



## CU Maurice River in New Jersey – Volunteers Making a Difference

*The Manumuskin River, a main tributary and designated waterway of the Maurice.  
Photo courtesy of CU Maurice River.*

by Karla Rossini

Citizens United to Protect the Maurice River and Its Tributaries, Inc. (CU Maurice River) is dedicated to protecting the watershed of the Maurice River and the region known as Down Jersey, thereby enabling current and future generations to enjoy the environmental, recreational, cultural, and scenic resources of this Wild & Scenic global treasure. Our organization empowers individuals, organizations, and neighboring communities to promote the region's enduring well-being and quality of life. We invite participation and foster responsible stewardship.

The Wild and Scenic Maurice River's watershed has remarkable biodiversity, and its marshes support 53% of the species listed on New Jersey's endangered list. Using the Preliminary Healthy Watershed Assessment (PHWA) framework developed by the Environmental Protection Agency (EPA), six of the Maurice River's thirteen HUC 12 sub-watersheds were considered

to be within the top 25% of NJ's healthiest watersheds; the Manumuskin River was among the state's top five healthiest watersheds using the same criteria. Here at CU Maurice River, we feel fortunate to have a robust team of volunteers who go above and beyond to protect the outstandingly remarkable resources of the watershed and to share their love of nature with the next generation of stewards.

Collectively, CU Maurice River members and friends volunteer just shy of 10,000 hours per year. They breathe life into essential programs that protect the integrity of the system including wildlife management, habitat restoration, green infrastructure installations, experiential learning, citizen (community) science, urban greening, and so many more projects. We have selected three projects that have highly benefited from the dedication of CU Maurice River's volunteer team. *(continued on page 35)*



#### Main Office

Risa Shimoda, Executive Director  
PO Box 5750, Takoma Park, MD 20913-5750  
(301) 585-4677 / cell (301) 502-6548  
executivedirector@river-management.org

#### River Training Center

**River Studies and Leadership Certificate**  
Angie Fuhrmann, Coordinator  
(480) 818-3649 / angie@river-management.org

#### National Rivers Project

James Major, Coordinator  
(540) 717-3595 / james@river-management.org

#### Communications

Bekah Price, Coordinator  
(423) 943-2000 / bekah@river-management.org

#### Professional Purchase

Rick Waldrup, Lead  
(406) 925-1554 / riverguy@bresnan.net

#### RMS Store / Merchandise

Judy Culver  
(928) 443-8070 / jculver@blm.gov

#### RMS Journal

Caroline Kurz, Editor / Design  
(406) 549-0514 / caroline@river-management.org

#### National Officers

Judy Culver, President, Taos, NM  
(928) 443-8070 / jculver@blm.gov

Shannon Bassista, Vice President, Boise, ID  
(208) 373-3845 / sbassista@blm.gov

Helen Clough, Secretary, Juneau, AK  
(907) 790-4189 / hcloughak@gmail.com

Rob White, Treasurer, Salida, CO  
(719) 221-8494 / rob.whiteco@gmail.com

Emma Lord, Chapter Liaison, Loudon, NH  
(518) 728-4029 / emma\_lord@nps.gov

#### Ex-Officio Advisors

Bob Randall, Kaplan, Kirsch & Rockwell LLP  
(303) 825-7000 / brandall@kaplankirsch.com

Nate Hunt, Kaplan Kirsch & Rockwell LLP  
(303) 825-7000 / nhunt@kaplankirsch.com

Steve Chesterton, US Forest Service  
(202) 205-1398 / smchesterton@fs.fed.us

#### Editorial Policy

Articles are not edited for content and may not reflect the position, endorsement, or mission of RMS. The purpose of this policy is to encourage the free exchange of ideas concerning river management issues in an open forum of communication among the RMS membership. Unless indicated, points of view are solely those of the author.

## Executive Director's Eddy

Spring 2022 feels enthusiastically welcome, but still slightly weird. The event planning taking place seems both fabulously familiar and slightly foreign, dampened by the uber-efficient transmissibility of the COVID-19 BA.2 Subvariant.

Cautiously optimistic about the trajectory of our health and safety, RMS has begun the year with an abundant program of River Training Center workshops, webinars and River Management Roundtable 'On the River' sessions, including a discussion about how to develop great water trail maps led by RMS' National Rivers Project Coordinator James Major and his predecessor Jack Henderson; a brief backstory about the pending, historic removal of four Klamath River dams by Yurok tribal consultant Craig Tucker, who works with tribes, local governments, and NGOs to protect natural resources and promote responsible economic development; and the recently published Waterway Management Guide, 3rd edition, whose development was led by the National Association of Boating Law Administrators Special Projects Coordinator, Pamela Dillon.

'Workplace Culture' River Management Roundtables have encouraged sharing about building teams with an understanding of inclusiveness: thanks go to member Liz Lacy for lending a hand there! Member Colter Pence and guest Dr. Serra Hoagland shared their perspectives and led a discussion about land acknowledgments. Jen Rice shared her thoughts about fostering respect and reciprocity with indigenous river communities. Member Ed Sherman helped us celebrate intergenerational workspaces instead of stressing about how 'they' might be too old or too young to understand a need and/or appreciate a person or their situational context. I so appreciate and thank the patience, skill, and smarts of the River Management Society team members Angie Fuhrmann, Bekah Price, and James Major, who have become the organization's engine, carriage, and caboose!

Out on the river for real once again, our chapters are renewing our ability to connect with and support each other.



Risa Shimoda, Executive Director

Please take a minute to meet our new Pacific Chapter and Midwest Chapter officers at [www.river-management.org](http://www.river-management.org) / About / Chapters. You'll see several excellent opportunities to meet fellow river professionals through late Spring and Summer. Watch out: you may want to attend them all! The Southwest Chapter has initiated plans for the 2022 River Ranger Rendezvous on the San Juan River in August: be on the lookout for more information.

RMS is as strong as the fascinating nature of our membership and our community. We comprise a vast reservoir of knowledge: you and your colleagues fill and fuel that reservoir with your inspiration and growth, whether you are celebrating decades of service or your first year out of school. As a community, you know or are on your way to understanding both how rivers work and what you must do to encourage them to thrive. You will be balancing the pressure of new users who are unaware of best practices with decades-old prejudices about what is acceptable or intolerable. All answers and practices will be imperfect, and you can improve when you start fresh again the next time. Such is the iteration that our rivers demand. Best wishes as you head into your busy season with enthusiasm, toolkits, and the wisdom that you've been nurturing for two years. ♦

*Risa Shimoda*

## President's Corner

After much ado and a shift in dates, the 2023 River Management Symposium (theme forthcoming) has been confirmed for San Antonio, Texas, February 28 - March 2. We are ecstatic to work with our local Texas partners who have been able to connect Threatened and Endangered Protections of aquatic species with increased recreation opportunity and economic growth of local communities even during drought.

For those who attended the presentation by Water Oriented Recreation District of Comal County (WORD) at a previous symposium and want more information, this will be your opportunity to learn how WORD developed an innovative funding



A summer day on the Guadalupe River.

stream to manage massive tube hatches, the associated trash, and user conflicts. Ever want to be snarky to that special visitor? See how WORD has been able to use funny messaging effectively. Can you imagine being able to fund over 20 law enforcement staff for one season to manage users? Caught your interest, good. I think this symposium can be an amazing way to regroup and reenergize ourselves and our programs while building interpersonal relationships and expanding our networks with like-minded river managers and those passionate about our nation's waterways.

Keep your ears to the ground as the Symposium Program Committee will be sending out a Call for Presentations shortly. Put your thinking caps on about presentations or poster proposals you would like to submit.

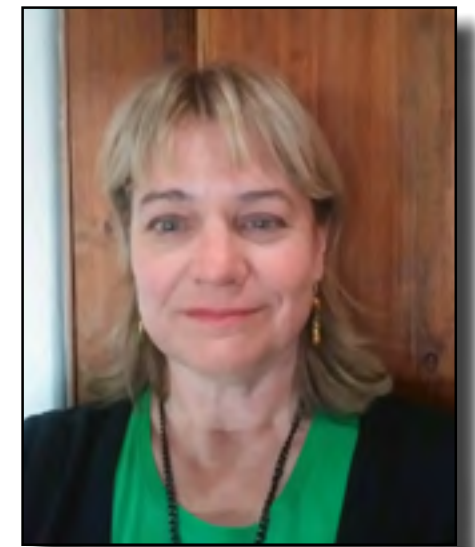
Also don't forget to peruse the RMS main webpage and your chapter pages for 2022 chapter trips coast to coast. New to rivers? Haven't had the funds or know-how to build up your river gear? NO PROBLEM! Reach out to the Chapter Trip Coordinators for the trip that has caught your fancy to see how they can help you join a River Management Society trip. These trips provide an opportunity to locate mentors, find a solution for

your river or waterway issue, and experience how someone else manages a river system or segment.

Although I was unsuccessful in the elusive river permit lotteries this year, I will continue to troll recreation.gov for that magical canceled trip that will fit my work schedule. The lack of permits won't diminish my enthusiasm to get on the water as I still plan on inflating the tandem IK I was able to snag last year or haul out my sit-on-top and hit river segments in my backyard and around the west that don't require permits.

May we all have the chance to get our feet wet and feel cramps in our hands on that first long day of paddling — whether it is battling an upstream wind or floating down a river with your family and friends. Even a bad day on the river is better than a day sitting at a desk fighting computer glitches. ♦

*Judy Culver*



Judy Culver, Board President

### RMS Activities Last Quarter

~ Conducted Pacific and Midwest Chapter officer elections.

~ Developed a first draft of the 2023-2027 Strategic Plan, to be completed by Fall 2022.

~ Completed a 2-day Water Resources Project Evaluation for the US Forest Service, Region 8; Comprehensive River Management Plan Workshops for the Alaska US Fish and Wildlife Service Refuges; and a 4-day Wild and Scenic River Values training for five of 36 newly designated Wild and Scenic Rogue River tributaries.

~ Hosted Year 2 of the popular Wild and Scenic River Webinar series



## Save the Date!

## 2023 River Management Symposium

February 28-March 2 in San Antonio, Texas

Partnering with WORD of Comal County and City of New Braunfels



# Ghost Crab Pot Recovery

## on Wild and Scenic Rivers

by Fred Akers and Brooke Handley

While a bit unusual, there are several Wild and Scenic Rivers that are components of the National Wild and Scenic Rivers System that include tidal estuaries. One of these is the Great Egg Harbor River National Park and Scenic and Recreational River in New Jersey, which is also a [Partnership Wild and Scenic River](#).

Typically, Outstanding Resource Values in tidal systems revolve around scenic beauty and recreation, which includes boating and fishing. One popular fishery is blue crabs, *Callinectes sapidus*, which means “beautiful savory swimmer.” As both predator and prey, blue crabs are a keystone species in the marine food web. Juvenile and adult blue crabs serve as food for fish, birds and even other blue crabs. Striped bass, red drum, catfish and some sharks depend on blue crabs as part of their diet.

And, people love to eat blue crabs! Currently in NJ, No. 1 crabs — the largest, heaviest males — are worth \$40 per dozen or \$225 a bushel at the dock. No. 2’s — the smaller males — are currently worth \$28 per dozen or \$135 a bushel. The high demand for blue crabs creates high value fisheries for both commercial and recreational fishermen with high levels of fishing effort.

During the crabbing season, commercial and recreational crabbers deploy hundreds of large, baited metal crab pots to the bottom of the bay. Crabs and bycatch, including Diamondback Terrapin turtles, then crawl and swim into the pots and get trapped inside. Each pot has a rope and a float attached, and finding the float is the only way to locate the trap and pull it up to harvest the crabs and release the bycatch. But if the float gets cut off, the sunken crab pot cannot be easily located, and it then becomes a Ghost Crab Pot.

It is estimated that 20% of these commercial style crab pots are lost or forgotten every year, which can add up to hundreds or thousands depending on the size of the area. These ghost crab pots continue to catch and kill dozens of marine species, and the killing can go on for years as trapped animals starve to death and become bait for more animals to get trapped. The “derelict” traps also



All too frequently the floats get cut off and the pots become lost on the bottom. It is estimated that 20% of commercial pots are lost every year.

become “marine debris” which can get caught in boat motors, recreational fishing gear, and wash up onto tidal marshes during storm events.

The problem of Ghost Crab Pots has become well known in coastal areas. Here on the Great Egg the Great Egg Harbor River Council has been working with Stockton University and crabbers to find these derelict crab pots and recover as many as possible. Stockton has developed GPS grid and High-Resolution Digital Side Scan Sonar imagery, which creates location points

for recovery teams to find exactly where the crab pots are located. The lost pots are then grappled up, hauled to shore, and reused or recycled.

So far in one survey day this year, Stockton has located 81 potential pots to be recovered in the Great Egg Harbor Scenic and Recreational Estuary, and they will do a second survey day soon to locate additional derelict pots for removal.

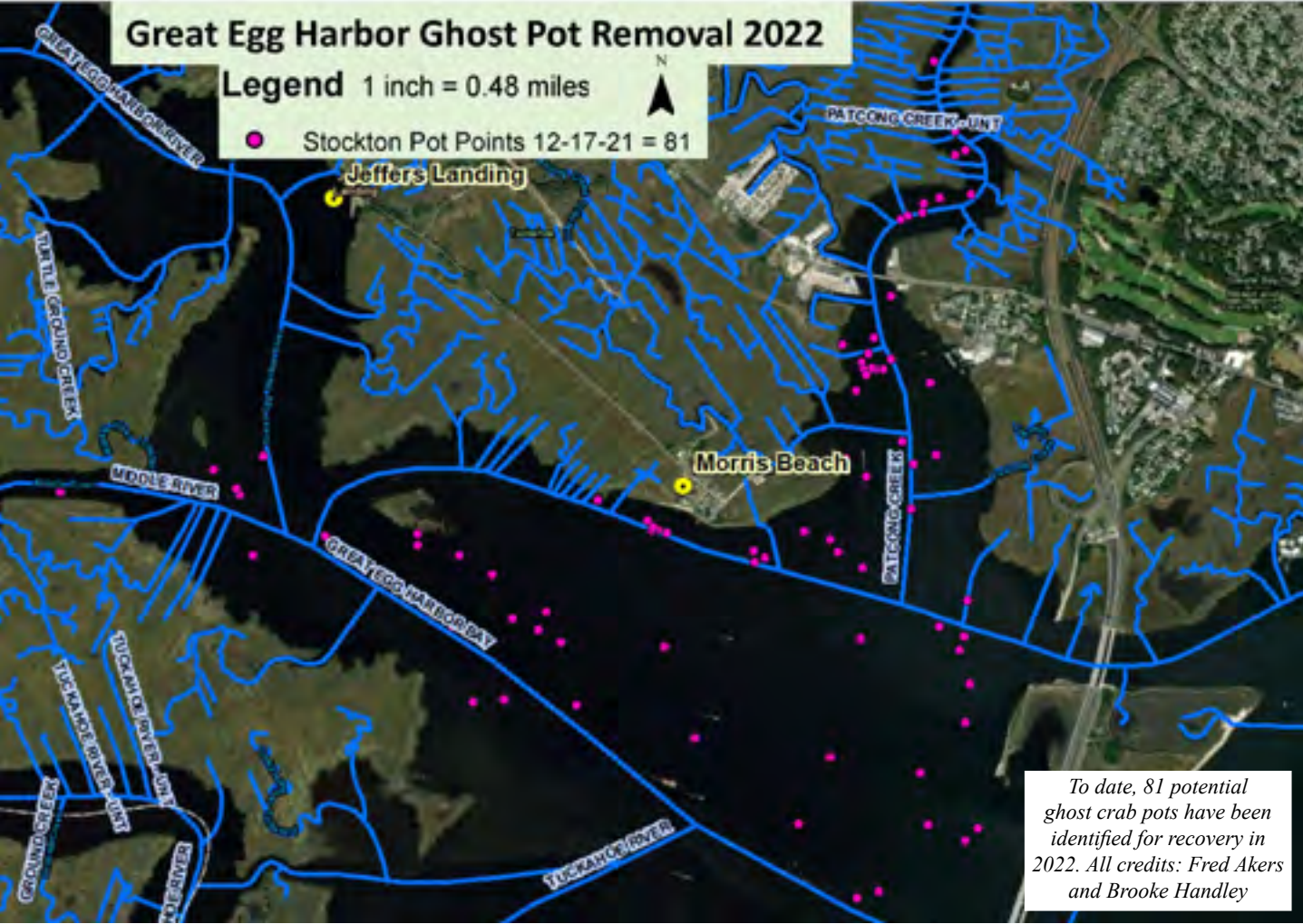
Due to the value and abundance of blue crabs and the continued use of large metal crab pots to catch them, the problem with Ghost Crab Pots is a never-ending story that needs regular attention for river protection and management.♦



People love to eat blue crabs. No. 1 crabs, the largest, heaviest males, are worth \$40 per dozen, \$225 a bushel. No. 2s are smaller males, currently worth \$28 per dozen, \$135 a bushel.



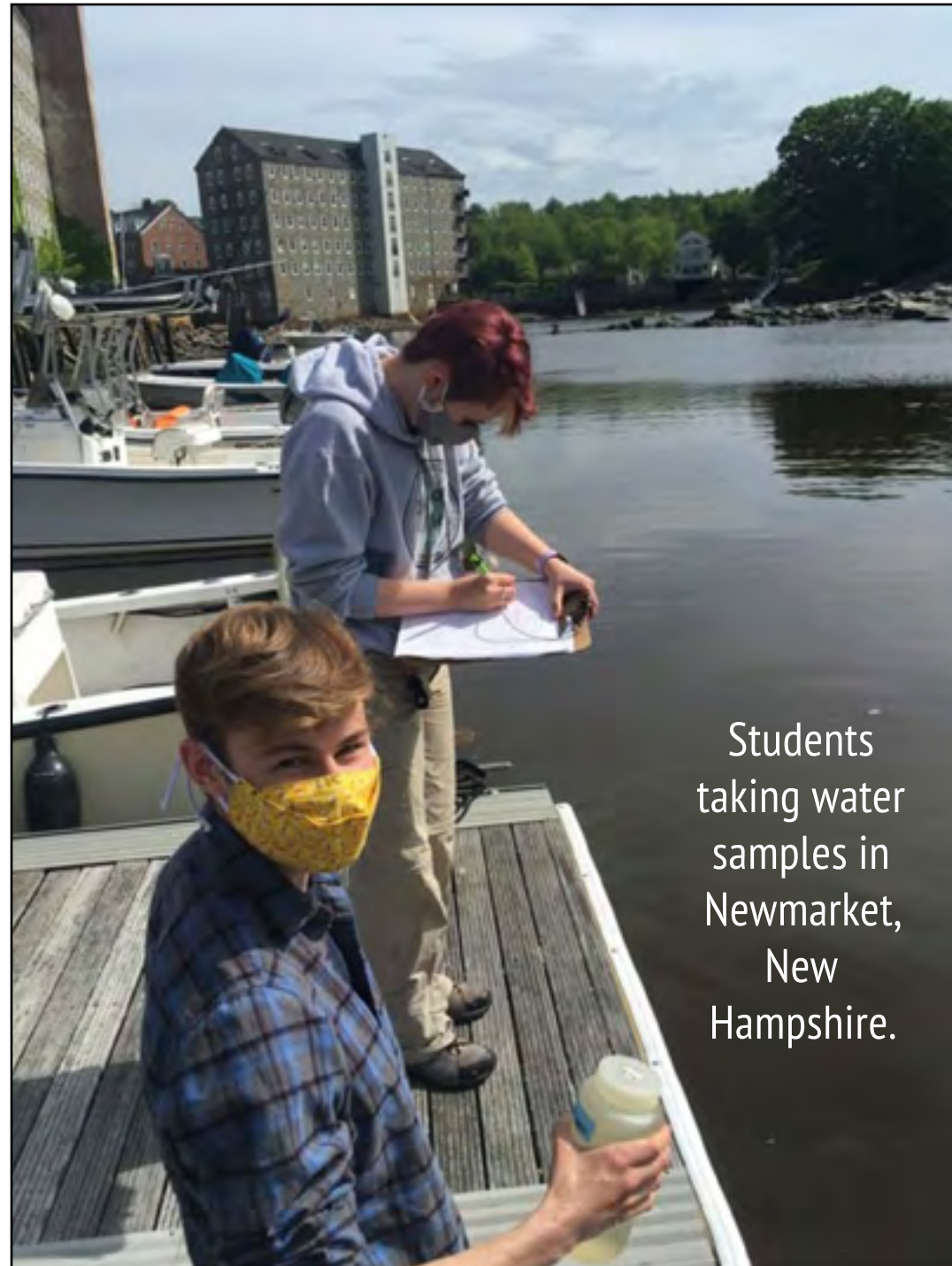
Hundreds of commercial crab traps or pots are used every year in the Great Egg Harbor Estuary.



To date, 81 potential ghost crab pots have been identified for recovery in 2022. All credits: Fred Akers and Brooke Handley



# Tracking Bacteria in the *Lamprey River*



Students  
taking water  
samples in  
Newmarket,  
New  
Hampshire.

by Suzanne Petersen

For many years, people have asked if the water in the Lamprey River is safe for fishing and swimming. From all the data we have found and based on New Hampshire classifications, the river as a whole is fishable and swimmable, but the devil is in the details and those are not always easy to find. The state tests public beaches for bacteria, but the Lamprey River does not have any public beaches.

In the summer of 2021, Dr. Steve Jones and his team from the University of New Hampshire (UNH) took monthly water samples at four locations along the Lamprey River: where Moonlight Brook empties into the Lamprey River in Newmarket, Newmarket harbor, the impoundment at Wiswall Falls in Durham, and the Public Canoe Access in Lee. They looked for overall fecal bacteria counts and then determined the DNA source of those bacteria: human, dog, cow, horse, geese, gull, and mammal.

Here are some of the key findings:

- Evidence of animal fecal bacteria was found at all sites on all sample dates, but the sources and concentrations varied.
- Dog fecal bacteria were detected at all sites except for Moonlight Brook. Cow bacteria were detected at all four sites in June.

- Human fecal contamination at concentrations well above accepted safety levels was found in 4/5 of samples at Moonlight Brook. Contamination at Moonlight Brook appears to be a public infrastructure problem, not a river or watershed issue. Local and state authorities have been alerted to address this.

Back to the original question: Is the Lamprey River safe for fishing and swimming? The overall answer is still yes, the river is clean enough for fishing and swimming. But again, the devil is in the details! When you have recreational contact with water, assume that the water might contain things that could make you sick, especially if you are vulnerable. Do not expose open skin wounds to untreated water. Try to keep untreated water out of your eyes, mouth, and nose; if it happens, rinse with fresh water. Scoop dog poop and dispose of it properly. Avoid direct contact with surface waters after a heavy rain storm.

To read the full report, please visit [www.LampreyRiver.org](http://www.LampreyRiver.org) and type “bacterial tracking” in the search box. For more guidance about safely recreating on surface waters such as the Lamprey, search “recreational precautions for bacteria.” ♦

*Suzanne Petersen serves on the  
Lamprey River Advisory Committee.*



Students taking water samples near Wiswall Dam.

Photo credits: Steve Jones





# An Interactive Outreach Initiative for the Eightmile River *Wild and Scenic Watershed*



by the Eightmile River Wild & Scenic Coordinating Committee

One question that many land, river, and park managers ask themselves is: *“How can we get the word out to residents and visitors about all the fun and exciting outdoor activities available in our region?”* This is what the Eightmile River Wild and Scenic Coordinating Committee sought to answer when they launched the [Wander Our Watershed](#) initiative. Through this unique online platform, site visitors can use an interactive map to filter through different activities and features.

The mission of the Wander Our Watershed Map project is to provide an online resource for the greater Eightmile River Wild and Scenic Watershed region that highlights the variety of outdoor recreation opportunities available, while supporting local services and businesses. Highlighting recreational opportunities is important in fostering a love of the watershed and boosting local economies. This past year, many people have reconnected with nature through new forms of recreation, and prioritized supporting their local outdoor businesses and restaurants.

With 40,000 acres (62 square miles), there’s a lot to wander in the Eightmile watershed! The resource has something for everyone, from local cultural and historic sites to birding and biking trails. The map offers not only an ecotourism opportunity, but highlights the preservation and conservation work that has been done on a watershed-scale. By taking this watershed approach to their Wild & Scenic designation, the Eightmile Wild & Scenic Coordinating Committee successfully protects not only

the Eightmile River, but also local lands and over 150 miles of tributaries and streams. These areas are essential to the viability and long-term health of the Eightmile River. Since 2010, over 1,000 acres of land have been preserved, bringing the total to over 15,400 acres — about 40% of the watershed. These efforts and areas have been highlighted in the new [Eightmile preserve map](#).

The Wander Our Watershed project is just one of the many projects that the Eightmile has spearheaded and supported. Some of these efforts include creating a new trail, the Goodwin Trail, to connect eight parcels in

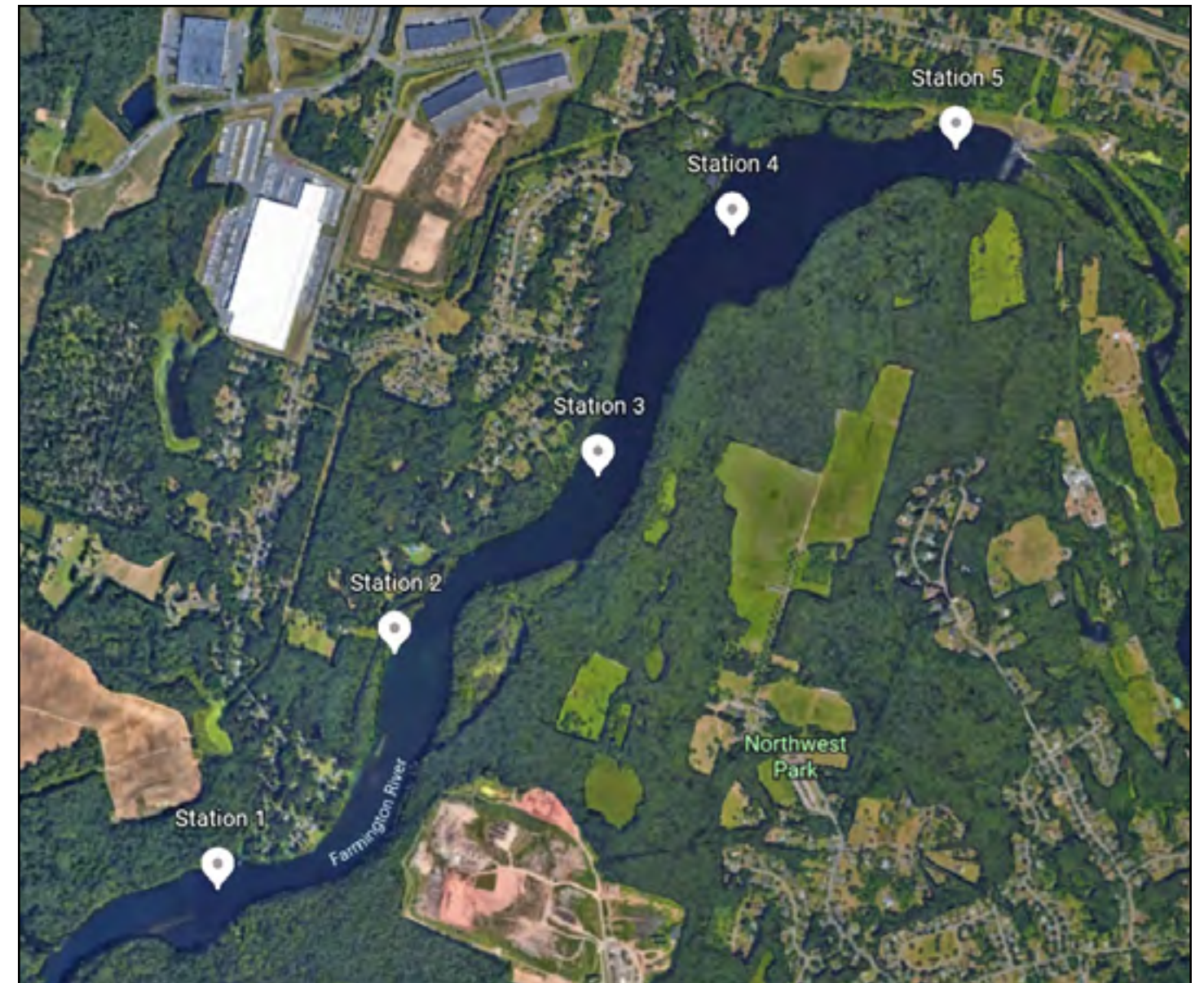
four towns, and designating the Lyme Forest Block as the first landscape Important Bird Area in Connecticut. This designation was due in part because the Eightmile River Watershed offers significant habitat in the state for species such as the globally vulnerable Cerulean Warbler.

The outdoor recreation industry is an oft-overlooked, yet powerful force in the overall United States economy. According to the Outdoor Industry Association, consumers spend nearly \$900 billion annually on outdoor recreation and the sector creates 7.6 million American jobs. In addition to the economic benefits, research shows that there are also social benefits, such as reduced crime rates, improved educational outcomes, and lower health care costs.

The Wander Our Watershed Map is equipped with map filters like Arts & Culture; Farm Stands & Farmers Markets; Food & Drink; Outfitters, Gear, and Services; Rentals and Expeditions; Lodging; and, of course, Recreation. To make the map even more user-friendly, you can also use additional filters like ADA accessible, Pet friendly, and Family friendly. The map gives you an opportunity to plan your unique and perfect day out exploring the watershed. Are you a birder who wants a brewery option at the end of the day? What about the family of four who is looking for a weekend vacation on some mountain bike trails? Are you looking to explore the preserved lands in the Eightmile Watershed? This map has you covered. It’s part of what puts the “WOW” in the Wander Our Watershed initiative.

This interactive and mobile map project was made possible in part by a grant from the National Park Foundation through the generous support of The Coca-Cola Company and The Coca-Cola Foundation. It was also made possible by partnering with local towns, land trusts, and outdoor resources and recreation groups such as the Connecticut Department of Energy and Environmental Protection (CT DEEP), Southeast Connecticut Chapter of the Northeast Mountain Bike Association, and the Thames Valley Trout Unlimited Chapter. ♦

*Devil’s Hopyard State Park. Photo: Riley Doherty*



*FRWA’s sampling sites on Rainbow Reservoir, Farmington River, Windsor, CT.*

## Rainbow Reservoir Cyanobacteria Research

by Paige Vichiola

During summer 2021, the Farmington River Watershed Association (FRWA) began an investigation to discover causes and evaluate potential remedies of cyanobacteria blooms in Rainbow Reservoir in Windsor, CT along with our partners limnologist Dr. Ken Wagner, Camp Shalom, and the UConn Center for Environmental Science and Engineering. Rainbow Reservoir has had severe cyanobacteria blooms in 2019 and 2020; years of low flushing rates due to drought conditions. The blooms impair water

quality in Rainbow Reservoir, a 240-acre run of river impoundment, and ultimately spill downstream below Rainbow Dam and through the Wild & Scenic Farmington River to the confluence at the Connecticut River. There are potential health risks for swimmers, boaters, dogs and wildlife encountering toxins that may be produced by the bacteria.

The summer was particularly wet, with three times the average rainfall in July and two times the average rainfall in August and September. FRWA conducted

nine days of water samples and one day of sediment sampling. Phosphorus levels in sediment samples were minor compared to water samples, indicating that watershed input is the main source of phosphorus in Rainbow Reservoir. Excessive nutrient loading provides conditions for the cyanobacteria to rapidly multiply, causing blooms that can spread across an entire waterbody. With above average precipitation in 2021, the reservoir was drawn down several times

*(continued, page 20)*



# Upper Missisquoi and Trout Rivers Conservation – New Methods of Bank Stabilization in Vermont

by Lindsey Wight

Getting National Park Foundation funding to complete a bank stabilization project on Mill Brook in Westfield, Vermont, was a big success for the Upper Missisquoi and Trout Rivers (UMATR) Committee this year. A local contractor did the machine work, and the vegetated geogrid was installed in partnership with a Northwood Stewardship Center crew that was experienced with this type of work, and was able to harvest willow right from the property. UMATR learned from the project, and was able to help consult on a similar project that was installed about a month later for a downstream landowner (who was at first considering getting a permit to armor the bank with rip rap). Visit the [UMATR](#) website to see time lapse photos of the 20 years of erosion, the installation of the bank stabilization, and other great quotes and photos from the project. ♦

*Photos courtesy of Lindsey Wight, who is Executive Director for both the Missisquoi River Basin Association and the Upper Missisquoi and Trout Rivers Wild and Scenic Committee.*

Crew lays willows and fabric.



Bank stabilization over time.





# York River Series

by Jennifer Hunter

The York River in Maine is up for Wild and Scenic designation after the multi-year local study concluded in 2018. The designation starts from the headwaters of the York River at York Pond then goes to the mouth of the river at York Harbor and includes a number of important tributaries, for a total of almost 31 miles. The York River watershed covers 33 square miles and includes numerous wetlands, ponds and tributaries, as well as drinking water reservoirs and an extensive salt marsh estuary. With outstandingly remarkable values and strong community support for designation, the York River is an excellent candidate to be added to the National Wild and Scenic Rivers System.

## Coastal Wetlands – Key to Supporting Life in the Watershed

*The salt marshes of the York River estuary are some of the best examples of overall ecosystem health in Maine and provide many benefits.*

Much of the York River watershed includes important natural areas such as undeveloped forests and intact vegetated buffers along streams, wetlands and salt marshes. These areas in the York River watershed provide critical habitat to diverse and rare species. Historically overlooked in Maine, salt marshes are unique natural areas that offer benefits that range from increasing climate resiliency to boosting the local economy.

Salt marshes are coastal wetlands. When you see a salt marsh, the first thing you'll notice is the grass-dominated landscape. These grasses are flooded by salty water brought in with the tide. In areas where freshwater rivers and streams meet the salt marsh, a nutrient-rich habitat is created. Approximately two-thirds of commercially valuable fish, shellfish, and bait species in the Gulf of Maine depend on salt marshes for at least part of their life cycle.

The York River watershed contains the largest intact coastal wetland area in southern Maine, with approximately 500 acres of salt marsh habitat that represent about 10% of York County's salt marshes. According to the Maine Department of Inland Fisheries and Wildlife (MDIFW), the York River estuary is one of the Gulf of Maine's least disturbed marsh-estuarine ecosystems and may be the Gulf of Maine's most ecologically diverse coastal drainage for its size.

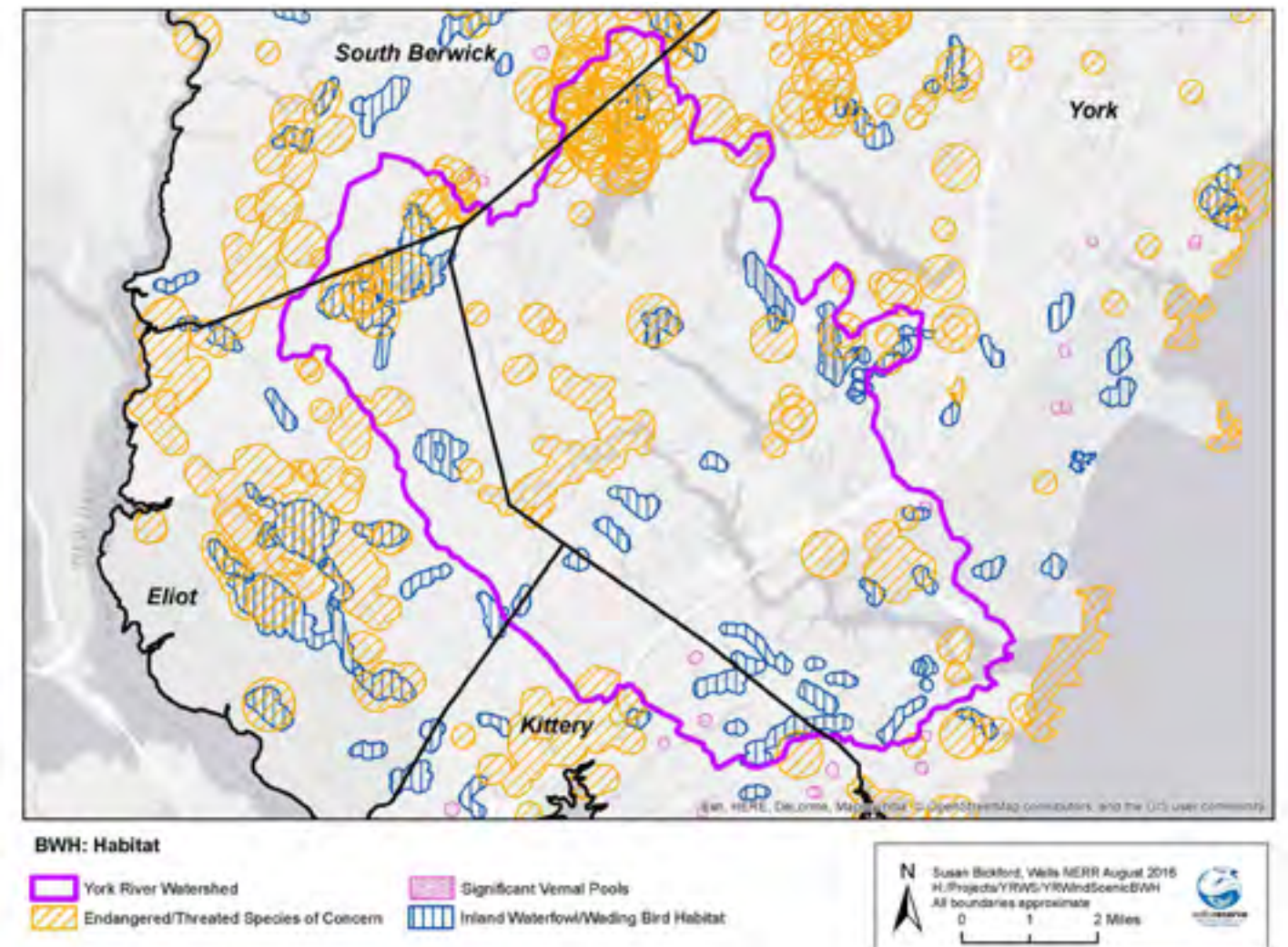


*“The salt marsh and aquatic habitat provided by the York River and its watershed are extremely valuable, supporting spawning and breeding for at-risk species such as salt marsh sparrow, rainbow smelt, and tidal wading and shorebirds. Portions of the river and its watershed [have been named] as Beginning with Habitat State Focus Area and an Exemplary Natural Community because the plant diversity and overall ecosystem health represent some of the best examples in Maine.”*  
~ Claire Enterline, Research Coordinator, Maine Coastal Program

The statewide ecological importance of these areas was identified with help from MDIFW's [Beginning with Habitat Program](#). Through this cooperative effort, the program provided data and produced maps for Maine that were utilized by the York River Study Committee. These data highlight critical natural habitats within the watershed. These resources can be found at the [York River study](#) website's maps page.

Local planners use the information from the Beginning with Habitat program to answer the question ‘What do we want our community to look like in 50 years?’ With the looming threats of a changing climate, that question can be difficult to answer. A 2017 [Nature Conservancy study](#) of resilient coastal sites in the Northeast and Mid-Atlantic offered insight into this question. The research showed that without proactive protection, over 80% of tidal habitats could be lost to severe inundation of sea level rise. The study also identified uniquely resilient coastal ecosystems, including the York River watershed, that could actually expand their area. With the upper sections of the York River estuary marshes surrounded by undeveloped blocks of wetlands and

*Estuaries create a wide range of special habitats, including fringing marshes, salt marshes, and tidal flats. The York River estuary and its salt marshes provide critical habitat for many fish and bird species.*  
Photo: Jerry Monkman, Ecophotography.com



One Beginning with Habitat map shows significant vernal pools, locations of endangered, threatened or species of concern, and inland waterfowl/wading bird habitat (tidal waterfowl/wading bird habitat not included). Map created by Susan Bickford, Wells National Estuarine Research Reserve.

forest, salt marshes have the potential to migrate into these adjacent undeveloped lands as sea level rises and potentially increase coastal wetland habitat in the watershed.

The protection of climate-resilient areas will be critical to combating some of the most pressing effects of sea level rise. By preserving the undeveloped areas throughout the York River watershed, the salt marshes can maintain or expand their range and offset tidal habitat loss for the species dependent on them. In addition, intact marshes buffer people and properties from the effects of storms and floods into the future and help maintain water quality. Planning around these areas is also important for the local economy. Protecting the native fish species allows for continued recreational and commercial fishing; preparing for climate resilience can save the local economy hundreds of thousands of dollars from the worst effects of natural disasters like flooding; and undeveloped natural areas are important for community character and recreation.

One of the primary stewardship goals for the York River is to protect valuable natural communities, habitats, biodiversity, and water resources of the York River watershed through key actions and investments. By conducting surveys, preserving key habitat blocks, working with local towns and stakeholders, and

creating standards and goals to address sea level rise, the York River Study Committee hopes the York River watershed's unique communities and habitats will be protected well into the future. ♦

*Jennifer Hunter serves as the York River Wild and Scenic River Study Coordinator.*



*The York River watershed contains the greatest diversity of threatened and endangered species of any Maine region, with species such as the saltmarsh sharp-tailed sparrow.*  
Photo: David J. Murray, ClearEyePhoto.com



# York River Series, continued

by Cassidy Quistorff

## Becoming Wild and Scenic – The Outstandingly Remarkable Values of the York River

To become a part of the National Wild and Scenic Rivers System, a river must meet certain eligibility criteria. This includes possessing at least one Outstandingly Remarkable Value (ORV): a unique, rare or exemplary river-related feature that is significant at a state, regional or national scale. Characteristically, they are natural, cultural, or recreational resources, and are usually defining attributes and features of the river. The York River, its tributaries, and watershed have no shortage of these outstanding resource values including scenic views, working waterfronts, historic and cultural resources, good water quality, and natural resources.

## Scenic Views

Recognition of scenic resources is particularly important for tourism and recreation. In 2020 Maine was ranked as one of the top ten regional destinations for world travelers by Lonely Planet’s Best Regional Travel in 2020 book, and tourists spent nearly \$6.5 billion dollars in the state in 2019. The combination of exceptional natural, cultural, and historic resources in the York River watershed creates distinctive scenic views that help define community character and create unique visual experiences. There are diverse scenic landscapes along the York River, many of which stem from the undeveloped shorelines, as well as the working landscape rooted in fishing, agriculture and forestry. In its comprehensive plan, the Town of Eliot notes the contribution of its agricultural and forestry resources to the town’s scenic and cultural values that are important to community character.

*Recreational opportunities exist throughout the York River watershed, attracting locals and visitors. Photo: Jerry Monkman, Ecophotography.com*



## Working Waterfront Preservation

Maintaining a working waterfront means protecting access to the river for commercial and recreational fishing. The York River watershed contains the nation’s first working waterfront conservation easement, the Sewall/Donnel dock at Sewall’s Bridge, which is located near historic buildings at a particularly scenic area along the York River. By partnering with local fishermen, the York Land Trust purchased a conservation easement for the protection of the working waterfront. Public and private infrastructure and docking supports 30-35 commercial fishing boats and provides recreational access to the River. Looking towards the future, the stewardship plan includes evaluating and preparing for sea level rise impacts on working waterfronts in order to preserve them, the sustainable and recreational uses of the waterway, and the scenic qualities of the York River.



*Preserving the waterfront views does not have to entail cutting off economic opportunity. Through partnerships, the York River watershed contains the first working waterfront conservation easement in the country. Photo: David J. Murray, ClearEyePhoto.com*

## Water Quality

There is a high level of water quality within the York River watershed. Because of this, the York River estuary is often considered to be a reference site in the State of Maine. In addition to there being no wastewater or industrial discharges on the York River or its tributaries, much of the high water quality can be attributed to the preservation of its natural landscapes. The local salt marshes slow down the water and filter it, providing natural water quality benefits. Geographically, many of the headwater streams in the York River watershed overlap with forested areas, and the forested wetlands and riparian areas along these streams play a key role in providing good



water quality and aquatic habitats. The York watershed’s marine and estuarine waters meet fishable and swimmable standards established by the federal Clean Water Act and they support all native species.

## Watershed Ecosystem

The York River watershed includes part of the largest intact coastal forest in the area between Acadia National Park and the New Jersey Pine Barrens, as well as one of the largest intact salt marshes in southern Maine. The headwaters of the York River remain undeveloped and contain stream buffers to protect the waters due to Maine’s robust buffer laws and local conservation efforts. With over fifty percent of the watershed forested, the native plant and wildlife communities are able to thrive. Forest species at both the northern and southern extent of their range

overlap in the watershed, which contributes to the area’s rich biological diversity. Similarly, the convergence of freshwater and saltwater habitat in the estuary bring unique wildlife communities together, and offer rich habitat for waterfowl, amphibians, fish, and more.

## Historic Resources

From archaeological findings that date back 5,000 years to many historic buildings and structures representative of roughly 300 years of national and local architectural heritage,

there is an abundance of historic and cultural resources within the York River watershed. There are 23 prehistoric and 94 historic period archaeological sites in the watershed. A 2017 study commissioned by the York River Study Committee found a 5,000 year-old projectile point. Eight individual properties, as well

*The waters of the York River have exceptional water quality and provide recreational opportunities for people of all ages. Photo: Jennifer Hunter*



as an historic district, are included in the National Register of Historic Places, and three local historic districts with 76 historic properties. There is an active historic community (including the Old York Historical Society), and resources that provide artistic inspiration and educational opportunities.



The John Hancock Warehouse that still sits on the shore of the York River was built in the mid-1700s and is one of eight National Register of Historic Places sites within the York River watershed. Photo: Jennifer Hunter

### Biodiversity and Natural Communities

Preserving wildlife habitat is a key piece in protecting the biodiversity and natural communities within the watershed. The York River watershed contains exemplary habitat, with over 11,000 acres (just over 50% of the total area) in unfragmented blocks that are greater than 100 acres. Significant wildlife habitats include: deer wintering areas (460 acres), inland wading bird and waterfowl areas (2,870 acres), shorebird feeding and roosting areas (60 acres), significant vernal pools (30 acres even with the mapping incomplete), and tidal wading bird and waterfowl areas (2,490 acres). Within the York River watershed are key estuarine areas that support rare and threatened diadromous fish species for which conservation studies and surveys have been ongoing. The large undeveloped forest areas, convergence of southern and northern New England forest types, large intact salt marshes, and high quality estuary and freshwater systems create many important habitat areas that support rare and endangered plants and wildlife, and contribute to the region’s exceptionally high overall species diversity.

These are some of the outstanding values for which the York River will be designated should the pending legislation pass. ♦

Cassidy Quistorff serves as the Partnership Wild and Scenic Rivers Communications Fellow at Hispanic Access Foundation.

A Look at the Water Quality of the York River, Maine			
Wild and Scenic River	Reporting Cycle	Miles by Water Quality Classification	Listed Impairments
York River and tributaries	2016	Good: 6 Impaired: 3.5 Unassessed: 82.3	Elevated fecal indicators

The York River Study Committee published its watershed stewardship plan in 2018. The plan states:

### Water Quality

The York River estuary is often considered a reference site by Maine state environmental agencies as its rivers and streams exhibit very good water quality conditions. In addition to protections afforded by its largely preserved natural landscape, the York River and its tributaries are not impaired by major industrial or wastewater discharges that often impact rivers of similar size in Maine and New England. In 2017, Maine Department of Environmental Protection’s (DEP’s) Marine Unit conducted field monitoring to characterize water quality conditions in the York River estuary. Maine DEP’s Marine and Engineering Units conduct regular monitoring throughout marine waters to determine whether water quality standards are being met. Historically, monitoring in the tidal portions of the York River watershed was limited as conditions were suspected of

meeting water quality standards. Maine DEP included the York River estuary in 2017 monitoring efforts with the expectation that water quality would be closer to reference condition as compared to impaired estuaries in southern Maine. Preliminary results from 2017 sampling indicate that overall water quality conditions are appropriate to consider the estuarine portions of the York River unimpaired and a suitable reference as compared to other southern Maine estuaries. Dissolved oxygen and pH data were consistent with a healthy and productive estuarine environment. Sites at head of tides showed intermittent, elevated turbidity indicative of marsh sediment export. Light attenuation values met guidance thresholds suitable to support and protect eelgrass at two-meter restoration depth within York Harbor. ♦

## Sponsor a float or river cleanup event as part of the Celebration of the Ohio River Basin!

by Risa Shimoda and Harry Stone, Ph.D.

Many citizens, communities and legislative leaders are not aware that rich river resources in fourteen states, from New York to Illinois and Alabama contribute to the recreational and ecological wealth of the Ohio River Basin. ORBA’s vision is for everyone who lives, works and plays among the 55,000 boatable miles of rivers and streams in the Ohio River Basin becomes aware of and is proud of this great recreational destination.

We ask your help to ensure that there are float trips or river cleanup events in June (or other convenient times) in every Congressional District of the Basin. We

want citizens and legislators alike to know they are in a world-class water recreation location — the Great Ohio River Basin.

We will compile and share these event with ORBA members, followers, elected officials, and the citizens of the Basin so everyone can experience the fun that the Ohio River Basin has to offer!

Joining the Celebration is easy!

Register your event by going to Facebook or scan this 2022 Ohio River Basin Celebration Event Registration QR code:



Who else is hosting an Ohio River Basin Celebration Event? Visit and share the event map: <https://sites.google.com/view/ohioriverbasincelebration/home>

ORBA will share your registered Ohio River Basin Celebration event with others through communication to our members, social media, and news releases.

(continued)



You may live and work - and paddle - in the Ohio River Basin, and you might not know it!



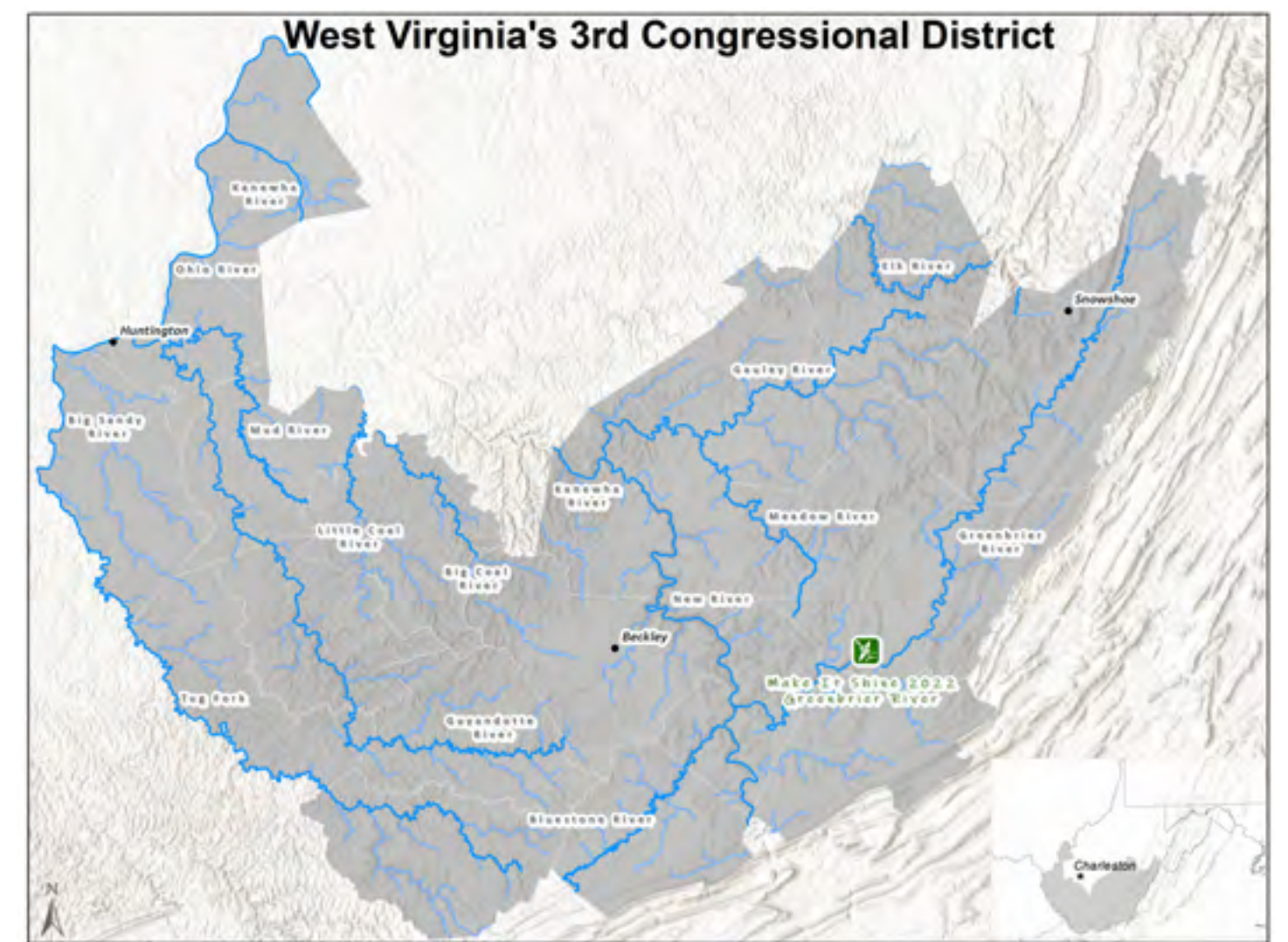
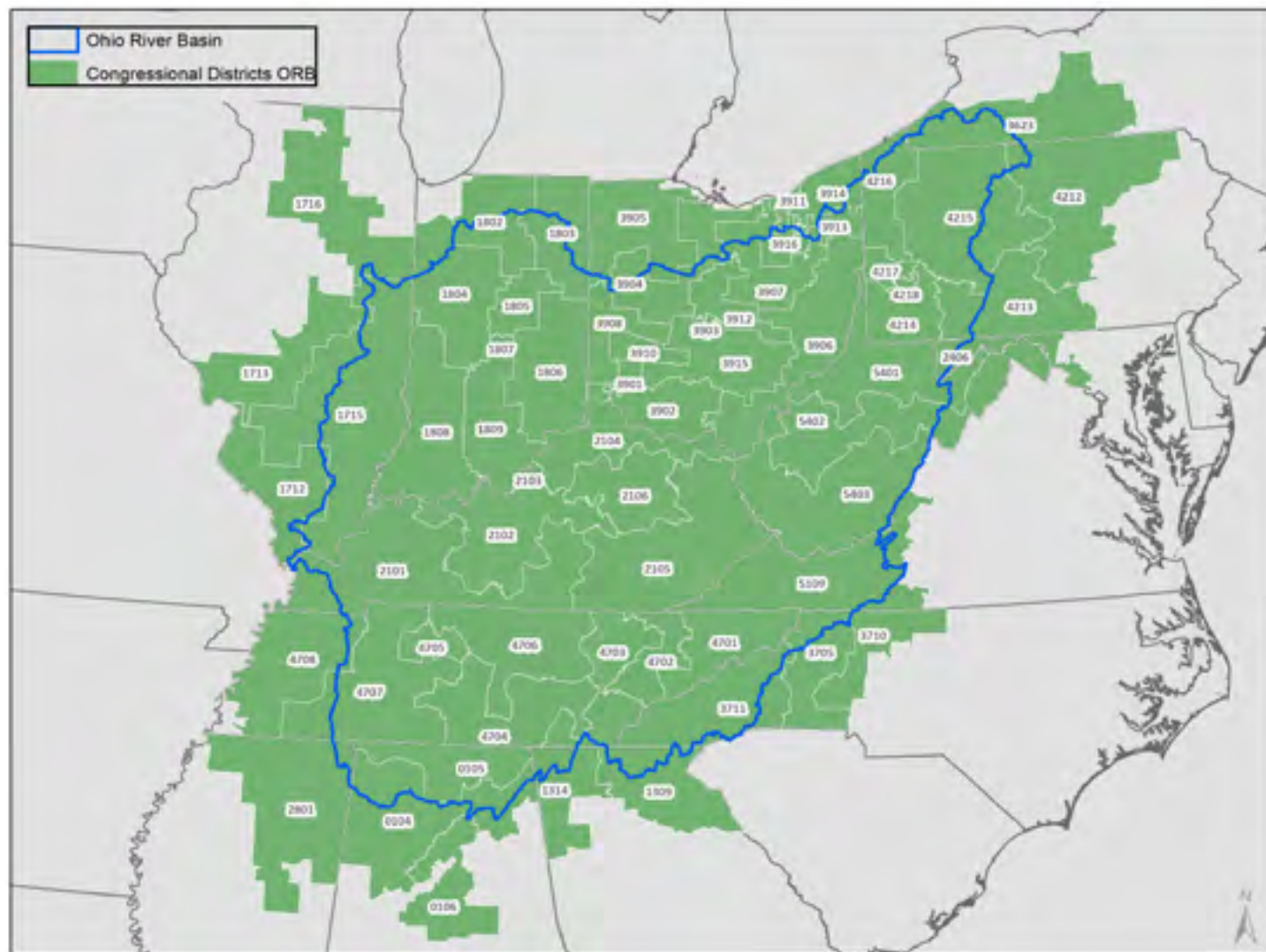


Ohio River Way (formerly the Ohio River Recreation Trail) Paddlefest. Photo: Cole Genslinger



From the biggest river sections to the smallest tributaries,...

... let's celebrate recreation in all of the Ohio River Basin!







to accommodate flow. The reduction of residence time in the reservoir helped to prevent a cyanobacteria bloom from occurring.

There are eight wastewater treatment facilities upstream Rainbow Reservoir in the Farmington River Watershed. Five of the wastewater treatment facilities upstream the reservoir have little, or no phosphorus limits, according to current NPDES permits. While the nitrogen and phosphorus limits at these wastewater treatment facilities suggest high quantities of nutrients in most discharges, nonpoint source pollution in the watershed also contribute to excess levels. To avoid issues in slow moving water, such as Rainbow Reservoir, dilution is an essential component of minimizing blooms.

Due to our findings in 2021, Dr. Ken Wagner recommended the best short-term, responsive remedial action would be to use peroxide pellet treatment, if data shows a bloom is developing. Peroxides work effectively against blooms and cause no threats to aquatic life or water quality, in the reservoir and downstream the dam into the Wild & Scenic Farmington River. Monitoring of Rainbow Reservoir with additional water samples over summer 2022 will track developing blooms and provide information for rapid response when a problem appears imminent.

The Farmington River Watershed Association is a 501(c)(3) non-profit organization founded in 1953. Our mission is to preserve, protect, and restore the Farmington River and its watershed lands through research, water monitoring, habitat restoration projects, education about rivers and water issues, and advocacy for sound water policies at all levels. ♦

This project was funded by CT DEEP Aquatic Invasive Species Grant Program.

If you are interested in seeing FRWA's full report, please contact Paige Vichiola, Watershed Manager, Farmington River Watershed Association, at [pvichiola@frwa.org](mailto:pvichiola@frwa.org) or call 860-658-4442. Learn more about FRWA at [frwa.org](http://frwa.org).

As a registered sponsor of a float or clean-up event, ORBA asks that you:

**I. Invite your US Representative and Senators to participate.**

We can assist! Once you register, ORBA will send you and your US Representative a map of all Ohio River Basin Congressional districts and a (very cool) map of the floatable rivers and streams in your district! Contact Craig Butler, Vice Chair of ORBA, for assistance contacting your Representative and to learn about the non-partisan / bi-partisan messages ORBA is sharing with them: join the bi-partisan Congressional Ohio River Basin Caucus; support a bi-partisan Outdoor Recreation Act; and help address the funding gap —15 watersheds have targeted ecological restoration funding and the Ohio River Basin deserves similar support!

**II. Share your success with photos or videos!**

Encourage participants to post event notes on Twitter at #2022OhioRiverBasinCelebration and make sure ORBA and your organization have the rights to use event images.

With your help, more people will say,  
**"Yes — I do live in the Great Ohio River Basin!"**

*Please note that ORBA communications about paddling events are only for informational purposes and in no way indicate sponsorship by ORBA or any of its members. Responsibility for events rests solely with the organization sponsoring the event. ♦*

**Ohio River Basin Alliance**

5735 Kellogg Ave, Cincinnati, OH 45230-7112  
<https://www.facebook.com/OhioRiverBasinAlliance/>

*Harry Stone, Ph.D., Ohio Certified Volunteer Naturalist in Ohio Department of Natural Resources (Ohio), ORBA Chairperson Dr. Stone is an ESA Certified Senior Ecologist who retired after a 38 year career in applied research, teaching, economic development, and business management. He formerly served as ORBA Acting Chairperson (2016), Chairperson (2017 - 2019), Vice-Chairperson (2019 - 2020) and for many years as the Working Group Leader for Sustainable Growth and Competitiveness. He co-authored the USACE Ohio River Basin climate change and adaptation study and contributed to the America's Watershed Initiative Ohio River report card. Dr. Stone's academic credentials include a Ph.D. (Miami University, multidisciplinary in ecology, political science, and economics), MBA (University of North Carolina - Greensboro), and an MS (Vanderbilt University, plant physiology).*

# RMS Chapter News

## Wildlife, History, and Cheese – Reflections on the Allagash Wilderness Waterway

Content by Lisa Klinger, Bob Ratcliffe, Jack Henderson, and John Little. Compiled by Emma Lord.

In September 2021, seven intrepid RMS'ers embarked on a nine-day venture on the famed Allagash Wilderness Waterway in the Great North Woods of Maine. Hear about some of the highlights from the trip...

**Lisa Klinger –**

To my knowledge, there is no designated Wild and Scenic River quite like the Allagash Waterway. A waterway under state management, surrounded by private lands owned by timber companies, with access on private roads, with staffed checkpoints

is unique. The remnants of human manipulation of the land provide a very rich history lesson which trip coordinator John [Little] enhanced with his knowledge and evening readings from the book *Allagash* by Lew Dietz. We had great enjoyment trying to figure out what and how the early timber barons were trying to accomplish at each location we visited where great amounts of iron were left in the woods.

On the planning conference call, John made a comment that five rolls of toilet paper should be enough. Apparently, red flags went off in people's brains because several people brought "extra" toilet paper. At the end of the trip, it was obvious we were a "low fiber group" given the total amount of toilet paper used. Toilet paper is not something that should be in short supply, however. It made for many humorous comments. All that cheese had the opposite effect of eating dried fruit and we ate a lot of cheese. Cheese as hors d'oeuvres and cheese as part of the main dinner!

*The group enjoying the sunny weather. L to R: Bob Ratcliffe, Jack Henderson, Lelia Mellen, Barb Rosene, Lisa Klinger, Jim MacCartney, John Little. Photo credit: Jack Henderson*





If you look at the group photo you can see that most of the trip participants are not young or even middle aged. Jack [Henderson] was very tolerant of the old people and even more gracious about packing heavy things: water jugs, the wanagan, whatever was heavy that needed lifting and moving. Jack’s patience and tolerance and helpfulness added greatly to our enjoyment, and we appreciated his good humor.

On day 4, after discussing with another group where they were camping, we arrived at that site to find it occupied by the group who indicated they were going elsewhere. Desiring our own space, we paddled upstream about ½ mile instead of paddling another 4 miles to the next camp. Paddling upstream was “a ton of work” even though paddling downstream seemed like there was little current.

John had a birthday during our trip, and a cake was in order. I was able to remember most of a cake recipe, so we set about making a birthday cake without proper ingredients. Hot chocolate mix was used for cocoa and sugar. Some ingredients were just skipped because we didn’t have them. The batter was baked on the fire in the Dutch oven, was slightly burned but did become a wonderful birthday cake for us to celebrate with our wonderful, patient leader.

On day 5, we portaged Long Lake Dam with a Sierra Club group camped on river right where the portage was. Lots of yelling and instruction from the Sierra Club leader was put to rest when John indicated we were lining the canoes through the dam and not using the portage. The dam still has concrete and rebar in the river so it’s important to know what you’re doing if you are going to line boats. With John’s expertise we easily lined the boats with all hands on deck helping.

The next day we were happily camped at Cunliffe Depot enjoying the afternoon watching the antics of a group of ducks fishing while an eagle was attempting to be an opportunist — and who comes slowly down the river in sea kayaks but an exhausted and cranky Sierra Club group. The following day the ranger at Michaud Farm told us the Sierra Club group arrived 3½ hours after we saw them paddle by. This was a distance that took us 40 minutes. While we were having a fantastic trip, the Sierra Club group clearly was not.

Bob [Ratcliffe] and Jim [MacCartney] told many, many stories. The combined years of land management expertise was deep and diverse and provided a depth to our conversations. There were management discussions that compared eastern and western rivers, amenities provided or not since each Allagash site had a table, fire ring and toilet, permit discussions, and so on. A unique “service” provided by Allagash rangers was the ability to have gear hauled downstream of Chase Rapids so canoers could run the rapids with empty boats.



*Planning out the day’s journey. Photo: Jack Henderson*

Since the RMS Symposium in Portland, ME, I have wanted to canoe this waterway. It is unique, beautiful country and the trip was well worth the travel from Idaho. I would love to go again.

**Bob Ratcliffe —**

Our esteemed leader John Little not only organized and led the trip but also provided us with wonderful stories, interpretation, history readings, guided historic site visits and more — he shared Allagash northern canoe traditions, campcraft, great open fire cooking skills, and home grown treats, too! It made the trip so much more special.

**Jack Henderson —**

One of the highlights of the trip was baking scratch-made pizza in Dutch ovens against the backdrop of one of the most beautiful sunsets I’ve ever seen, alongside the sounds of loons calling out across a tranquil lake.

**John Little —**

1. Trying to figure out what a cow moose is doing wandering into the narrows above Lock Dam, and then somehow sensing us a good mile or so away and hurrying off to the woods.

2. Loons calling over a foggy lake.

3. Sharing cheeses at the campsites after setting up and relaxing. Yes, cheeses.....not just good Vermont ones, but shared from each person’s home region.

4. Exploring the trains and tramway at the Eagle Lake/ Chamberlain Lake portage site and seeing other examples of the logging history of this wilderness region.

5. Reading about Turk, the drag horse who hauled supplies upriver for the logging camps.

6. Checking out the remains of home-grown tugs that pulled logs up Chamberlain Lake to avoid paying lumber taxes to the Canadians down river.

7. Talking to the rangers who maintain this jewel of the northern part of Maine and learning what they do and how they deal with the onslaught of folks in the summer.

8. Just sharing time with like-minded folks for days on end without cell phones or a chance of that type of distraction. ♦

John Little, the fearless group leader, paddles through placid waters on the Allagash. Photo: Jack Henderson



**Northeast**

**Allagash Wilderness Waterway Trip  
September 2-11, 2022**

Back by popular demand! The 92-mile Allagash Wilderness Waterway (AWW) in northern Maine is one of America’s preeminent canoe trips. Established by the State of Maine in 1966 to preserve, protect, and enhance the natural beauty, character, and habitat of a unique area, the AWW was designated in 1970 as the first state-administered component of the National Wild and Scenic Rivers System. The AWW is composed of a chain of lakes, ponds, and rivers, including much of the Allagash River, and is managed by the Maine Department of Agriculture, Conservation, and Forestry to preserve wilderness character.

Visit the RMS Northeast Chapter webpage or contact [emma\\_lord@nps.gov](mailto:emma_lord@nps.gov) for more information.



## RMS Chapter News



*Anglers floating within the Blackfoot River Recreation Corridor.  
Photo: Cannon Colegrove*

## Northwest

Have you ever read *A River Runs Through It* by Norman Maclean and thought “I want to float that river!”? Well, here’s your chance. The Northwest Chapter (in partnership with Montana Fish, Wildlife and Parks) is hosting a July river trip on the Blackfoot River in western Montana, just outside Missoula.

The Blackfoot travels through a diverse landscape of agricultural fields, towering cliffs, and ponderosa pine forests. It is home to a variety of fish species, including bull trout, as well as a diversity of wildlife including grizzly bears, elk, and otters. The trip will convene at the Blackfoot-Clearwater Game Range on the afternoon/evening of July 11th for a BBQ, presentation by a bear biologist, gear preparation, and camping. Trip participants will launch the next morning at River Junction put-in and spend two nights on the river with a take-out date of July 14th at Johnsrud.

The Blackfoot River has class II-III rapids — it is a spring runoff river, so as flows begin to drop the river gets more technical. Rafts and kayaks are the preferred watercraft for this trip. While the Blackfoot River is primarily a day use river with many access sites, there are eight designated float-in campsites that require a reservation and permit (which our group will have). Fly fishing is the most common activity on the river. It can be really great at certain times of year for 14-18 inch cutthroat trout and up to 24 inch rainbow and brown trout. Whitewater rafting, tubing, and other recreational floating is common.

Northwest Chapter members should be on the lookout in their emails about other 2022 river trips still in the works, too! ♦

This trip is being offered to current Northwest Chapter members with a registration deadline of May 15, 2022.  
Please contact NW Chapter President, Lisa Byers, for information on how to register: [lmbyers4@gmail.com](mailto:lmbyers4@gmail.com)

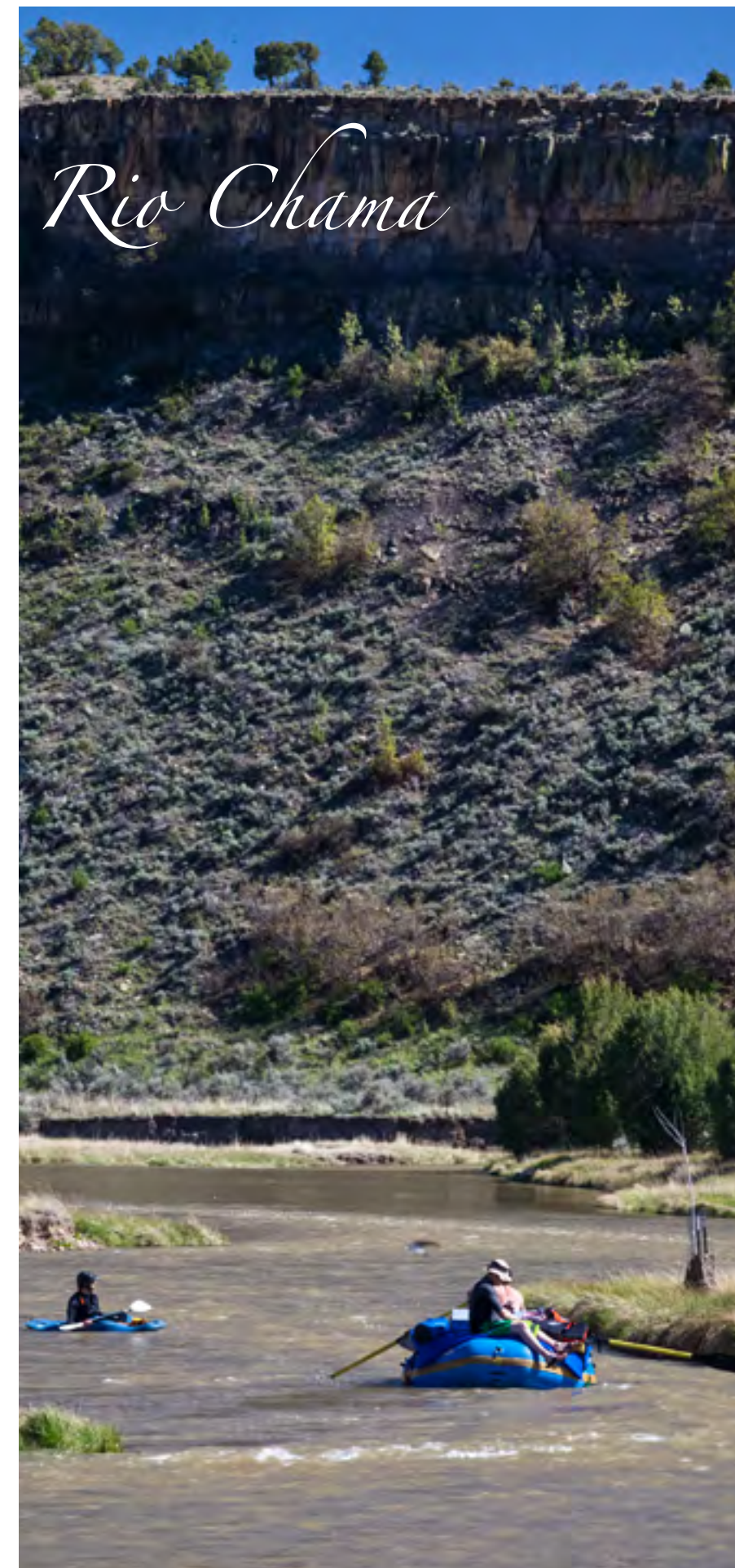
## Southwest

The RMS Southwest Chapter is  
excited for its float trip on the Rio Chama!  
May 26-29, 2022

The Rio Chama is a major tributary of the Rio Grande in northern New Mexico. It flows through a multi-colored sandstone canyon which is, at times, 1,500 feet deep and through a wilderness and wilderness study area. Towering cliffs, heavily wooded side canyons, and historical sites offer an outstanding wild river backdrop for the hiker, fisherman, or boater. Car camping is popular on the lower eight miles, and boaters enjoy two- or three-day trips on Class II rapids on the entire 31-mile segment (advance permits required), or half day trips on the lower segment (no advance permits required). Co-managed by the Bureau of Land Management and the U.S. Forest Service, the Rio Chama offers something for everyone — paddling, trout fishing, hiking, exploring dinosaur tracks, and simply relaxing in the shade.

The Rio Chama forms in far southcentral Colorado, just above the New Mexico border in the San Juan Mountains of Carson National Forest in Archuleta County, then flows about 120 miles to its confluence with the Rio Grande just north of Espanola in Rio Arriba County, New Mexico. Below El Vado Lake the river is a Class II-III run for almost anybody with intermediate or higher level whitewater skills. This historic river has been used by humans for nearly 10,000 years. In 1988, the 24.6 mile section known as Chama Canyon was designated as a “Wild and Scenic River” by the U.S. Congress. Below El Vado Lake the Rio Chama flows about 70 miles through the Santa Fe National Forest of Rio Arriba County to the Rio Grande. The RMS group will be floating the Upper 23 miles, from El Vado Ranch to the Chavez Canyon access, and will be hosted by the BLM Taos office.

During the float trip, a BLM botanist will lead the group through a bio-blitz activity where participants identify and catalogue plants using the [iNaturalist](#) app to contribute to biodiversity science. From the rarest butterfly to the most common backyard weed, iNaturalist shares your findings with scientific data repositories like the Global Biodiversity Information Facility to help scientists find and use your data. ♦





# RMS Chapter News

## Pacific

Congratulations Pacific Chapter members — you have a rock star group of leaders at the helm! Ideas for how to connect with each other? River trips are the best, and zoom Happy Hours create value as well. Introducing your 2022-2024 officers ...

### President – Kristina Rylands

Kristina is a lifetime RMS member who previously served for ten years as president of the Pacific Chapter. As a kid growing up in Southern California, she daydreamed that a river ran through her backyard and knew it was all over as a 10-year-old when she first set foot in the Tuolumne River in Yosemite National Park. She has lived in the Yosemite region for nearly 30 years, spending 13 years as an NPS wild and scenic river planner on both the Merced River Plan (including multiple rounds of litigation) and Tuolumne River Plan (0 litigation!). In addition,



she served as an NPS representative on the Interagency Wild & Scenic Rivers Coordinating Council. Eleven years ago she left the NPS (and most river work) to follow her passion for inspiring the next generation of stewards as the Yosemite Regional Director for NatureBridge, a

nonprofit education partner of the NPS. Now in semi-retirement, she's BACK and works as a freelance project manager in support of the Upper Merced River Watershed Council just outside of Yosemite National Park. You'll find her spending as much time as she can on a river, especially in her beloved IK named Bunny.

### Vice President – Leigh Karp

Leigh grew up kayaking on the Potomac where she met her husband teaching kayaking for rival adventure camps. They have been fortunate enough to have paddled over 70 runs with a goal, and a little bit of a competition, to reach one hundred. Leigh earned BS degrees in biology and recreation, parks, and tourism with a chemistry minor from Radford University. Later, she designed her MA from both the environmental management and conflict resolution schools at George Mason University to focus on multiple-use land management. Leigh first interned with the Bureau of Land Management in 2007 and is now the National Conservation Lands lead for the California Desert District. She is currently supporting the development of four Wild and Scenic River planning efforts. Leigh is looking to get more involved with RMS and support the river community which means so much to her.



### Secretary – Larry Freilich

Larry is a biologist serving as the Mitigation Manager for the Inyo County Water Department in Eastern California. He oversees the implementation of 64 mitigation projects called for under the Long Term Water Agreement between the County and the City of Los Angeles, Department of Water and Power. In this role, he manages the Lower Owens River Project, which includes a 62-mile section of the now restored river that had been dried when its flow was captured by the Los Angeles Aqueduct. He developed a recreational use plan for the Lower Owens and is currently leading an effort to develop a paddle trail on a designated section of the river. Larry has also worked as a fisheries biologist in a FERC hydro relicensing study. He has served as a regional representative for the national Sierra Club in Texas and Arkansas where his work included protecting the headwaters of the Buffalo River. He has worked as an ED for a land trust and development director for a nature preserve. He's an avid kayaker and river fanatic. Larry will work to promote RMS and build membership in the region through direct outreach and through sponsored events such as river trips and educational forums. He is interested in enlarging RMS's reach through affiliations with non-profits working on river projects in California.



### Trip Coordinator – Bob Stanley

“Been living and working in mountains/ivers as much as possible since I was five years old. Participating in cub scouts was infuriating ... they never went into the woods for more than a day! Boy scouts worked out a bit better with one campout a month, a week camp in the Sierra Nevada... and some canoeing 50-milers thrown in. My first driver's license was the ticket, as I was able to say “Bye-bye” to the scouts (I am a “Life for life” scout) and head off to the mountains. I have spent most of my life working and living in remote mountains and on their rivers for the US Forest Service, National Park Service, and river/ mountain outfitters in the Americas and South Asia. I'm now river rangering for the Forest Service six months each year and doing littoral research in the Gulf of Thailand during the other six. Happy to be of some use to RMS!”

## Klamath River

The Pacific Chapter has a new slate of officers and is kicking off chapter revitalization with a trip to the Klamath River to explore the country's largest dam removal project in history. All are welcome to join June 10-12 for three days of floating fun, learning about the dam removal project, networking, and camping. (Or, limited lodging at Klamath River Resort Inn.)

The Klamath River and its tributaries were once home to the third largest salmon population in the west. The removal of four hydroelectric dams will be the crucial first step to restoring the river's rich ecological communities. Once removed, over 400 historic river miles of habitat will reopen to anadromous fish.

The group will be welcome to float three reaches of the Klamath River: the Hell's Corner section of the Upper Klamath, the Wingate section, and the Tree of Heaven reach. Throughout the three days, participants will learn about the sweeping scope and history of this project from the many individuals who have not only contributed to the restoration effort, but have lived, worked, and played on or near the river. The Pacific Chapter is grateful to BLM, USFS, OARS, and Momentum River Expeditions for sponsoring this event.

#### Itinerary:

*Friday, June 10* - Hell's Corner (Class IV+) 12 miles. Wait list pending ability to secure additional boats. Includes Thursday night camping at Tree of Heaven Campground, Friday breakfast (dinner on own), Friday night camping at Curly Jack's Campground. **\$25**

*Saturday, June 11* - Happy Camp to Wingate (Class II) 7 miles. Includes Friday night camping at Curly Jack's Campground, breakfast, lunch float, Klamath River Restoration presentations, and dinner. **\$80**

*Sunday, June 12* - Tree of Heaven (Class II) 6 miles. Includes Saturday night camping at Curly Jack's Campground, breakfast, Klamath River restoration presentations, lunch and float. **\$45**

#### Tentative list of speakers:

Kenneth Brink/Toz Soto - Karuk Fisheries  
Jon Grunbaum - US Forest Service Fisheries  
Christina Boston - R5 USFS Wilderness and WSR Lead  
Kirstin Heins - BLM CA National Conservation Lands Lead  
Lauren Pidot - BLM OR/WA National Conservation Lands Lead  
Clavey Wendt - OARS Inc.  
Tom O'Keefe / Scott Harding - American Whitewater  
Craig Tucker - Consultant, Karuk and Yurok Tribes  
Dan Shelby - Confluence Research and Consulting  
Tom Harris - Outfitter

**To learn more and to register:** visit the RMS Pacific Chapter [webpage](http://www.river-management.org) by going to: [www.river-management.org](http://www.river-management.org)



# RMS Chapter News

The River Management Society is thrilled to announce the election of its Midwest Chapter 2022-2024 officers! The Central slice of the U.S. is leading many river management and river-level initiatives, some of which we learned about in the Summer 2021 RMS Journal. From the relentless reduction of ‘drowning machines’ in Iowa to the herculean effort to recognize the Ohio River Basin as an international destination, movers and shakers in our nation’s Midwest are showing their strategic and tactical expertise and growing their successes with each passing month.



President – Ed Fite

I served as the Administrator for the Oklahoma Scenic Rivers Commission (OSRC) from September 1983 to June 30, 2016, when the Oklahoma State Legislature consolidated the OSRC into the Grand River Dam Authority. I continue to pursue my passion for rivers and water as GRDA’s Water Quality Manager beyond the Illinois River, Barren Fork Creek and Flint Creek (along with monitoring the Big Lee Creek, Little Lee Creek and the Upper Mountain Fork River) to include the Neosho, Spring and Elk Rivers, with their tributaries, along with Grand Lake O’ the Cherokees and Markham Ferry Reservoir. I partner regularly with federal/state/tribal/local agencies, communities, businesses, and individuals to educate, promote the enjoyment of, and mitigate impacts on these rivers and reservoirs. I’m proud to have been a key participant in the successful defense of water quality and scenic rivers in the 1992 U.S. Supreme Court’s ruling in the Oklahoma vs. Arkansas/USEPA case, which effectively affirmed that downstream states’ water quality standards must be maintained and protected by upstream states.

I am a certified swift water rescue technician instructor and federally-accredited floodplain manager, and known for advocating to those who will lend an ear, “Please take pause daily to pick up two pieces of trash and properly dispose or recycle the materials... the synergy of our efforts will help preserve and protect our state’s aquatic and terrestrial environments.”



Vice President – Ed Sherman

I have held a deep appreciation of rivers and lakes since learning to paddle as a boy on the lakes of Northern Wisconsin. The serenity and solace that can only be offered by being on a lake or river has remained a constant fixture in my life as I have travelled and lived across the country. I have found incredible peace through spending time on the water and a break from everyday life that can only be offered by the sights and sounds of a river.

After earning my bachelor’s degree in Recreation from University of Southern Illinois, Carbondale, I have taken numerous positions with the Forest Service which most recently led me to Southeast Missouri where I serve as the Zone Recreation Manager Mark Twain National Forest. The Current, Eleven Point, Jacks Fork and Black Rivers are all within an hour’s drive of my home and feel fortunate to be surrounded by such wonderful recreational opportunities.

I have learned and expanded my knowledge of river management because of the River Management Society and would like to give back by serving on the Midwest Chapter’s board. I offer my passion and willingness to engage the public in this role and hope to spread my passion of rivers to others.

# Midwest

The Midwest officer cadre would welcome the addition of a Chapter Event Coordinator – please contact RMS if you’d like to help out!



Secretary - Bobbie Roshone

I grew up on the Eleven Point, Current, and Jacks Fork Rivers in southern Missouri. Being a lifetime river lover, I was led to my first post-high school summer job working for Ozark National Scenic Riverways (NPS) as a park guide. After seven summers and a degree in history, I decided to branch out to other rivers in the National Park Service. In 2014, Niobrara National Scenic River in Valentine, Nebraska, offered me a position as seasonal Park Ranger (I). After a winter internship with the Fish and Wildlife Service in Kentucky, I found myself back in Valentine, and in 2016 was offered the permanent Park Ranger (I) position at Niobrara. I met my husband in Valentine, and we now have a 17-month-old toddler that likes to play in the river with Mom.



From January through June, the River Management Society’s (RMS) River Training Center will host a six-part webinar series for river managers and advocates exploring the application of the Wild and Scenic Rivers (WSR) Act. Instructors bring with them years of experience managing WSRs and Partnership WSRs within various states and agencies.

Participants will learn how federal WSR designation protects specific river values, and discuss river managers’ responsibilities as caretakers and stewards of the rivers, once their designation takes place.

The content is relevant for both new and seasoned river rangers, and when the series was first offered in 2021, attendees called it “a huge help,” saying they wished it had been offered when they first began working as river managers.

Attendees must register for each webinar individually:

- 1/19 – Management of Wild and Scenic Rivers
- 2/16 – Partnership Wild and Scenic Rivers
- 3/16 – Introduction to Section 7 of the WSR Act
- 4/20 – Section 7 and a Broader NEPA Analysis
- 5/18 – Outstandingly Remarkable Values
- 6/15 – Steps to Address User Capacities

The series is offered at no cost to RMS members as a benefit of membership, and \$15 per webinar for non-members. Membership in RMS is available for \$60 annually for Individual members, so joining offers a great value for new members, in addition to the other benefits they receive throughout the year.

For more information, please check out the [River Training Center](#) on the RMS website, or email: [training@river-management.org](mailto:training@river-management.org).



# A Guide for Multiple Use Waterway Management

Third Edition

The [National Association of State Boating Law Administrators](https://www.nasbla.org/) (NASBLA) is pleased to announce the release of A Guide for Multiple Use Waterway Management, Third Edition.

Download a free copy of the 154-page, full color Guide at <https://www.waterwaymanagement.org/home>.

Produced under a U.S. Coast Guard national non-profit grant, the Guide supports the reduction of recreational boating fatalities and injuries through improved understanding of and accessibility to tools needed to implement sound management processes on shared recreational waters, including the intersection of commercial traffic and recreational users. The Guide provides direction for effective waterway management, including policy development, and communication for public understanding, acceptance, and compliance. The Third Edition (2021) addresses current thinking and planning frameworks for ongoing and future waterway management issues, updated from the First Edition (1996) and Second Edition (2004).

Developed in partnership with the River Management Society, a Waterway Management Project Steering Committee of diverse waterway management subject matter experts guided the project. Members represented the American Canoe Association, American Waterways Operators, Chicago Harbor Safety Committee, Florida Fish and Wildlife Conservation Commission, Passenger Vessel Association, Public, River Management Society, States Organization for Boating Access, U.S. Coast Guard, U.S. Army Corps of Engineers, Waterways Association of Pittsburgh, and NASBLA.

The following are comments from members of the Waterway Management Project Steering Committee regarding the process of contributing to this work and providing a valuable updated tool for waterway managers and representatives of the recreating public:

“The WM Guide will serve to ameliorate the inescapable effect of institutional knowledge loss as turnover in FWCs Waterway Management Unit occurs. In addition to agency created desk procedures, the WM Guide will help shape best practices into the future.” — **Gary Klein, Waterway Management Captain at State of Florida, Florida Fish and Wildlife**

“It has been an honor to serve with the project Steering Committee charged with updating the Guide to Multiple Use Waterway Management. Impressive was not only the depth of experience of the individual committee members, but the breadth of experience. Hidden, because of the clarity of its organization and presentation, is the diversity of experience of my colleagues. As examples, while my experience is in an urban waterway where conflicts frequently include commercial cargo and passenger vessels, recreational boaters and kayaking

sightseers, my colleagues brought experience quite different – still water and whitewater paddling, in some cases, year round liveaboards, recreation and fishing charters in others, and an impressive catalog of achievements as maritime professionals. Personally, I learned a lot by working with them. By receiving input from these different experiences as written and organized by highly creative administration and producers and authors, we hope that references can provide helpful information for multiple use waterway management for any location.” — **Capt. Dave Brezina, USCG Licensed Captain, Past Commodore Chicago Corinthian Yacht Club, Secretary Chicago Harbor Safety Committee**

“The popularity of recreational boating continues to grow, as does the volume of commercial boating traffic. At the same time, non-boating use of waterways (e.g., by anglers, swimmers and divers) is growing, along with the popularity of waterside recreation ranging from hiking on a river walk to concerts in a lakeside amphitheater. Increased use has led to increased conflict among user groups. The Guide provides a valuable resource for anyone involved in waterway management who wants to prevent those conflicts, particularly while maximizing waterway use. Rather than trying to give a single solution, it provides a thoughtful approach that engages all stakeholders and considers all aspects of the waterway. This holistic approach will help waterway managers anticipate, prevent and manage user conflicts. Recreational and commercial boaters, property owners, land managers and all other user groups will be better able to use and enjoy waterways when these guidelines are followed.” — **Robin Pope, Ph.D., PA-C, FAWM, Chair, American Canoe Association Board of Directors**

“I have had the unique opportunity to be part of the team since the first revision in 2004. It has been rewarding to witness each revision expand to include more resources and technologies that will be applicable to a broader array of folks that are called upon to manage various aspects of their waterways and their users. This latest edition will be a resource “go to” for anyone needing to provide an actionable and defensible approach to reduce conflicts, improve user experiences or manage natural resources.” — **Eleanor Mariani, Retired Boating Division Director, State Boating Law Administrator**

For additional information, contact:  
Pamela Dillon, NASBLA Project Director  
[pam@nasbla.org](mailto:pam@nasbla.org)



“Produced under a grant from the Sport Fish Restoration and Boating Trust Fund administered by the U.S. Coast Guard”.





# Fort Lewis College charts course for next generation of river stewards

New programs tackle education, conservation through experiential learning

*Reprinted  
with permission from  
The Durango Herald*

by Aedan Hannon  
March 1, 2022

Amid climate change and long-term drought, water is an increasingly precious resource, not only for the environment, but for rural and recreation-based economies. Two new programs at Fort Lewis College (FLC) plan to tackle the challenges rivers face by training the next generation of decision-makers and stewards.



Mike Ward, a river guide with Fort Lewis on the Water, leads students on a trip down the San Juan River. (Courtesy of Kyriakina Valavanis)

The River Studies and Leadership Certificate (RSLC) and the Fort Lewis on the Water (FLOW) program use coursework and experiential learning to prepare students for careers as river professionals. In doing so, the programs are filling a pressing need among river management organizations and helping students while readying a new cohort of leaders to navigate the uncertain future of water in the West.

“We need to be building this next generation that is going to step into some of those leadership roles and that’s part of the goal of this certificate,” said Gigi Richard, a professor of geosciences and the director of the Four Corners Water Center.

The RSLC is in its first year, and the program is a collaborative effort between FLC and the River Management Society, a professional organization for river managers. The program trains students for careers in river management by combining coursework with professional experiences. Its goal is both to prepare students for their futures while also addressing a growing need among public land agencies and river nonprofits. Unlike other FLC credentials, students receive the certificate directly from the River Management Society instead of the college.

“We developed this program a few years back and it’s designed to help prepare the next generation of river managers,” said Bekah Price, communication coordinator for the River Management Society. “You have a lot of students that might be raft guiding, studying environmental science (or who) have an interest in the

outdoors and rivers, but they’re not necessarily sure what career options are out there. This bridges that gap.

“It’s really designed to be a win-win for students who care about the environment and river management and then also those agencies who are looking to bring in those students upon graduation,” Price said.

Richard, the adviser for the certificate, worked with the River Management Society to outline a curriculum and bring the program to FLC after having

previously brought the certificate to Colorado Mesa University in Grand Junction. Eleven schools across the country have adopted the certificate so far, as schools increasingly recognize the importance of training students who will guide the future of river systems in the U.S.

Students at FLC take a set of core courses, including classes about computer mapping, river ecology and water politics. They can then choose from three different emphasis areas in river science, river-based policy and management, and river-based recreation, education and tourism for additional coursework. They must also meet a professional requirement, which includes an internship, presenting a project at the annual River Management Society symposium or publishing an article in the River Management Society’s journal. The key to the program is the experiential learning that students must complete. A core requirement of the certificate is a swift course to gets students out on the river.

That’s where the Fort Lewis on the Water program comes in. “Our launching of this certificate program is timely because it goes hand-in-hand with our new Fort Lewis on the Water (FLOW) program,” Richard said. “The River Studies and Leadership Certificate requires that students actually spend some time on the river and the FLOW program creates the opportunity for the students to take courses that involve actual time on the river.”

FLC established FLOW this past year as a part of the college’s push for greater access to experiential learning. The program offers guided river trips led by students and adventure education professor Bruce Saxman to the college community.

“Our goal is to provide outdoor education experiences on some of our local rivers, expanding Fort Lewis College’s classroom beyond the mesa and into our wider region where we have these amazing desert riverways,” Saxman said.

FLOW offers students the river experiences that are so critical to the River Studies and Leadership Certificate, allowing them to experiment with career paths but also providing training. “Experiential learning is important for any career. I think most of us learn best by doing,” Richard said.

“You see a trend now, especially at schools like Fort Lewis, where the coursework is getting out of the classroom and getting into the environment,” Price said. “(Students) are graduating with real life experience that is hopefully going to mirror what they do in the field.” For student guides considering careers in river recreation or river management, FLOW can be priceless.

*Students look at historic riverside dwellings during a FLOW trip. Programs such as geology and environmental science, but also psychology and others, can integrate overnight float trips on the San Juan and Rio Chama rivers into their coursework. (Courtesy of Bruce Saxman)*



“FLOW is such an awesome opportunity for students to be able to work in an industry that they’re interested in,” said Gwen Stoddard, a FLOW guide and an adventure education and Spanish double major at FLC. “It’s fun while also gaining interpersonal, communication and problem-solving skills as well.”

The FLOW program has allowed Kyriakina Valavanis, a senior adventure education student and FLOW guide who plans to spend the upcoming rafting season as a trip leader, to practice many of the skills she will now apply. “It’s really interesting going through this program and now being given the opportunity to implement some of the things that I’ve learned,” she said. “The basis of experiential education is having real world situations and problems to deal with and solve.”

Educators like Saxman can tell the difference this experiential learning makes for students. “It’s one thing to get lectured, but to actually experience it leaves a much more lasting impression for most of our students,” Saxman said. “To understand how the river ecosystem has changed through the years, it’s a lot more powerful when you see it in person versus on a slideshow.”

The development of FLC’s new river programs comes at a time when rivers in the West face an increasingly uncertain future. Climate change, population growth and shifting use threaten to undermine these crucial natural and economic resources.

(continued)



By getting students on the river, the River Studies and Leadership Certificate and the FLOW program prepare the next generation of river stewards, who will ultimately guide river management in the decades ahead. “The water issues that we’re having in the Southwest are issues that everyone’s going to have to deal with, not just river runners,” Saxman said. “... We’re going to need creative solutions, we’re going to need people who are advocates for water conservation and protecting these riverways.”

By reaching students across FLC and beyond the typical fields of environmental science or adventure education, FLOW aims to create river stewards everywhere. “That awareness shouldn’t just be river guides and ecologists, (but) whoever’s running the wastewater treatment plant along the San Juan River or folks who graduate from Fort Lewis who ended up becoming leaders in their tribal communities,” Saxman said. “You want these ideas percolating through the communities around the rivers that we live near.”

Valavanis can see how much of a difference these river trips make for students who haven’t had the experience before.



Mike Ward (left) and Natalie Michel prepare food. (Courtesy of Bruce Saxman)

“When you’ve built that relationship with the river, you want to take care of it,” she said. “You can see how things have gotten worse and you can actually visualize what needs to get better. You care more about it.”

The FLOW program has 18 rafting guides, including 14 full-time FLC students. Last June to October, FLOW led 16 trips for more than 200 FLC community members, Saxman said. The River Studies and Leadership Certificate has two students who have said they plan to pursue the program, Richard said, and other students like Stoddard are considering the new certification.

Both Saxman and Richard hope their programs will continue to grow and diversify. In 2022, from March until the end of August, FLOW will guide 19 trips serving more than 300 FLC community members, Saxman said. Ideally, five to 10 students would pursue the River Studies and Leadership Certificate each year, Richard said. For Valavanis, the FLOW program and the experiential learning it provides are already making a difference in her collegiate career. “(The education) fills you. You feel fulfilled,” she said. The River Studies and Leadership Certificate and FLOW serve as a reminder of the importance of rivers for students, faculty and community members beyond FLC. “Our waterways are our life,” Stoddard said. ♦

ahannon@durangoherald.com



Lauren Toho Haupt, a FLOW river guide, uses a GoPro while leading students on a trip down the San Juan River. (Courtesy of Kyriakina Valavanis)

(Maurice, from page 1)

## ReTURN the Favor Horseshoe Crab Rescue

The Delaware Bay region has played host to the world’s largest concentration of breeding horseshoe crabs for millions of years. But since the early 1990s, the species has experienced a rapid decline due to over-harvesting. Furthermore, thousands of horseshoe crabs are lost every year after being overturned by waves or becoming trapped by natural or manmade hazards. When trapped on the beach they are unable to return to the water and succumb to late spring’s heat or predators.

To address this problem, the [ReTURN the Favor](#) program was developed in May of 2013. Led by the New Jersey Division of Fish & Wildlife, The Wetlands Institute, and the Western Hemisphere Shorebird Reserve Network, it allows sanctioned volunteer groups to rescue stranded horseshoe crabs from the beaches. Partner activities are coordinated to minimize impact during shorebird migration and horseshoe crab spawning, as well as to follow the State policies preventing the disturbance of migratory shorebirds.

This volunteer opportunity not only teaches participants firsthand about these compelling creatures living in the littoral depths but also engages them with the preservation of a natural phenomenon that happens every spring on the Delaware Bay. Since the beginning of the program, CU Maurice River has been a fundamental partner in getting hundreds of walk leaders involved. Each year we host a mandatory training session for potential program participants. People have called in to register from as far away as Canada and Texas. After attending, volunteers receive the required permitting to lead program walks.

As an official partner, CU Maurice River has “adopted” as our primary rescue area the beaches around the East Point Lighthouse. From May until June, volunteers venture out to the beaches to save horseshoe crabs three hours after high tide — no matter if that is at 4:00 p.m. or 2:00 a.m. As a group, CU Maurice River volunteer walk leaders dedicate hundreds of hours to restoring the horseshoe crab population to historic numbers. As designated walk leaders holding permits, they invite friends and family to join them in freeing the crabs from impingements and ReTURNing them to the waters of the bay while also collecting invaluable data for formal research and conservation efforts.



ReTURN the Favor volunteers. Photo courtesy of CU Maurice River.

## Dragonfly Mercury Project Data Collection on the Wild and Scenic Maurice River

Since 2011, the University of Maine, in partnership with the United States Geological Survey (USGS) and the National Park Service, has been conducting a [nationwide study](#) on mercury contamination in America’s natural resources. This project involves collecting dragonfly nymphs and analyzing them for mercury to better understand this contaminant’s distribution in the United States. Since 2015, CU Maurice River’s volunteer citizen scientists have been collecting data on the Wild and Scenic Maurice River.

Much of the mercury found in the atmosphere is a result of human activities, including gold mining and coal burning. According to the Environmental Protection Agency (EPA), coal burning to generate electricity is the largest source of these emissions in the United States. Elemental mercury is present in coal. Once the coal is burned, the mercury is released into the atmosphere. Wind currents can carry it long distances crossing city, county, state, and even national borders. Air deposition through precipitation or gravity causes this element to fall to the ground, covering communities as well as natural habitats. There, it works its way into the water and soil. Elemental mercury is converted into a toxic form called methylmercury by microscopic



organisms in aquatic habitats like rivers, lakes, and wetlands where it persists unchanged as a toxin, working its way into the food web. Bioaccumulation occurs when an organism ingests a contaminant faster than it can eliminate the substance from its body, which leads to build-up over time. When a species higher on the food chain consumes that organism, the contaminant is biomagnified, meaning it becomes more concentrated each time the next species ingests it. In this fashion, methylmercury (a neurotoxin) continues moving its way up through the food web, growing in concentration and, consequently, becoming more detrimental to larger predators. For this study, dragonfly nymphs are collected because they are predators that consume a wide variety of aquatic lifeforms, making them an ideal indicator species in understanding mercury contamination trends and the health of aquatic ecosystems.

So far, over 4,000 citizen scientists have volunteered to collect nymphs at more than 100 National Park Units, including Wild and Scenic Rivers. This goes to show the power of ordinary volunteers in making a difference for a greener, healthier tomorrow. As a local project partner and National Park Service Partnership Organization, CU Maurice River volunteers have been [contributing to this project by sampling](#) for dragonfly nymphs on the Wild and Scenic Maurice River and its tributaries since 2015. Since then, well over 200 volunteers have been engaged in the project — generating a better understanding of mercury deposition in the Maurice River’s watershed.

CU Maurice River’s team of citizen scientists have sampled at six different sites on 18 different occasions. The sites have included

Muskee Creek, Menantico River, Manumuskin River and the mainstem Maurice River. On a sampling day, the volunteers are divided into three groups — the Draggers, Baggers, and Flaggers — each with differing tasks. The Draggers are the water group who slog through the river while utilizing a dip net in search of dragonfly nymphs. The Draggers hand their net contents over to the Baggers on the riverbank, who will then pick out the dragonfly larvae from other river creatures, carefully place the specimens into containers of river water where they are cleaned before bagging. Finally, there are the Flaggers who are in charge of identifying the dragonfly species and taking measurements. The specimens are then sent into the University of Maine where the team of researchers process specimens and analyze the data. *(For more information on the assessment of the data collected by citizen scientists, you can read a [recently published paper](#) in Environmental Science & Technology, 2020, 54, 8779-8790.)*

## Building a Culture of Stewardship with Green Infrastructure Projects

At the end of 2019, CU Maurice River was granted funding by National Fish and Wildlife through its Delaware Watershed Conservation Fund to continue growing a culture of stewardship within the commercial and non-profit communities of the Wild and Scenic Maurice River basin. By the end of 2021, this program will implement four green infrastructure demonstration examples in Millville’s downtown area. Each of these initiatives will be visible models from which the professional community

Volunteers collecting dragonfly nymphs for mercury analysis. Photo courtesy of CU Maurice River.



can profit via their peers’ experience with conservation projects.

In the New Jersey Water Supply Plan 2017-2022 the Maurice River’s Watershed Management Area (WMA) is identified as having the highest deficit for potable water in the State. This plan projects that by 2020, WMA 17’s remaining water availability will be -58.5mgd. Using the EPA’s Preliminary Healthy Watersheds Assessments (PHWA), eight of the nine subwatersheds north of the Wild and Scenic designated area fall within NJ’s 25% most vulnerable waterways when impacts stemming from water demand are projected. Meanwhile, the resource-rich southern sub-watersheds are being stressed by the demand in the northern region. In this scenario, current water consumption trends and water management practices are competing with the preservation of aquatic ecosystems.

Millville is the Maurice River Watershed’s second most populated urban area, and it has one of the watershed’s highest concentrations of impervious surface coverage. Rainwater falls on these impervious surfaces, picking up man-made contaminants, sediment, litter, and other solids as it is channeled into storm drains and storm pipes. This water is not filtered for pollutants before reaching surface waters, including the Maurice River, its tributaries, the Delaware Bay and eventually the Atlantic where it mixes with salt water.

By including green infrastructure in land management decisions, this run-off of fresh water and the resulting contamination of aquatic resources can be reduced. These blue-minded installations clean contaminants from fresh water as it slowly percolates into the local underground drinking water resource, replenishing the aquifer.

Recognizing the need for examples of green infrastructure at businesses in the watershed’s urban areas, CU Maurice River contacted a previous partner in educational programming focusing on stewardship: Rutgers University’s Cooperative Extension’s Water Resources Program. Our two organizations have been working together since 2017 to organize educational programming, as well as identify and develop green infrastructure designs for commercial properties of special conservation interest, or that offer a special opportunity for stewardship outreach initiatives. In the installation phase of the stewardship program, we have implemented two green infrastructure projects together and have two more to realize.

In 2020, volunteers from CU Maurice River and our corporate partners have worked alongside each other to install two of the four projects associated with this program. Over 600 volunteer hours have been dedicated to the successful completion of these two green infrastructure projects that are currently promoting recharge, filtering contaminants, and supporting wildlife. Because of the volunteers’ efforts these two projects are cumulatively reducing run-off by an approximate 259,014 gallons per year and removing contaminants like suspended solids by 42lbs, phosphorus by 0.33lbs, and nitrogen by 3.17lbs from the water. ♦

Karla Rossini works as Program Manager for CU Maurice River.

# New Hats in RMS Store!

We have two different styles available featuring the RMS logo on a stone colored six-panel design. Option (A) is 100% bio-washed cotton twill with an adjustable backstrap and brass buckle. Option (B) is 55/45 cotton/poly blend with a white mesh back and snapback closure. Don’t miss this opportunity to look cool, protect your head, and of course, support RMS with your purchase! Hats are \$20 each and available in the [RMS Store](#) with other awesome gifts, gear and essentials.





# Welcome – New RMS Members

## Student

Sheila Cloud, University of Wyoming  
Vale, OR

- Colorado Mesa University  
Grand Junction, CO
- Zoe DeSanto
  - Logan Feuer
  - Kailey Goode
  - Samantha Hamilton
  - Sarah Mahoney, Outdoor Program  
Trip Initiator / Office Staff
  - Madison Miller, Outdoor Program  
Trip Leader
  - Adam Vasquez

Sierra Lucero, Montrose, CO

Dalton Robberson, Littleton, CO

## Individual

Herman Jenkins, Trails Manager  
Friends of the Roug, Plymouth, MI

Max Morange, Bellingham, WA

Adam Odoski, Performance Coach /  
Consultant / Ultra Endurance Athlete  
Better Faster Further, Salida, CO

Melissa Pingree, Soil Scientist  
Bureau of Land Management  
Grants Pass, OR

John Savage, Gatineau, QC

Jared Skaggs  
Director, Outdoor Experience  
Grand River Dam Authority, Tulsa, OK

William Spain  
Senior Environmental Planner  
SWCA, Corvallis, OR

## Organizational

- USDA Forest Service  
Bridger-Teton National Forest  
Jackson, WY*
- Elizabeth Johnson, Resource Assistant
  - Jason Wilmot
  - Kevin Khung, Deputy Forest Supervisor
  - Todd Stiles, District Ranger

*Eastern Washington University  
Cheney, WA*

- Erin Dascher, Assistant Professor

- National Park Service, RTCA  
Intermountain Region, Salt Lake City, UT*
- Betsy Byrne, Landscape Architect
  - Gibran Lule-Hurtado
  - Brandon Stocksdale
  - Laura Bolyard

- US Forest Service, Region 5  
Public Services, Vallejo, CA*
- Togan Capozza, Wilderness, Wild &  
Scenic Rivers, and Pacific Crest Trail  
Program Assistant
  - Tristan Leong, Hydroelectric  
Coordinator
  - Monique Sanchez, Hydroelectric  
Coordinator
  - Dawn Alvarez, Regional Hydropower  
Assistance Team

*Fabulous Fox! Water Trail  
Geneva, IL*

- Karen Miller, Illinois Co-Chair

- University of Montana Western  
Dillon, MT*
- Arica Crootof, Assistant Professor  
EV Sustainability Class
  - Rebekah Levine, Associate Professor  
Environmental Sciences Department

## Associate

Scott Harding, Stewardship Associate  
American Whitewater  
Forks of Salmon, CA

Heidi Anderson, Klamath Falls, OR

Elijah Neymark, GIS Specialist  
Vale, OR

## Lifetime

David Dahlquist, President  
David L. Dahlquist Associates, LLC  
New Iberia, LA

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



## Chapter Officers

### ALASKA

David W. Schade, MPA, President  
Alaska Department of Natural Resources  
550 West 7th Avenue, Suite 1020  
Anchorage, AK 99501-3577  
(907) 269-8645 / cell (907) 230-6061  
david.w.schade@alaska.gov

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 State 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  
(temp) 2310 Cornell St, Palo Alto, CA 94306  
(408) 386-0856 / gorejoni@gmail.com

**Canadian River Management Society**  
Contact: Max Finkelstein  
tel (613) 729-4004 / dowfink@gmail.com

### MIDWEST

Ed Fite, President  
Grand River Dam Authority  
15307 North Swannanoa Rd  
Tahlequah, OK 74464-8171  
(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

Erica 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 / jallittle58@gmail.com

### SOUTHEAST

Jane Polansky, President  
Tennessee State Parks  
Wm. R. Snodgrass TN Tower, 2nd Floor  
213 Rosa Parks Ave, Nashville TN 37243  
(615) 456-3843 / jane.polansky@tn.gov

## 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](http://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](mailto:rms@river-management.org)

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





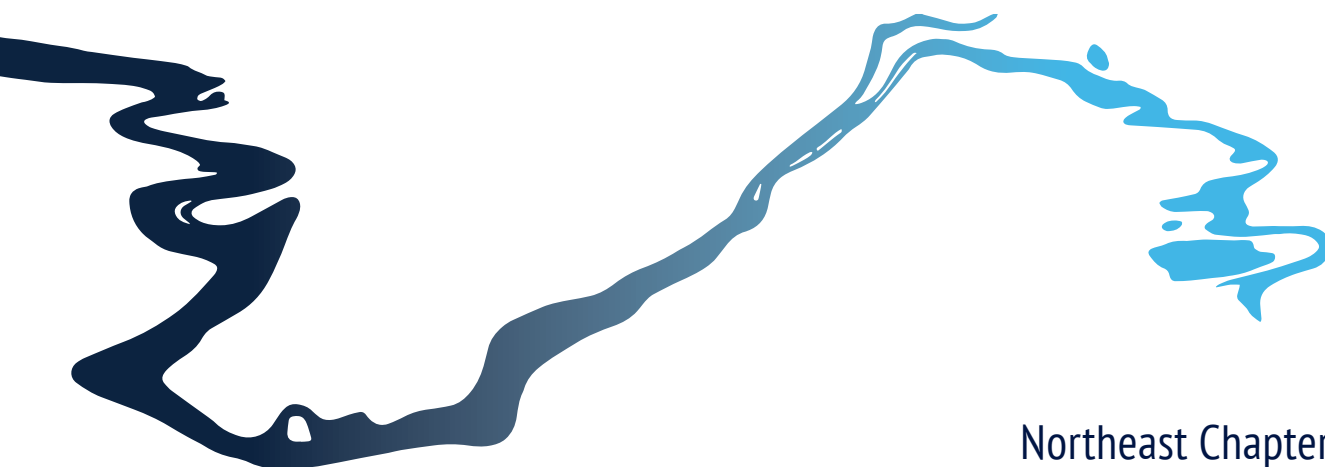


RMS, P.O. Box 5750, Takoma Park MD 20913



Like and Follow Us! @rivermgt society

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



## RMS Journal Submission deadlines:

Summer 2022	Vol. 35, No. 2	Pacific	May
Fall 2022	Vol. 35, No. 3	Alaska	Aug
Winter 2022	Vol. 35, No. 4	Southeast	Nov
Spring 2023	Vol. 36, No. 1	Midwest	Feb
Summer 2023	Vol. 36, No. 2	Southwest	May
Fall 2023	Vol. 36, No. 3	Northwest	Aug
Winter 2023	Vol. 36, No. 4	Northeast	Nov

## Northeast Chapter Focus

Citizens United to Protect the Maurice River .....	1
Crab Pot Recovery in New Jersey .....	4
Tracking Bacteria in the Lamprey River in New Hampshire .....	6
Wander Our Watershed Initiative in Connecticut .....	8
Rainbow Reservoir Cyanobacteria Research, CT .....	9
New Methods of Bank Stabilization in Vermont .....	10
York River Series .....	14
Ohio River Basin Alliance .....	17
Reflections on the Allagash Wilderness Waterway .....	21
Welcome – Pacific Chapter Officers .....	26
Welcome – Midwest Chapter Officers .....	28
A Guide for Multiple Use Waterway Management .....	31
Fort Lewis College – Experiential Learning Programs .....	32