling resources and donated a RMS membership to our team! Even through her illness this past year, Sigrid did what she could to assist us. She will be missed.

Karen Ann Miller, AICP, Executive Planner
Kane County Development Department, Geneva, Illinois

Sigrid was very active for many years in Chicago Whitewater Association and also took on additional responsibilities with both the Midwest Division of the American Canoe Association and the Illinois Paddling Council. She was the prime organizer for the Paddling in the Park Festival for some 10 years (c. mid '90s to mid-'00s) and a silent partner for her husband Al Pilgrim, a co-organizer of the DesPlaines River Canoe and Kayak Marathon for many years. Sigrid stepped back from formal involvement in paddling organizations in recent years but remained an advocate for paddling - as evidenced by her posts to RMS asking for possible ideas to help with Illinois paddling access issues (and the terrible Illinois Supreme Court Decision in 2022).

Erik Sprenne
Northwest Indiana Paddling Association, Highland, Indiana

Since joining RMS just a few years ago, Sig crushed it as a volunteer! She solicited an issue's worth of articles for the Summer 2021 RMS Journal; donated auction items in 2021 and 2023; and worked to welcome and recruit new members. Last spring, she introduced us to the Openlands/African American Heritage Water Trail folks (Laura Barghusen and Lillian Holden) who we featured during our November 2022 River Management Roundtable. Sigrid has left a legacy of kindness, selfless generosity, hard work, and dedication to her local communities and immeasurable, unconditional love and support to her family.

A memorial service will be held at a time to be determined as of this publication date.

To send flowers or plant a tree in memory of Sigrid H. Pilgrim, please visit the Illinois Paddling Club's Tribute Store.❖

Remembering Dave Schade

Alaska Chapter President, Dave Schade, passed away on March 2, 2023. Knowing Dave was ill, we acknowledged and dedicated the symposium to him while we gathered in San Antonio. Dave served in the Chapter President's role for 10 years and was just getting ready to turn the reigns over to a new leader. He joined RMS when he worked with rivers in the Alaska Department of Natural Resources, and remained active and committed to river management even when his career took a different direction and he became the Director of the Division of Agriculture for the State of Alaska.

In 2011, Dave co-hosted the last Interagency Workshop along with the 30th International Submerged Lands Conference in Girdwood. In addition to hosting, for the first time, Dave arranged for many sessions to be live-streamed on the internet for those who could not attend. From that moment, Dave took an active role in RMS, participating in various activities, overseeing several Alaska-focused RMS Journal issues, and taking over leadership of the Alaska Chapter in 2013. Dave introduced our Executive Director to Alaska by hosting her on a chapter trip on the Chulitna River in 2016. He even hosted Risa at his home when in typical Alaska fashion, the trip took longer than anticipated and she missed her return flight – giving Risa the full "Alaska" experience.

Dave, as Chapter President, served on the national board for several years and his input was highly valued. He brought a unique perspective from his varied career and life experiences, always asked thoughtful questions, and provided well-reasoned input. His advice and consultation will be sorely missed by the board.

Risa recalls hearing from Dave "…just to see how you're doing... we'd talk about nothing and everything, providing each other with helpful input on both work and life-type topics. We also got together a few times during work-related trips to Washington, DC, and he was always enthusiastically supportive of our mission, staff, and program priorities."

Wendy Steinberger (Alaska Chapter member and Dave's colleague at the Alaska Department of Natural Resources) shared, "Shortly after we started working together, Dave said he 'tried to live and work as a statesman, leaving a place better after his passing than it was before!' And he did, in those things I witnessed."

As can often be the case with professional associations, we didn't know Dave's family — though he always spoke so fondly of them and shared delightful incidents of his joy as a husband, father, and grandfather. He was so proud of his family, especially his two daughters.

Dave was born in Anchorage on September 16, 1959. His parents and grandparents homesteaded land east of Homer, Alaska, where he and his siblings were raised and attended school. Dave earned a Bachelor of Science in Agricultural Economics from the University of Idaho in 1982 and a Master of Public Administration from University of Alaska Anchorage in 1994. He was proud of the work he did for the State of Alaska, from working in the legislature to retiring as Director of Agriculture. David was a dedicated servant to the state, his family, friends, and community. He was proud of the programs he helped to develop and improve, and of the people he worked with to accomplish their goals. He served his community through volunteering, coaching, and being an active member of organizations including agriculture, river management, community council, and guardianship advocacy. He served to help people through his guardian/advocacy business from 1996–2023.

In 1984, David married Teri — they raised two daughters and spent 38 cherished years together until his death. Dave is survived by his wife, daughter Christina (and husband and their two children), and daughter Jacqueline (and fiancé). Dave's obituary said, "He was loved so very much and will be greatly missed. David wanted a celebration of life! To be announced at a later date. Thank you to those who called him family, friend, and mentor. He cared deeply. David often said his goal was to make a difference in this world. He did that in the lives he touched and the work he accomplished. Remember him with a smile."❖

Welcome New RMS Members!

Associate

Sharon Bywater-Reyes, Associate Prof of Environmental Geoscience
University of Northern Colorado, Greeley, CO

Thomas Fasl, Master Naturalist
Missouri Master Naturalist, Great Rivers Chapter, Saint Louis, MO

Kimberly Meitzen, Associate Professor
Texas State University, Dept of Geography and Environmental Studies
San Marcos, TX

Will Rice, Asst Prof of Outdoor Recreation and Wildland Management
University of Montana, Missoula, MT

Raven Zellers, Wild and Scenic Rivers Fellow
US Forest Service, Albuquerque, NM

Individual

Sara Burch, Animas Riverkeeper
San Juan Citizens Alliance, Durango, CO

Chris Geden, Program Manager
River City Outdoors, St.Louis, MO

Lisa Anderson, River Watch Water Quality Intern
River Watch/Colorado Parks and Wildlife, Denver, CO

Chris Bouton, Trails, and Wilderness Manager
US Forest Service, Dolores, CO

Trecia Cintron, Landscape Architect Resource Assistant
US Forest Service, Albuquerque, NM

Danny Collins, Race Director
37 North Expeditions, Bentonville, AR

Paul Delaney, Managing Director
Executive Board - Northwest Whitewater Association, Spokane, WA

Forest Eidbo, Visitor Use Management Program Manager
National Park Service, St. Paul, MN

Mark Filonczuk, Recreation Manager
Montana Fish Wildlife and Parks, Bozeman, MT

Rachel Franchina, Executive Director
Society of Outdoor Recreation Professionals, Evergreen, CO

Justin Langley, Recreation Site Maintenance Foreman
Idaho Fish and Game, Idaho Falls, ID

Stephen Lorbe, Landscape Architect
US Forest Service, Portland, OR

Ryan Mollnow, Refuge Manager
US Fish and Wildlife Service, Wasilla, AK

Jim Riddering, Fire Management Specialist
US Forest Service, Missoula, MT

Eric Stark, Agency Program Coordinator - Fishing and Boating Access
Idaho Department of Fish and Game, Boise, ID

Geoffrey Stillwell, Master Naturalist, VWQM
St. Ann, MO

Jordan van Sickle, River Habitat Coordinator
Utah Department of Natural Resources, Moab, UT

Mark Young, Consultant/Advocate
Parks Forever Consulting & Advocacy, Louisville, KY

Organization

Adventure Office, Auburn, AL
Liz Kratz, Sales Account Manager and Good Time Facilitator

City of River Falls, River Falls, WI
Amy Peterson, Community Development Director

Great Parks of Hamilton County, Cincinnati, OH
Sean Creighton, Landscape Architect

Greater Yellowstone Coalition, Bozeman, MT
Sierra Harris, Climate Change Coordinator
Jared Baeker, WY Conservation Coordinator
Erin Steva, Organizational Staff

Immersion Research, Confluence, PA
Max Blackburn, Sales Manager

Kern River Ranger District, Kernville, CA
Ruby Gonzalez, River Manager
Alfred Watson, District Ranger

National Assn of State Boating Law Administrators, Lexington, KY
Pamela Dillon, Project Specialist

National Park Service, Lakewood, CO

Becky Rinas, Planner	Michael Porter	Zach Miller
Dan Niosi	Deena Lentz	Michael McGraw
Sami Powers	Stephanie MacDonald	

Nevada Department of Wildlife, Reno, NV
Lance Murray, Conservation Staff Specialist

Rio Grande Restoration, Embudo, NM
Steve Harris, Executive Director

Rockin' R River Rides, New Braunfels, TX
Shane Wolf, COO
Justin Holliday, CEO

Rocky Mountain Rafts, Oak Hill, WV
Julie Jones, General Manager

U.S. River Maps, Freeport, IL
Jeff Hongsermeier, Founder

Wild Rivers Conservancy of the St. Croix & Namekagon, Osceola, WI
Deb Ryun, Executive Director

Wild West Chocolate, LLC, Missoula, MT
BJ Howard, CEO
Nick Howard, Organizational Staff

Chapter Officers

ALASKA

Cassie Thomas, Vice President
National Park Service, Retired
11081 Glazanof Dr
Anchorage, AK 99507
(907) 677-9191 / cassieinak@gmail.com

Sharon Seim, Secretary
US Forest Service
PO Box 21628, Juneau, AK 99801
(907) 586-8804 / sharongseim@fs.fed.us

PACIFIC

Kristina Rylands, President
Upper Merced River Watershed Council
Mariposa, CA 95338
(209) 761-6674 / kristinarylands@gmail.com

Leigh Karp, Vice President
BLM California Desert District
1201 Bird Center Drive
Palm Springs, CA 92262
(951) 697-5291 / lkarp@blm.gov

Larry Freilich, Secretary
Inyo County Water District
PO Box 337
Independence, CA 93526
(760) 920-1169 / lmfreilich@gmail.com

Bob Stanley, Event Coordinator
Tuolumne Wild and Scenic River
24545 State Highway 120
Groveland, CA 95321
(209) 962-7825 / beobob@yahoo.com

NORTHWEST

Lisa Byers, President
Salmon River Ranger District
304 Slate Creek Road, White Bird, ID 83554
(208) 839-2146 / lmbyers4@gmail.com

Colin Maas, Vice President
Montana Fish, Wildlife and Parks
4600 Giant Springs Rd, Great Falls, MT 59405
(406) 454-5857 / cmaas@mt.gov

Martin Hudson, Secretary
Bureau of Land Management, Retired
P.O. Box 92, Pinedale, WY 82941
(307) 367-5315 / 53silvercreek@gmail.com

Joni Gore, Events Coordinator
Grand Teton National Park in Wyoming
(408) 386-0856 / gorejoni@gmail.com

MIDWEST

Ed Fite, President
Grand River Dam Authority
15307 North Swannanoa Rd, Tahlequah, OK 74464
(918) 456-3251/ ed.fite@yahoo.com

Ed Sherman, Vice President
USDA Forest Service
#66 Confederate Ridge Road, Doniphan, MO 63935
(573) 996-2153 / edward.sherman@usda.gov

Bobbie Jo Roshone, Secretary
Niobrara National Scenic River
214 W. HWY 20, Valentine, NE 69201
(402) 376-1901 / bobbiejo.pennington@gmail.com

SOUTHWEST

Matt Blocker, President
Bureau of Land Management
440 West 200 South, Suite 500
Salt Lake City, UT 84106
(801) 539-4021/ mblocker@blm.gov

Stew Pappenfort, Vice President
Colorado Parks and Wildlife, Retired
308 Palmer St, Salida, CO 81201
(719) 221-4905 / sgpappy@gmail.com

Stuart Schneider, Secretary
NPS / BLM, Retired
906 Sunny Slope Drive, Gunnison, CO 81230
(970) 631-2541 / stuartwschneider@gmail.com

Ericka Pilcher, Events Coordinator
National Park Service
4972 Easley Road, Golden, CO 80403
(970) 219-8213 / ericka_pilcher@nps.gov

NORTHEAST

Emma Lord, President
National Park Service
54 Portsmouth St, Concord, NH 03301
(603) 224-0091 / emma_lord@nps.gov

John Field, Vice President
Field Geology Services
P.O. Box 985, Farmington, ME 04938
(207) 645-9773 / fieldgeology@gmail.com

John Little, Trip Coordinator
Missisquoi River Basin Association
737 Rushford Valley Rd
Montgomery Ctr, VT 05471
(802) 326-4164 / jalittle58@gmail.com

SOUTHEAST

Matt Moses, President
USA Raft Adventure Resorts
2 Jones Branch Road, Erwin, TN 37650
(828) 713-1913 / moses@usaraft.com

James Vonesh, Vice President
Virginia Commonwealth University
1000 W. Cary St, Richmond, VA 23284-2012
(804) 426-8553 / jrvonesh@vcu.edu

Elise Chapman, Secretary
University of Tennessee at Chattanooga
615 McCallie Ave, Holt Hall, Room 328
Chattanooga, TN 37403
(423) 227-6131 / elise-chapman@utc.edu

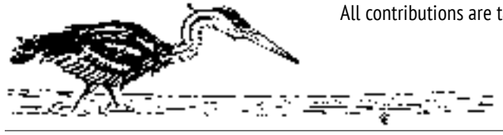
Jack Henderson, Events Coordinator
French Broad Paddle Trail
P.O. Box 1242, Pisgah Forest, NC 28768
(703) 638-3616 / hendersonjc3@gmail.com

Canadian River Management Society

Contact: Max Finkelstein
tel (613) 729-4004 / dowfink@gmail.com

Give the gift of membership
to a colleague, student, retiree or friend!

RMS is a nonprofit organization.
All contributions are tax-deductible.



Become a Member

Name _____

Home Address _____

City _____

State _____ Zip _____

Home Phone _____

Organization _____

Office _____

Work Address _____

City _____

State _____ Zip _____

Work Phone _____

Email _____

Job Title _____

Duties/Interests _____

_____

_____

Rivers you manage _____

_____

Membership Category (please check one)

- ❒ Individual $60/yr ($240 for 5 years - save $60!)
- ❒ Associate $40/yr
- ❒ Student $30/yr
- ❒ Lifetime $750 (for individuals only)
- ❒ Organizational (1-2 people) $75/yr
- ❒ Organizational (3-4 people) $150/yr
- ❒ Organizational (5-8 people) $300/yr

Membership benefits are described online:
www.river-management.org/membership

Who referred you to RMS? _____

Make checks payable to "RMS" –
RMS also accepts VISA or Mastercard:

Card #: _____

Exp date: _____ Amount: _____

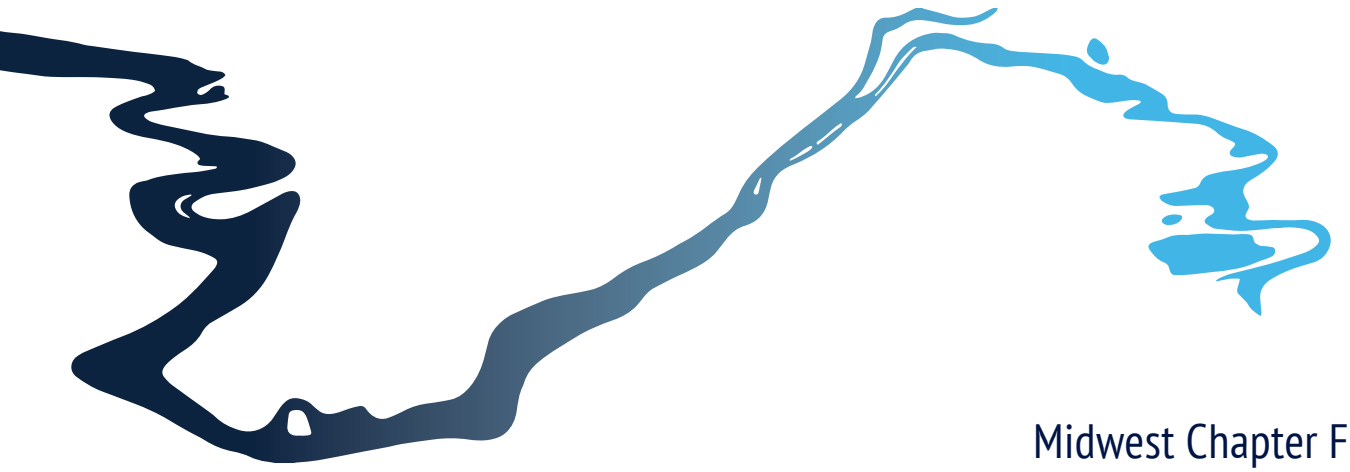
Send this form, with payment, to:
RMS, P.O. Box 5750, Takoma Park, MD 20913-5750
(301) 585-4677 • rms@river-management.org

River Management Society

RMS, P.O. Box 5750, Takoma Park MD 20913

Non-Profit Org.
US Postage PAID
Permit 536
Missoula MT 59801

Like and Follow Us! @rivermgtsociety



Midwest Chapter Focus

RMS Journal Submission Deadlines

Summer 2023	Vol. 36, No. 2	Southwest	May
Fall 2023	Vol. 36, No. 3	Northwest	Aug
Winter 2023	Vol. 36, No. 4	Northeast	Nov
Spring 2024	Vol. 37, No. 1	Pacific	Feb
Summer 2024	Vol. 37, No. 2	Alaska	May
Fall 2024	Vol. 37, No. 3	Southeast	Aug
Winter 2024	Vol. 37, No. 4	Midwest	Nov