



***Releasing the Ladybeetles:** Staff from McLean Game Refuge release beetles for biological control of hemlock woolly adelgid along a tributary of Salmon Brook in Granby, Connecticut. Photo: Carole Cheah*

The Farmington River: A Case Study in Collaborative Biological Control of Invasive Hemlock Woolly Adelgid

by Carole Cheah

The Upper Farmington River in northwest Connecticut was designated in 1994 as the first Partnership Wild and Scenic River in the nation. It is recognized for its high-quality free-flowing waters, remarkable diversity of wildlife and fish, and its rich history—including numerous archaeological sites that reflect the lives of the original Native Americans inhabitants and the pioneering settlements that followed.

Integral to the enhancement of water quality and preservation of the animal and plant communities along the river are healthy riparian forests, which are important conservation priority areas in Connecticut. Eastern hemlocks, *Tsuga canadensis*, are a strong component of Connecticut's riparian conifer forests, maintaining water quality and temperatures for critical wildlife and fish habitat. A large portion of the forest within the Farmington River's watershed is made up of hemlock trees.

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Executive Director's Eddy

Resources and Partners

This year continues to normalize the context for the terms *unprecedented* and *uncertain!* Impacts you have likely experienced personally or through colleagues include:

- The **mass reduction of staffing** in the federal workforce through the firing of seasonal or probationary workers, as well as the departure of veteran colleagues who chose the ‘best’ of the workforce reduction alternatives
- **Canceled or paused grants** have stalled non-government organizations’ programs that benefit agency programs and personnel.
- **Tariffs** impacting manufacturers who purchase components from other countries. These manufacturers have been stymied by Executive Orders that change monthly, making it nearly impossible to know how to price their products or plan to be profitable.
- **Tourism that has tanked** for outfitters accustomed to welcoming [international visitors](#), particularly those from Canada.

Despite this uncertainty, we have met, reacquainted, and collaborated with many inspiring river professionals who have contributed to our mission with new perspectives and opportunities to develop partnerships. These colleagues have joined us for spring and summer 2025 webinars and monthly River Management Roundtables, or are scheduled to share their expertise this fall.

Hydropower Practitioner Resources: Hannah Volk, working with Susan Rosebrough as a National Park Service (NPS) Fellow, coordinated a thoughtful review of accessibility considerations on and around hydro dams with Christy Churchill, Recreation Manager for Duke Energy’s Hydro and Lake Services and Mark Ivy, Senior Outdoor Recreation Planner at Federal Energy Regulatory Commission. In a second webinar, we learned about a tool that roughly



Risa Shimoda, RMS Executive Director

calculates the value of water that would bypass the turbines to meet non-power public benefits. During the third of three 2025 hydro webinars, Kelly Caslett (American Rivers), Dave Steindorf (American Whitewater), and Kevin Mendik (NPS) offered practical advice to practitioners involved in the daunting dam relicensing process.

Growing New River Enthusiasts and Partners:

Thanks to RMS Board member Chris Geden, we learned about these ambitious, creative, and much-needed programs through some great folks:

- Herman Jenkins, Trails Program Manager for Friends of the Rouge, shared the plethora of non-traditional partner groups he has introduced to his river: how could you not love meeting Detroit’s Black Birders?
- Chris Geden provided insights as to how his Thrive Outside/River City Foundation program introduces river recreation skills and familiarity to St. Louis’ residents who would traditionally never think of recreating on the Mississippi River.
- Melanie Borger, Riversport OKC’s Chief Athletic Officer at the Riversport Foundation in downtown Oklahoma City, has been in every imaginable segment of the city’s

community during her seventeen years. From teens paddling dragon boats to having an opportunity to race in Olympic Sprint kayaks, OKC youth of all types have year-round access to gear and coaching.

- We met Junko Taniguchi, the manager of Soul Trak Outdoors, an amazingly prolific program that connects communities of color to outdoor spaces while building a coalition of diverse outdoor leaders. She discussed a unique partnership with a traditional (i.e., predominantly white) paddling club and river school in the Washington, D.C. area to (1) offer instruction by expert paddlers of color, (2) navigate the commonly-faced transportation and gear-related barriers to learning how to paddle whitewater, and (3) become familiar with the community eager to welcome them.
- Lesford Duncan, the Outdoor Foundation’s Executive Director, shared both the growth of the Thrive Outside Program and anecdotes from his personal perspective as a Black kayaker in an outdoor culture that has a ways to go to be comfortably color blind.
- Zorbari Nwidor, the Executive Director of Chicago Adventure Therapy, described how paddling urban and suburban routes, including trips on the African American Water Trail, promotes healing, builds confidence, and improves mental health among inner-city youth in Chicago.

Water Trails Working Group:

As a follow up to virtual meetings, we appreciate Tali MacArthur, Nancy Stewart, and John Wenck for contributing to the upcoming River Management Roundtables that address topics of interest expressed in past surveys. Panels in the later part of 2025 and through 2026 will address topics such as making water trails more accessible and developing landowner relationships and easements.

River Careers, the Series:

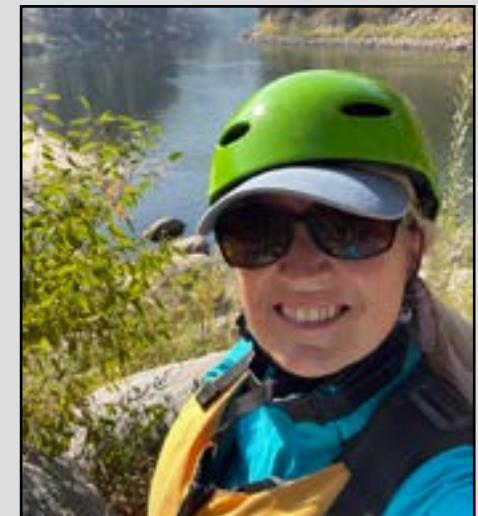
We are thrilled to be offering four sets of panelists from late September to early November whose expert guests will talk about careers that utilize aspects of our River Studies and Leadership Certificate program requirements: GIS, River Safety, Science, and Policy.

Welcome to the RSLC:

Speaking of the River Studies and Leadership Certificate Program, we welcome two institutions—University of Minnesota and University of Maine at Farmington—and their respective RSLC Advisors, Dr. Ingrid Schneider and Dr. Rachel Hovel! ❖

Risa Shimoda
Executive Director

President's Corner



Kristina Rylands, Interim RMS President

Whenever I have the opportunity, I love talking with folks about RMS and my own work as a river professional. Invariably, I get asked how I got into this line of work. Ironically, my story is anything but a straight line! I suspect that many of us may have come into river professions not by way of education or certification, but by pure opportunity, passion, and maybe even luck. It got me thinking that telling our stories of becoming a river professional is important as we look to grow the field and broaden the reach of RMS.

I love telling my story to students and those just getting started in their careers. I didn’t get a degree in hydrology, recreation, biology, or land management. And while I loved being on rivers, I was never a river guide. So how did I get into this field? Ultimately, I was able to channel my passion for rivers into a 30 year career that jumped—from one opportunity to the next. From environmental education, to federal service, to NEPA compliance, to law & policy work, to nonprofit management—my path has been anything but “a line of work.”

As we consider how to advance the field for river professionals, I encourage us to think about the nonlinear paths that have led us to where we are—and share them. As I look back on my career, I realize that the rocks I jumped to and from were touchstones to building a successful career. I am so grateful to RMS for being there as I’ve jumped along my professional path. What’s your story—and how can we as an organization use it to shine a light on the countless ways people can channel their river passions into meaningful careers?

How does one experience build on the next? How can you spot the opportunities that will propel you forward? Who are the mentors along the way that can help illuminate paths you may not have even thought possible? And, most importantly, what do you LOVE? Please consider sharing your “source to steward” story in a column in the *RMS Journal* to feature river professionals’ paths and map the linear and circuitous channels taken. ❖

Kristina Rylands
Interim RMS President

RMS Journal - Northeast Chapter Focus

Northeast by Hannah Volk

Welcome to the fall issue of the RMS Journal! I'm Hannah Volk, an enthusiastic member and collaborator of RMS. You may have seen my name from other RMS initiatives, but today I am filling in for our Chapter President Emma Lord, who has recently welcomed a little one! I'm excited to introduce our region and this issue, highlighting impactful work on our rivers. I hope this fall brings everyone some classic Northeast fall colors, an apple cider donut, and a cozy drink!

The Northeast Chapter is comprised of 12 states (including Washington, D.C.), starting in Maryland, running north to Maine. Here, rivers can range quite a bit in their setting, flowing through everything from large city centers to wilderness areas. Many rivers hold significant historical context (think Washington crossing the Delaware) as well as contain important species (even river otter!) and provide recreation and drinking water to communities.

This issue will cover a number of different pressing topics in the Northeast. We celebrate accomplishments like the first invasive species control program of its kind on the Farmington River (CT) and the 10-year anniversary of the federal Wild and Scenic designation for the Upper Missisquoi and Trout Rivers (VT).

More are creating powerful partnerships for their rivers, like the Paulins Kill (NJ), which is largely stewarded by the Foodshed Alliance. The Anacostia River in Washington, D.C. is also developing ambitious plans for their riverine spaces.

Another topic that is particularly relevant in our region is hydropower. The Deerfield River Settlement Agreement, the first major relicensing agreement in the Northeast, recently reached its 30 year anniversary. Two articles will reflect on this anniversary and what it can teach us for the future. Others are looking to Low Impact Hydropower as a more sustainable and environmental solution.

Recently, the Northeast has also been seeing historic flooding. This issue features Partnership Wild and Scenic Rivers as they foster locally based collaboration in flood-prone communities, including on the Westfield River (MA) and White Clay Watershed (DE, PA). Additionally, our very own Chapter Vice President John Field shares with co-author Jim MacCartney a new technical resource: *Best Practices for Managing Bank Erosion within the National Park Service and National Wild and Scenic Rivers System*.

We hope you enjoy learning about our region and look forward to connecting on the rivers soon! ❖

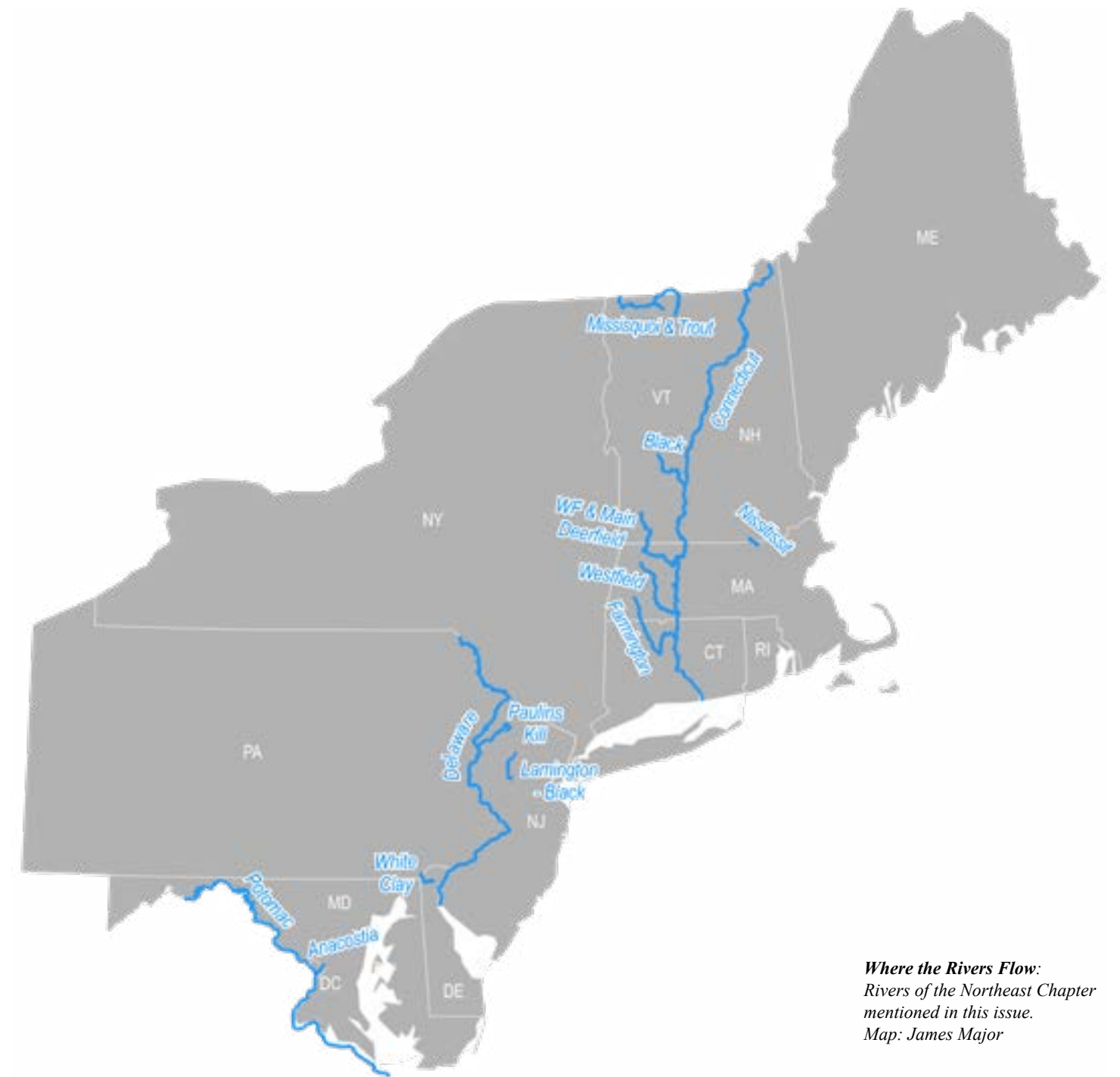


Hannah Volk



Ten Years of Wild and Scenic Designation: Paddling journey on the Missisquoi Wild and Scenic River in northern Vermont, marking the 10th Anniversary of federal Wild and Scenic designation. Story page 17.

Photo: Sarah Lunn



Where the Rivers Flow:
Rivers of the Northeast Chapter mentioned in this issue.
Map: James Major

Editorial Policy Addresses use of Artificial Intelligence (AI)

NEW

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Errata (Editor's Note):

The lead article in the Spring 2025 issue of the RMS Journal (Volume 38, Issue 1) contained a misstatement on page 12 regarding grant proposal authorship. The author played an important role on the project team, but neither conceived nor co-wrote the grant proposal.



Hemlocks are essential to filtering out pollutants and provide incomparable shading and thermoregulation of cold-water tributaries that flow into the Farmington River, which is home to native brook trout, stocked trout, and rare salamanders.

However, an exotic invasive insect, the hemlock woolly adelgid (*Adelges tsugae*), threatens the survival of susceptible Eastern hemlocks throughout their range in eastern North America. The hemlock woolly adelgid hails from Japan, is a highly damaging insect accidentally introduced into Virginia in the 1950s, and has since spread to 20 eastern states and parts of Canada. It attacks Eastern and Carolina hemlocks; rapid buildup of adelgid populations can quickly deplete the hemlocks' reserves and ability to put out new shoots. Over a few years time, repeated damage and stress from woolly adelgid attacks can lead to significant tree decline and death—especially in conjunction with other pests, drought, and stressed growing sites.

For over three decades, I have been researching the hemlock woolly adelgid at the Connecticut Agricultural Experiment Station and implementing biological control efforts in Connecticut using *Sasajiscymnus tsugae*, a tiny (2 mm long) specialist ladybeetle predator introduced from Japan.

This ladybeetle is a primary predator of hemlock woolly adelgid in its native Japan. Both adult and larval stages reproduce and feed on all developmental stages of hemlock woolly adelgid. In fact, Connecticut was the first state to rear and release thousands of this species to mitigate adelgid damage to hemlock trees.

Connecticut's hemlocks have benefited from the statewide application of this biological control strategy for over 30 years. The state does not use chemical treatments to manage woolly adelgid populations, yet its hemlock resource remains stable even 40 years after the arrival of hemlock woolly adelgid.

In the past five years, this biological control strategy has greatly expanded through partnerships between state and private collaborations, including towns, land trusts, bird sanctuaries, water companies, game refuges, partnering with [Tree Savers](#) of Jermyn, Pennsylvania, a commercial supplier of the ladybeetle,

The Farmington River watershed is an example of the first Hemlock Woolly Adelgid Biological Control Program of its kind. Multiple years of ladybeetle releases to manage woolly adelgid on a landscape scale have been implemented along many miles of the main stem and tributaries in all 14 member towns through the support of the Farmington River Coordinating Committee (for the Upper Farmington River) and the Lower Farmington River and Salmon Brook Wild and Scenic Committee. Both Committees receive federal funding from the National Park Service to support conservation in the Farmington River watershed. In a period of five years, the combined efforts for both the Upper and Lower Farmington River watershed have benefited from the federally funded release of over 43,000 ladybeetles, supplemented with the generous donation of over 5,000 ladybeetles from Tree Savers during a surplus-rearing year in 2024.

The control strategy involves detailed knowledge of hemlock woolly adelgid survival after unpredictable New England winters, as well as thorough scouting of riparian hemlock stands to identify and target concentrations of viable woolly adelgid. The ladybeetles are hand-delivered from the Tree Savers rearing laboratory in Pennsylvania and, weather permitting, released with the help of volunteers from land trusts, neighboring towns, and other members of the public, alongside state personnel from parks, forests, and wildlife divisions. The sites are monitored in subsequent years and augmented with more ladybeetles, if necessary, but the emphasis is on expanding releases into new areas to increase coverage. This predator species has overwintered well in Connecticut, and has been shown to

Upper Farmington River, Connecticut:
The Farmington River is appreciated for its accessibility for high recreational use and is one of the top fly-fishing destinations in the country. In 2019, nearly 62 miles of the Lower Farmington River in Connecticut and its major tributary, Salmon Brook, received similar designations. Through federal funding from the Wild and Scenic Rivers Act of 1968, over 77 miles of the Farmington River and its watershed have received important resources to help conserve, protect, and preserve this stunning riverscape for generations to come.

Photos: Carole Cheah

establish and spread in earlier studies. Hemlock recovery and persistence has been documented in many other *ladybeetle* release sites throughout the state of Connecticut.

The goal is to combat and reduce the ever-present threat of new invasions of hemlock woolly adelgid from unmanaged areas and help preserve hemlocks, especially in ecologically sensitive riparian corridors without resorting to the use of neonicotinoid chemicals. The Farmington River Hemlock Woolly Adelgid Biological Control Program is achieving this by developing, coordinating, and implementing this collaborative approach throughout the watershed, uniting volunteers and staff from diverse backgrounds in a shared vision to safely protect and sustain our irreplaceable Eastern Hemlock resource. This expansive Hemlock Woolly Adelgid Biological Control Program, aimed at protecting and treating publicly-accessible hemlock trails, recreation areas, riparian forests, and wildlife refuges, has been implemented with the cooperation of many partners. We acknowledge the fundamental and critical role that federal funding support from the National Park Service has played and we hope this project can be an inspiration and framework for the protection of other threatened watersheds. ❖

Carole Cheah is a research entomologist with the [Connecticut Agricultural Experiment Station](#) in Windsor, Connecticut.



Invasive Infestation: Hemlock woolly adelgid feeding on a hemlock.



Bundle of Biological Control: Ladybeetle bundles released along the Farmington River.



Ladybeetles After Release: Ladybeetles feeding on hemlock woolly adelgid.



Welcome to the Paulins Kill



by David de Wit

Born approximately 10,000 years ago from the meltwaters of the retreating Wisconsin Glacier, the Paulins Kill flows through the northwest corner of New Jersey to the Delaware River, giving life to diverse freshwater aquatic and terrestrial ecosystems. A local rebirth of concern for its preservation has spawned activities and actions that promise to ensure its place as a keystone of the Delaware River Basin conservation efforts.

In partnership with a variety of municipal and nonprofit entities, the Foodshed Alliance has become a principal steward of the watershed, ensuring the Paulins Kill endures as a regional treasure. Why is an organization primarily involved with farming and food access and distribution fostering a conservation initiative?

The Alliance believes that the management of farms, food, and the environment is a holistic enterprise. Meaningful and lasting progress is only possible when all three subjects are addressed collectively. Without programs to preserve and protect the entire watershed ecosystem, efforts to encourage and husband small acreage, restorative farming will be imperiled. Hence, the Paulins Kill Watershed Community was established as a program of the Foodshed Alliance.

The Paulins Kill Watershed Community presentations and activities are diverse and comprehensive, always stressing that the entire watershed is connected to the health of the river. Educational outreach by word and deed comes first. Our next generation is encouraged to put away their cell phones and apply appropriate technology while experiencing activities both in the river's waters and upon the watershed lands. Learning that the Paulins Kill is alive and how to parent its future are life lessons not soon forgotten.

The public is invited to explore the many natural areas throughout the watershed. Hunting, fishing, biking, hiking, birdwatching, kayaking, or just quiet reflection from a favorite spot, is enjoyed by increasing numbers of people.

Enjoyment of the outdoor treasures found in the watershed is not enough. The Paulins Kill Watershed Community science programs collect on site data about the status of our existing resources. Training a cadre of volunteers to measure common pollutants like road salt and excess nutrients is an ongoing program. River macro-invertebrate sampling is another program informs us of the quality of our waters through time. Bug abundance and diversity equals healthy water quality. Science-based discussions are encouraged with government, civic and nonprofit groups. Beneficial decisions for the future of our watershed depend on considerations from many perspectives. Partnering with diverse groups, such as The Nature Conservancy and the Sussex County Municipal Utilities Authority, in many ongoing projects increases public support. The Friday Floodplain Forestry project assists in management of more than 35,000 trees planted



Images: David de Wit and the Paulins Kill Foodshed Alliance

along the riverbanks. As the river bank forests grow they will mitigate flooding, shade our waters, and prevent erosion.

Bringing the conservation message to local farmers is paramount. The River Friendly Farm Certification promotes environmentally friendly farms, and recognizes farmers who are good stewards of their land and adjacent water resources.

The Foodshed Alliance's latest initiative focuses on obtaining Congressional designation for the Paulins Kill as a Partnership Wild and Scenic River, which is our nation's strongest form of protection for free-flowing streams and rivers. Whatever the shifting winds of concern over conservation and environmental change bring about, we are committed to moving forward with management planning of our watershed that is beneficial and sustainable. The Foodshed Alliance finds the mission of the River Management Society (RMS) to be closely aligned with our goal of seeking a Partnership Wild and Scenic designation for the Paulins Kill. Through RMS membership programming, we are gaining the knowledge and preparation needed for a role we hope to soon play on a future Partnership Wild and Scenic Paulins Kill Management Council.

Each day growing numbers of people become more engaged and involved with saving the Paulins Kill river and its resources. However, pressures to develop the watershed at a breakneck speed increase daily. Working with our essential industries and businesses, we can together plan for sustainable development. Vacant farmland can be seen as more than only a great place for a multi-home development, or an ideal location for warehouses and data centers.

Understanding the almost pristine river and adjacent watershed we now enjoy, calls upon us all to guard the promise of a safe and ecologically sound landscape for future generations. For more information visit: FoodshedAlliance.org/Programs/Paulins-Kill-Watershed ❖

David de Wit is a Watershed Program Assistant for the [Paulins Kill Foodshed Alliance](https://FoodshedAlliance.org) in Hope, New Jersey.



The Deerfield Legacy

by Tom Christopher

30 Years Post Relicensing

When the operating license for the eight Deerfield River dams in western Massachusetts (MA) came up for relicensing in the late 1980s, a small group of kayakers and other paddlers reached out to the New England Power Company (NEP) to request six or seven days of whitewater releases during the summer months. The group was summarily dismissed by NEP staff, who stated, “These are our dams, our water, and our land. If you want whitewater, go build your own dam on the West Branch—it doesn’t have any dams.” This authoritarian rejection set in motion a unified effort by paddlers—and eventually other stakeholder groups—to challenge the issuance of a new license. Led by New England FLOW (FLOW), and over the course of several years of public hearings and meetings, other regional groups coalesced into a force that could not be ignored by the power company or state and federal agencies. By 1990, NEP had no choice but to begin working through an extended relicensing process, then described as the “traditional licensing process.”



This challenge raised concerns throughout the country, and unfavorable news traveled quickly among dam owners. For river lovers and environmental organizations, it was good news. In 1992, while the Deerfield negotiations were ongoing, David Conrad of the National Wildlife Federation organized a conference in Washington, D.C., where like-minded individuals and environmental organizations gathered to discuss how dam relicensing could provide opportunities to advance their respective interests. In 1993, some of these participants met in Watertown, New York for a river trip on the Black River. In 1994, the Hydropower Reform Coalition was formed and established its base in Washington, D.C.

While this was taking place, the Deerfield stakeholder groups and NEP remained actively engaged and were on the threshold of signing the first settlement agreement in the Northeast. On October 5, 1994 thirteen parties gathered together on the banks of the Deerfield River to sign the Deerfield Settlement Agreement. Signatories included:

- New England Power Co.
- National Park Service
- US. Fish & Wildlife Service
- MA Department of Environmental Protection & MA Division of Fisheries & Wildlife
- American Rivers
- Appalachian Mountain Club
- Deerfield River Compact
- New England FLOW
- American Whitewater
- Conservation Law Found
- Trout Unlimited
- Deerfield Watershed Association
- U.S. Environmental Protection Agency



Deerfield Settlement Agreement October 5, 1994

Today, relicensing is an ongoing federal process throughout the U.S., and it is important to understand some of the key elements established by the Deerfield Settlement Agreement. Noted below are a few of the articles and terms provided in the agreement that make this first negotiated settlement so unique and impactful:

For recreational boating:

- 32 whitewater releases in the Monroe Bridge Section
- 106 whitewater releases in the Fife Brook Section
- Improved access for put-in and take-outs
- 24-hour daily accessible flow information

For Fishing:

- Increased minimum flows to 75 cfs in the Monroe Section
- Increased minimum flows to 125 cfs in the Fife Brook Section
- Improved fish passage at various locations

For Conservation and Land Protection:

- Protective easements on 18,000 acres
- \$100K trust fund for watershed conservation
- Low impact recreational, educational, and planning
- Construction of new picnic areas and improvement of existing ones
- Decommissioning funds for project retirements
- Seasonal drawdowns for loon breeding season
- Riparian corridor for water quality protection
- Protection of the endangered tubercled orchid (*Platanthera flava*)

One component to the Deerfield Settlement Agreement held unique importance for the partners: the potential use of a re-opener clause. If, for whatever reason, a partner to the agreement desired to change an element of the agreement, then all stakeholders would have to agree.

This became important several years after the agreement was signed when NEP was asked to provide (i.e., sell) water from the Deerfield River for snowmaking at Vermont’s Mount Snow. The ski area was an important economic driver for the region, but this snowmaking attempt was halted due to concerns that removal of water from the river could negatively affect various life stages of aquatic species.

Mount Snow also proposed a project that would entail the construction of a pipeline from Somerset Reservoir through forest land that was protected by the settlement agreement. The conservation easement was held by the Vermont Land Trust. Although the project was supported by state and federal agencies and was touted as an important economic benefit for the region, New England FLOW objected to the sale of water that might limit or eliminate summer flows for recreational boating. Mount Snow and others posited there would be no effect on reservoir levels because mountain runoff would replenish them during the spring season. However, FLOW provided expert testimony highlighting that New England variable weather patterns would result in the loss of approximately thirty-five percent of snowmaking precipitation from the Deerfield watershed area due to runoff or sublimation. With veto power over the re-opener clause, FLOW successfully prevented any changes to the settlement that could disrupt the negotiated flows.

After six years of meetings, environmental studies and analysis, on October 5, 1994, thirteen stakeholders executed the Deerfield Settlement Agreement. There was a sigh of relief as each stakeholder signed the agreement, and then jubilation as the once battle-hardened warriors finally worked together to achieve a goal that could not have been achieved without each other working together. However, there was no guarantee that the FERC would approve Settlement Agreement, or, if they would incorporate the terms of agreement into license articles. It is safe to say that, for the first time in history, pro-industry FERC shifted slightly and left the agreement terms relatively untouched. As he led his armies across the Rubicon to enter Rome, Julius Caesar declared, *alea iacta est* (“the die is cast”). Similarly, a new era of relicensing was born; the settlement parties all breathed a sigh of relief, and, for the first time, the public interest was served.

As years progressed following the signing, the Deerfield Settlement Agreement would have other long-lasting positive effects on the regional economy and on many individual lives. Summer weekends now bring thousands of river enthusiasts to enjoy the river and spend dollars in the region. As one kayaker expressed to me at this year’s Deerfield River Festival, “The Settlement Agreement has brought twenty years of joy to my life.” It doesn’t get any better than that.

Epilogue:

Late last year, I received an unusual email from Pablo Pineda Perez, a senior at Dartmouth College. He was in the process of writing his senior thesis and had opted to write about the Deerfield Settlement and its effects. I agreed to a phone interview, and later to a personal visit, and asked him about his studies. As it turned out, Pablo was an anthropology student and kayaker, and he wanted to write about how the Deerfield Settlement Agreement had affected the lives of folks and their connection to the Deerfield River. Of course, I agreed to participate as long as I received a copy of the final work. After all, who doesn’t like to read about themselves?

His work, *Dwelling With the Deerfield*, is an assemblage of interviews with nine individuals whose lives have been inexorably changed by their relationship with the Deerfield River since the Deerfield Settlement Agreement. He dives deeply into each character and extracts quiet and hidden emotions that you would not expect people to have with a geographical feature. These are not just interviews, but carefully woven stories that reflect strong emotions that are connected to the Deerfield River. It is a well-written piece as an academic exercise; however, as a storyteller, he is engaging and insightful, as his subjects reveal much more about themselves than they realize. I am grateful to have had the opportunity to help with Pablo’s endeavor, and surprised that I was willing to reveal so much about my own personality and motivations. It’s a great read and perhaps will make you think about your own relationships with your favorite river. ❖

Dwelling with the Deerfield

Pablo Pineda is a recent graduate of anthropology from Dartmouth University. His senior capstone thesis is on the Deerfield River; the 1994 Settlement Agreement, and the effect that action had on future generations.

To read the entire thesis, please contact Pablo at pablo.a.pineda.perez@gmail.com

Reflections and Excerpts from an Anthropological Capstone Thesis

by Pablo Pineda

Descending from its headwaters in the Green Mountains to its confluence with the Connecticut River in Western Massachusetts, the Deerfield River carves through land and life, stitching together its landscape and its people. Today, it is among the most heavily dammed rivers in the United States, with a dam roughly every seven miles. At the same time, it is a hub for New England outdoor recreation—whitewater kayaking and fly fishing in particular—placing the river on a seam between the natural and the engineered.

Often the Deerfield’s present form belies its past: bridges blend between banks; regulated releases replace rainfall. This became apparent as I began to study the river and its people ethnographically with a project supported by the Anthropology Department at Dartmouth College.

I first came to the Dryway—the Deerfield’s premier Class IV run—as a paddler, and I found a rare New England river that flowed predictably for at least half the year, offering a fantastic place to test and improve my abilities. But the more time I spent on the run, the more I began to notice that my experiences with the river were entirely mediated by its industrial legacies. Like so many others, I came in search of a wild experience, only to discover I was paddling in one of the most regulated rivers in the country. Yet even when flow is governed by turbines and schedules, the river still offers surprise and joy in the everyday practices of being with the river: paddling its rapids, casting into its eddies, teaching on its banks, gathering around it to tell stories, returning season after season, and calling it home. In the steady, predictable cadence of release and return provided by the Deerfield’s regulation, personal identities and collective histories converge, and the river becomes not simply a natural or industrial landscape but a lived, relational space simultaneously shaped by infrastructure, recreation, memory, and emotion. Living within this cadence gives room for encounters hard to define. Such moments often elude full explanation; their meaning is felt rather than articulated—an ineffable quality that reinforces the sense of wonder people describe. As a kayaker, I’ve felt this too: the quiet, visceral recognition of a grounding joy that arrives in the flow of a river—difficult to explain, but deeply known in the body—made possible by the very machines built to harness, regulate, and monetize the river’s power. Releases coordinated by owners are the reasons paddlers can show up week after week, year after year, knowing the river will rise and what it has to offer. What emerges is a river that blurs the boundaries between natural and artificial, and one whose meaning emerges not in spite of its regulation and industrial history, but through it. Its identity is co-constituted by these supposedly incongruent forces, becoming a place where affect, access, and attachment are structured by flows—of water, history, and care. That is the paradox that animates the Deerfield: it is a river so structured, so controlled, and can still feel wild, present, and alive.

This paradox is constantly lived and negotiated. In conversations with people who use the Deerfield, their affection and attachment to the river surfaces in surprising ways. They speak about the Deerfield with a warmth that transcends fixed expectations and differing opinions. What binds them to the river is a persistent thread: love, a current of attachment strong enough to bridge the differences between not only the expectations of an “ideal” wilderness and the realities of the present, but also the distance between stakeholder groups and the interests they hold apart.

Love emerged as a connecting force linking people to each other and to the river—a quiet, practiced, and enduring love shared in everyday encounters created over time and affirmed in mutual sentiment. It lives in motion: in the passing down of local knowledge under a bright vise, in the laughter of those telling stories that reignite vibrant memories, in the spreading of ashes in eddies that gave life meaning, and in the promise of return. The experiences that populated this project—sitting across from anglers as they carefully craft flies, standing quietly together in the hush of the snow, listening to the introspective voices of those describing their past selves—taught me to love this river by seeing it through the eyes of another. I certainly felt, as one expressed, that “river people tend to get along because we’re all in love with the same thing.” Intersubjectivity made space for love to permeate people’s connection to the river in all of its proximity, vulnerability, and presence. The river is a mode of connection between those who encountered its waters. I was held by this connection, this love—the same love that I’d imagine connects all throughout this journal.

But love and presence alone do not guarantee continuity. “Time passes and people forget,” Tom Christopher reminds me. His story is entangled with the river’s, connected by the same temporal forces that carve people and watersheds alike, traced into one another. When he returns to the river each day, many pass by as they have for three decades: some pause to thank him—he was the reason the river ran—while most move by with a kind indifference, separated from this history by a generation or two. Now over thirty years removed from the Deerfield Settlement Agreement—the original agreement that gave this river a cadence by which it lives today—many of its signatories have passed on. With them pass the stories of the fight for the Deerfield and the memories of a river past. Tom’s fight for the Deerfield was long and hard; the fight against forgetting endures, steeped in communities he once fought with and for. The passage of friends and time enables the stories of struggle, progress, and protection to wash out, consumed into the beautifully inconspicuous features and water of this river increasingly taken for granted. Scheduled releases are mistaken for seasonal

regularity rather than determined negotiation. The river that flows when it should is experienced as a given. The fight becomes footnote, and the engineered becomes the innate.

This is what’s at stake. In the friction of generations, we must not let the status quo silence the constant struggle to protect our waterways. As the current federal administration continues to roll back environmental protections, there is a growing risk that rivers like the Deerfield will only be seen through their lens of easy economic utility—divorced from histories of activism, sacrifice, negotiation, and collaboration that made the river accessible in the first place. As we turn ahead in a world of mounting climate change, deteriorating infrastructure, and diminishing federal safeguards, the lessons from the Deerfield are increasingly urgent. We must focus not on returning to an imagined, idyllic past, but on reckoning with the entangled present in which we dwell.

And still, even amid forgetting, even as policy shifts and time thins memory, the river lives. People return to the Deerfield. They cast lines, paddle, teach, and listen; the river continues to shape those who move with it. To love the Deerfield is to not only remember, but to remain present—to be attuned to its flows, its histories, and its futures. Rivers like the Deerfield resist fixed histories, neat categorizations, and preconceived expectations, so to govern and live with water requires equal nuance, humility, and love. That is the challenge: to honor the affective truth of what water, place, and people do to one another. ❖



Deerfield River recreation today. Photo: Tom Christopher

The Lamington-Black River: *Is it Really Black?*



Waterfall on the Lamington-Black River: Tannins are the culprit for the river’s dark hue and eligible Wild and Scenic status.

Words and photo by Nathalie Negrete

At first glance, the Lamington-Black River, located on the border of Somerset and Hunterdon Counties in New Jersey, may appear to be highly polluted due to its rich brown coloration. However, this visual impression is misleading. The river is, in fact, quite healthy. Its dark hue is not a result of contamination, but rather to a natural phenomenon known as blackwater.

In 1982, the Lamington-Black River was listed on the Nationwide Rivers Inventory for being free-flowing and possessing at least one Outstandingly Remarkable Value. This designation of eligibility for Wild and Scenic status highlights and emphasizes the river’s ecological significance and natural integrity.

So, what exactly is blackwater? When water percolates through decaying organic matter—such as leaves, bark, and fruit—tannins dissolve and are transported into the water through a process known as leaching. It is similar to the process of brewing tea, although the coloration may resemble tea, the river water is not suitable for consumption. The flavor will not come close to or be as tasty as your morning Earl Grey. Black water becomes apparent in rivers due to the level of tannins that build up because of high concentrations of dissolved organic matter.

We know that tannins are the culprit for the dark hue of this river, but what are they? Tannins are natural polyphenols, plant-based antioxidants, found in various plants, including bark, seeds, leaves, and fruit skins. They play a vital role in chemical ecology, contributing to plant defense mechanisms against pathogens, herbivores, and environmental stressors.

Tannins are also prominent in the food, beverage, and medicine industries. Particularly in winemaking, tannins occurring in grape skins, seeds, and stems influence the color, texture, and flavor profile of wine during fermentation.

While the river’s coloration is striking, it is far from its only notable feature. The Lamington-Black River is a valued recreational resource for local communities. Raritan Headwaters Association, a nonprofit dedicated to protecting water quality in the region, has mapped several unofficial water trails along the Raritan Headwaters. These trails include public access points and some general information on difficulty level, portage, distance, and estimated travel time. However, these trails are informal, often located on undeveloped shoreline or roadside pull-offs that accommodate only one or two vehicles.

Beyond paddling, the river corridor offers a range of recreational opportunities. Visitors can hike through a natural gorge starting at the Kay Environmental Center, observe wildlife in the Black River Wildlife Management Area, or explore local history at the Cooper Grist Mill. Built in 1862, the mill harnesses the river’s flow to grind flour using traditional waterpower. In the spring, visitors can witness the mill in operation and even purchase freshly milled flour.

Whether you’re seeking active recreation or a peaceful retreat into nature, the Lamington-Black River offers a unique blend of ecological richness, scenic beauty, and cultural heritage. ❖

Nathalie Negrete is a River Conservation Fellow for the National Park Service’s [Partnership Wild and Scenic Rivers Program](#).

Washington D.C.’s Ambitious Plans for the Anacostia River

By Risa Shimoda

Early this summer, RMS was contacted by Program Analyst Brent Peterson and Waterways Administrator Kara Pennino, team members of the newly established Office of District Waterways Management. This office is part of the Partnering and Engagement Branch within the Watershed Protection Division under the Department of Energy & Environment in Washington, D.C. They had discovered RMS by accident during an online search for river management-related resources.

Their group spearheaded the development of an impressive Anacostia River Corridor Restoration Plan (ARCRP), a three-year restoration planning project for the Anacostia River corridor within the District of Columbia. The plan identified and prioritized specific strategies for restoring fish and wildlife habitat, improving water quality, adapting to climate change, and increasing equitable public access to the river corridor.

The project included robust engagement efforts to foster strong community consensus around the plan for the Anacostia River’s future. The final report was released in November 2024. The Anacostia River Corridor Restoration Plan is posted online at <https://restoretheanacostiariver.com/> and includes:

- [Anacostia River Corridor Restoration Plan](#)
- [Anacostia River Corridor Restoration Plan Appendices](#)

We appreciate that Brent and Tara got in touch, look forward to hearing how they are moving forward, and will be planning a Northeast Chapter river trip with them at or on the Anacostia River so they can point out key plan components in 2026! ❖



Office of District Waterways Management

Mission: The Office of District Waterways Management was created by the Council of the District of Columbia (D.C. Law 24-336) to plan, promote, advocate for, and facilitate stakeholder cooperation for the diverse uses of and access to the Anacostia and Potomac River, the Washington Channel, and adjacent property. In particular, the Office seeks to facilitate better communication between the District, Maryland, Virginia, the federal government, businesses, community organizations, and the public on matters of public safety, the environment, recreation, and transportation.

The primary tasks of the Office are to:

- **Establish a District Waterways Advisory Commission:** This Commission will comprise 30 members: 14 voting members appointed by the Mayor and Council of the District of Columbia and 16 non-voting members representing District and Federal agencies. It will be responsible for drafting and adopting a District Waterways Advisory Plan.
- **Create a District Waterways Advisory Plan:** This Plan will set out a strategic vision for the navigable waterways in the District of Columbia and will address topics ranging from public safety, regional coordination, and environmental conservation to economic planning, waterborne transportation, and opportunities to increase local control of the District’s waterways and adjacent land.

Status: The office is currently working with the chairman of the council and the mayor to identify and appoint commissioners. Additionally, the office is in the final stages of engaging a consultant to facilitate Commission meetings and assist in the drafting of the Waterways Advisory Plan. They hope to begin commission meetings in fiscal year 2026.

Summarized from ODWM’s website:
<https://doee.dc.gov/service/odwm>

Partnership Wild and Scenic Rivers: Building Flood Solutions for the Long Term

by Evelyn Moreno

The [Partnership Wild and Scenic Rivers Program](#) (PWSR) of the National Park Service protects nationally significant rivers through locally based collaboration. In flood-prone communities, the program supports projects that strengthen river corridor resilience while preserving the free-flowing character and ecological value of these treasured waterways.

In western Massachusetts, the [Wild and Scenic Westfield River Committee](#) is leading a robust effort on the Westfield River to replace failing culverts across 10 towns. The effort is upgrading infrastructure to handle heavier rainfall, improve roadway safety, increase the hydraulic capacity at stream crossings, and enhance aquatic and terrestrial habitat for wildlife. With federal funding and support from PWSR, the committee has built a strong program that provides small towns with technical assistance and grant writing support. In partnership with The Nature Conservancy, the Pioneer Valley Planning Commission, and local communities, five culvert replacement projects have already been completed, with 21 more advancing through engineering and construction.

Meanwhile, the [White Clay Watershed Association](#) is partnering with Drexel University to develop a comprehensive [flood model for the White Clay Creek watershed](#), a National Wild and Scenic River spanning 14 municipalities in Pennsylvania and Delaware. With partial funding from the National Park Service, and in collaboration with local and state agencies, the project is using hydrologic modeling to simulate flood scenarios ranging from seasonal storms to extreme weather events. The study will identify where and why flooding occurs, assess infrastructure vulnerabilities, and prioritize strategies to reduce risk. Building on listening sessions held after repeated evacuations in the Avondale Borough, the project reflects local concerns and aims to provide residents, landowners, and decision-makers with actionable information to help reduce flood impacts and build a safer, more resilient watershed. ❖

Evelyn Moreno is Communications Specialist for the National Park Service - Rivers, Trails, and Conservation Assistance Program.



Completed Culvert Replacement on the Westfield River: A culvert designed to improve flood resilience and restore aquatic connectivity for fish and wildlife.
Photos: Andrew Petit de Mange



Missisquoi Wild and Scenic River 10th Anniversary

Words and photos by Sarah Lunn

To celebrate 10 years of federal Wild and Scenic designation, the Upper Missisquoi and Trout Rivers (UMATR) Wild and Scenic Committee embarked on a week-long paddling journey in June 2024, traveling all 46.1 miles of the designated rivers in northern Vermont.

UMATR staff and Committee members guided over 100 members of the public along stretches of their rivers to commemorate the achievement of gaining designation, and to explore sections of their extraordinary waters. Seven days of paddling covered all 46.1 miles:

- **Day 1:** June 6 (~12.5 Miles)
Lowell Town Line to River Road, Troy
- **Day 2:** June 7 (~4 Miles)
Missisquoi Gorges
- **Day 3:** June 8 (~4 miles)
Big Falls to CA Border
- **Day 4:** June 9(~6 miles)
East Richford to Davis Park
- **Day 5:** June 10 (~6.5 miles)
Davis Park to East Berkshire
- **Day 6:** June 11 (~6 miles)
East Berkshire to Enosburg Falls
- **Day 7:** June 12 (~6 miles)
Trout River

In addition to hosting these public paddles to celebrate the milestone, UMATR was also joined by documentary filmmaker, Duane Peterson III. This film follows this paddle journey, weaving together the story of the foundational moments of the UMATR Committee through interviews with the founding members and current staff who manage the organization. The documentary is scheduled for public release in late 2025; however, UMATR hosted a premiere for the trip's paddlers at Jay Peak Resort in June 2025.

UMATR looks forward to sharing the film and the possibilities the Missisquoi and Trout rivers have to offer! Read more about their trip on their website at www.umatrvt.org/2024sojourn. ❖

Sarah Lunn is Project Manager for the Upper Missisquoi and Trout Rivers Wild & Scenic Committee.



Low Impact Hydropower: Putting People and the Environment First



*Low Impact Hydropower Institute Project #19:
Hailesboro No. 3 Project, New York.
Photo: Patriot Hydro, LLC*



*Low Impact Hydropower Institute Project #200:
Monroe Drop, Oregon.
Photo: Natel Energy*

by Shannon Ames and Whitney Stovall

Hydropower impacts thousands of rivers nationwide, but the effects are not universal, as no two hydropower plants are alike. They differ in their potential impacts—ranging from habitat loss and upstream flow regulation to landscape changes, water quality issues, barriers to aquatic species, greenhouse gas emissions, impacts to recreation, and changes to natural river flows.

While these effects can be significant, they can also be addressed, reduced, or even eliminated over time. The Low Impact Hydropower Institute (LIHI) offers a powerful tool for communities, advocates, and agencies to engage with hydropower operators and push for meaningful improvements.

Championing Rivers Through Certification

LIHI is a 501(c)(3) nonprofit organization founded in 1999 through the efforts of individuals and organizations committed to protecting rivers, including American Rivers, the Center for Resource Solutions, and Green Mountain Energy.

With a mission of recognizing and supporting hydropower operations that prioritize environmental, recreational, historical, and cultural resource protection, LIHI not only defines what qualifies as low impact hydropower and certifies facilities that meet this definition. It also identifies market opportunities that provide financial rewards for certification.

In the Northeast, a certified facility can earn up to \$25 per megawatt hour in additional revenue. In the Northwest, certification can generate between \$3 and \$8 per megawatt hour, depending on renewable energy credit market prices.

LIHI’s certification process is transparent and participatory, inviting public comment from state and federal agencies, Tribes, local residents, watershed groups, and outdoor recreationists. Anyone with a connection to the affected river can contribute input, which is incorporated into the decision-making process. Public feedback often leads directly to additional conditions being placed on certifications, ensuring ongoing accountability and environmental stewardship.

Defining Low Impact Hydropower

LIHI evaluates each facility seeking certification through a comprehensive framework that considers the river as a living system intertwined with cultural and community values. At the core of this framework is the expectation that hydropower operations sustain the natural flow of the river, supporting the health of aquatic habitats and the species that depend on them. Facilities must also maintain water quality that meets or exceeds state standards, protecting both ecological integrity and human use. Fish passage is another critical element—migratory species, if present, must be able to move freely upstream and downstream, and resident fish must be safeguarded from unnecessary harm. Beyond the water itself, certified projects are expected to care for the surrounding shoreline and watershed, preserving soils, vegetation, and the broader ecosystem.

The framework also demands that operations protect threatened and endangered species, as well as cultural and historic resources, ensuring that heritage and biodiversity are preserved for future generations. Finally, LIHI emphasizes the importance of keeping rivers accessible to people, requiring that certified facilities provide public and traditional cultural access without fees, reinforcing the connection between communities and the waterways that sustain them.

When a facility applies for certification, it provides documentation proving that it meets each criterion. This might include evidence of no measurable impact, compliance with the most stringent agency recommendations, independent studies comparing local data to state standards, or formally approved action plans (Figure 1).

These criteria closely align with the review areas considered by the Federal Energy Regulatory Commission (FERC) during hydropower licensing. This alignment is important because comments to FERC must directly address the project’s impacts; LIHI’s framework gives stakeholders with a clear structure for making those connections.

FERC oversees the licensing of most U.S. hydropower projects, a process that can span decades and involves a comprehensive review of environmental, technical, and social factors. Using one

of three licensing pathways—the default Integrated Licensing Process, the Traditional Licensing Process, or the Alternative Licensing Process—FERC works with agencies, tribes, stakeholders, and the public to evaluate project impacts under the National Environmental Policy Act (NEPA) and other federal laws, such as the Clean Water Act and Endangered Species Act. While FERC’s licensing process sets the legal baseline for hydropower operations, the LIHI certification builds on this foundation by applying a focused, science-based framework that measures performance. As LIHI criteria align closely with FERC’s areas of review, stakeholders can use the LIHI framework to shape license provisions and encourage higher environmental standards, ensuring that hydropower facilities not only meet regulatory requirements but strive for best practices that protect rivers and communities over the long term.

While FERC licensing documentation is the primary means of proving compliance with the LIHI criteria, they aren’t necessarily sufficient. Sometimes FERC’s mandate to balance grid needs and resource agency requests results in inadequate protections that would not meet LIHI standards. In these cases, voluntary actions must be taken by the applicants to meet the criteria such as adding fish passage, changing flow regimes, or improving recreational facilities.

Putting LIHI’s Framework into Action

One common mistake in hydropower licensing is entering the process with a fixed solution rather than a clear goal. It is far better to define your desired outcomes first, then work collaboratively to find the best path forward. Hydropower owners make decisions with costs in mind, so the more you can link your requests to cost savings or potential revenue gains, the more receptive they will be. This requires balancing ambition with practicality—being assertive while framing proposals in ways that make economic sense for the operator. This also leaves room for creative solutions on both sides.

The LIHI framework can help strike that balance, serving as a valuable tool not only for hydropower facility owners but for anyone invested in the health of a river. Through a structured science-based criterion, advocates can identify specific solutions and improvements, while also presenting solutions that are both environmentally sound and operationally feasible.

In studying the LIHI Handbook, advocates can deepen their understanding of the potential impacts of hydropower operations

and explore proven strategies for reducing or eliminating harm. This knowledge equips them to examine license applications critically, comparing proposed provisions against LIHI’s standards and questioning the sources, methods, and data behind key decisions. When new licenses are issued, stakeholders can press facility owners to pursue LIHI certification, ensuring that environmental protections are embedded in the project’s operations from the start. Even when licensing terms fall short, there is room to push for voluntary improvements that align with LIHI’s criteria. In doing so, communities can help secure the broader benefits of certification—annual compliance reviews, ongoing opportunities for public input, transparent access to project information, and a clear line of communication when problems arise—fostering hydropower practices that work in harmony with rivers and the people who depend on them. If the certification can bring value, like additional revenue, to the

owner, it is not only a win-win, but can ease the burden of any costs to achieving higher standards.

Ultimately, stakeholders will be able to articulate these goals effectively, compare license applications against clear standards, and push for improvements, ensuring that environmental protections are achievable, measurable, and economically viable.

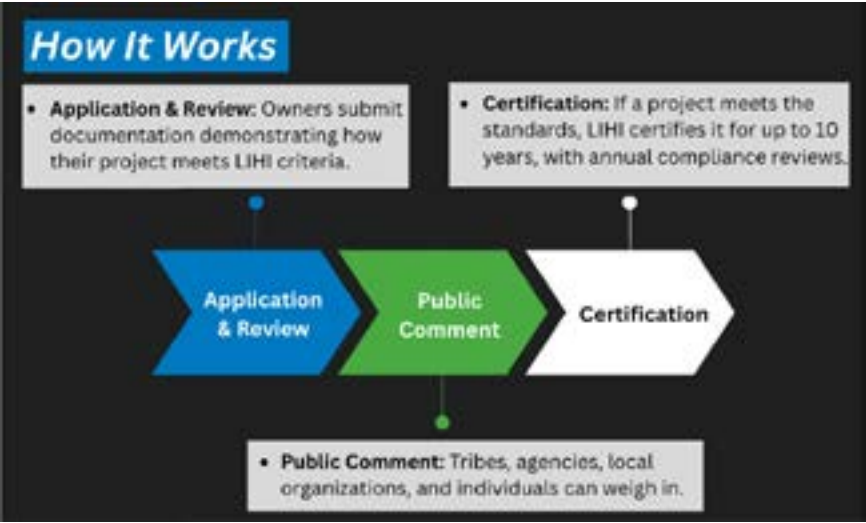


Figure 1: Synopsis of certification application process as outlined in the Low Impact Hydropower Institute Handbook rev 2.06. Credit: Low Impact Hydropower Institute

A Living, Evolving Tool

Hydropower will remain a part of our energy future—but it doesn’t have to come at the expense of the rivers, species, and communities that depend on them. The LIHI framework offers a way to shape operations to put people and the environment first, and its strength lies not only in its standards but in its adaptability. Recognizing that science, policy, and ecological conditions are constantly evolving, LIHI’s staff and board regularly review the framework, often inviting public comment to guide updates. By incorporating both formal and informal feedback, the framework stays relevant and practical, ensuring it can continue to protect rivers and meet the needs of future generations.

[Subscribe to LIHI’s email list](#) to receive updates on the framework, notices of new certification applications, public comment periods, and river hydropower news. ❖

Shannon Ames is Executive Director, and Whitney Stovall serves as Communications Manager, both of the [Low Impact Hydropower Institute](#), a national non-profit working to recognize and support hydropower that prioritizes environmental, recreational, historical, and cultural resource protection.

River Studies and Leadership Certificate Celebrates a Decade and 78 Recipients

by Bekah Price
Many river professionals didn’t start college planning to work on rivers. Some were drawn to the outdoors, others fascinated by science or driven by a passion for conservation. But the wide range of river-related careers and how to get into them often remains unclear. Through the River Studies and Leadership Certificate (RSLC) program, RMS and 16 universities across the country are working to change that.

The RSLC guides students through an interdisciplinary course of study paired with real-world experience in river science, policy, conservation, education, and recreation. Since its inception ten years ago, 78 students have earned the certificate, including 16 this year from six different institutions:

Northern Arizona University Hanson Mike	Northeastern State University Alyssa Fields
University of Northern Colorado Anna Dispirito Alyssa Korte Genevieve Hankins	Virginia Commonwealth University Ethan Burroughs Judah Carr Quinten Sierra Briana Allman Kaylynn Breland
Western Washington University Bruce Cudkowicz Katrina Doerflinger Kate Rounds Mikayla Kutsher	West Virginia University Abby Walters Cooper Lowe

For Briana Allman, one of the 2025 recipients, the RSLC program was more than an academic achievement—it was a turning point. “Being part of the RSLC program was an incredible experience,” she says. “I loved working closely with river professionals, gaining hands-on insight into watershed management and conservation. Presenting my research at the 2025 RMS Symposium [in Ashland, Oregon] was a highlight, allowing me to share my work with experts and engage in meaningful discussions. This program deepened my passion for sustainable river stewardship, and I’m grateful for the connections and knowledge I’ve gained along the way.”

The RSLC curriculum bridges classroom learning and on-water application. Students study topics like hydrology, policy, GIS, and recreation management, then put that knowledge to work—paddling, mapping, monitoring, teaching, and leading. This year also marked a milestone for two partner institutions: the University of Northern Colorado and West Virginia University celebrated their first-ever RSLC graduates.

Many of these graduates are already putting their skills to work in roles focused on water quality, climate resilience, public recreation, and community-based environmental education. Their timing couldn’t be better.

“At a time when experienced river professionals are retiring and our waterways face increasing pressure from climate change and human use, the fresh energy, knowledge, and passion these students bring is essential,” says Risa Shimoda, RMS Executive Director. “Critical to the success of the RSLC is the commitment and enthusiasm of our Advisors who offer both the foundation and fuel to support Certificate enrollment and fulfillment at their respective institutions. We appreciate them so very much.”

While RSLC students’ paths will vary—some may become planners, rangers, scientists, educators, or nonprofit leaders—they share a common origin: a curiosity about rivers that has grown into a commitment to study, manage and protect them. RMS congratulates the 2025 RSLC graduates and is proud to welcome them into a growing network of river managers and stewards. ❖

Congratulations, Recent Graduates!





Buffalo Bridge/horseshoe curve on the Niobrara River (above). Big Spring in the Ozarks, Trail Side (below). Photos: BJ Roshone



Wild & Scenic Rivers

Two Rivers, Two Worlds: A Journey from the Ozark National Scenic Riverways to the Niobrara National Scenic River

by BJ Roshone

There’s a kind of magic that happens along rivers—the way water stitches itself through landscapes, carving canyons, shaping ecosystems, and carrying the memory of a place downstream. I grew up along the Ozark National Scenic Riverways in southern Missouri, where the Current and Jacks Fork rivers run deep and cold, fed by springs older than the names we’ve given them. Later, life pulled me north to Nebraska, where I found a different kind of river magic in the Niobrara National Scenic River, winding quietly through the Sandhills.

The two rivers are separated by hundreds of miles and different cultures, but they share something essential: they both reveal the heart of the land they flow through. They teach you to slow down, to listen—to notice how a place breathes.

Water Born from Stone

In the Ozarks, water doesn’t fall from the sky so much as it pours

from the ground. The Current and Jacks Fork rivers are spring fed, their waters emerging cold and clear from the limestone depths. Big Spring, Round Spring, Blue Spring—the names read like a hymn to the underground. Even in the thickest heat of summer, the water remains shockingly cold, so clear you can see fish darting among the rocks twenty feet down.

In contrast, the Niobrara River is born from surface runoff and groundwater seepage across the High Plains. It gathers itself from creeks, draws, and the Ogallala Aquifer, flowing eastward across the Sandhills. The Niobrara’s waters are warmer, shallower, its flow steady but gentler, braided with sandbars and shifting channels.

Both rivers run clear, but they reflect their geology differently. The Ozarks shimmer in deep blues and greens over limestone beds. The Niobrara carries a soft gold tint from the Sandhills’ sediment, especially after a summer storm.

Big Spring Source in the Ozarks. Photo: BJ Roshone



A Land of Springs vs. a Land of Hills
Floating the Ozarks’ Current River feels like traveling through a secret world. Steep dolomite bluffs rise on either side, cloaked in thick forests of oak, pine, and hickory. Springs gush out of cave mouths and hidden hollows. One moment you’re gliding through bright sun, and the next you’re shadowed under cathedral-like bluffs, the air cool and still.

The Niobrara offers a different kind of drama. Instead of stone cliffs, you find high grassy hills rolling endlessly toward the horizon. Cottonwoods cluster along the banks, and pine-cloaked ridges rise in the distance. Waterfalls spill from sandstone cliffs along the southern shore—Smith Falls being the most famous, but countless smaller cascades reward the watchful. The land feels more open, more sky than rock, but no less sacred.

Each river is a lesson in topography: the Ozarks rising sharp and steep from ancient stone, the Niobrara cutting a gentle but relentless path through shifting sands.

Life Along the Banks
Both rivers support rich, unique ecosystems, shaped by their landscapes.

Along the Ozark National Scenic Riverways, you’ll find hellbenders—giant salamanders as old as the hills—lurking under flat rocks. Smallmouth bass glide through the riffles. Bluffs are home to gray fox, wild turkeys, and the occasional black bear. The forests surrounding the rivers hum with whip-poor-wills at dusk and the distant drumming of pileated woodpeckers.

The Niobrara’s banks, meanwhile, form an ecological crossroads. Six different ecosystems converge here: Sandhills prairie, ponderosa pine forest, eastern deciduous woods, northern boreal forest, mixed-grass prairie, and riparian wetlands. Canoeing the Niobrara can feel like moving through time zones of plant and animal life. White-tailed deer slip through the willows. While mule deer dart along the rolling sandhills. Sharp-tailed grouse dance on the high ridges. Paddlefish still swim the deeper runs, a living relic of prehistoric waters.

And of course, at Fort Niobrara National Wildlife Refuge, American bison roam again, sharing the ancient valley with prairie dogs, burrowing owls, and coyotes.

Human Footprints
Both rivers tell the story of human history in different dialects.



Smith Falls of the Niobrara River. Photo: BJ Roshone

The Ozark National Scenic Riverways was the nation’s first federally protected riverway, established in 1964. It preserved not just the river itself, but a way of life—float camps, mill sites, and old homesteads where families lived alongside the rivers for generations. Today, you’ll still find century-old cabins, abandoned root cellars, and the remnants of mills crumbling into the woods. Local families still run canoe rentals and general stores, passing down stories older than the park itself.

The Niobrara River carries the weight of older, broader histories. Indigenous tribes including the Ponca, Lakota Sioux, and Pawnee lived along its banks long before settlers arrived. Today, the river runs through a federal wildlife refuge and ranchlands alike. Designated a National Scenic River in 1991, the Niobrara remains more wild and undeveloped than its Ozark cousin.

Private land ownership along the Niobrara is carefully balanced with conservation efforts, and access often depends on the generosity of local outfitters and landowners.

Float trips are beloved on both rivers—but on the Niobrara, a certain quiet respect lingers. On this river, there’s an understanding that you’re passing through someone else’s home, be it human or wild.

Seasons of the River
In Missouri Ozarks, summer is the busy season on the Current and Jacks Fork. Motorboats, canoes, kayaks, and tubes fill the rivers, creating a carnival atmosphere on holiday weekends. Spring and fall offer quieter floats, with wildflowers along the banks or autumn colors blazing in the trees.

On the Niobrara, the river sings its best songs in late spring and early summer, when the water is high but gentle. By August, sandbars multiply, and you might find yourself carrying your canoe for stretches. Fall transforms the cottonwoods into brilliant gold, and winter, though bitter, reveals the quiet starkness of the Sandhills under snow.

Both rivers offer moments of high adventure and deep peace—but knowing when to go is part of the rhythm you learn by heart.

Spirit of Place
Ultimately, the Ozark National Scenic Riverways and the Niobrara National Scenic River are more than just beautiful

places to float a canoe. They are living, breathing landscapes that teach different lessons.

The Ozarks taught me about resilience—the way life clings fiercely to rock and riverbank, how communities build themselves into hard ground and stay. The Niobrara teaches me about surrender—how water shapes the softest lands, how the strongest forces are often the quietest.

Each river calls for a different kind of attention. On the Current, you listen for the slap of water against stone, the distant trickle of a hidden spring. On the Niobrara, you listen to the wind moving through the tallgrass, to the soft crush of sand underfoot, to the hawk’s cry circling overhead.

Both rivers remind me that the best way to know a place is not to rush through it, but to float, to pause, to let the river show you the way. In the end, it isn’t a choice between them. It’s a gratitude for both—the wild blue depths of the Ozarks, and the wide golden waters of the Nebraska Sandhills.

Two rivers, two worlds. Both worth knowing. ❖

BJ Roshone is a park ranger, photographer, writer, and wanderer based in Nebraska. She grew up among the hills and springs of the Missouri Ozarks and now roams the rivers and prairies of the Great Plains. Find her work on Instagram: [@ozarkriverwitch](#) & [@wandering_penny](#) and Wannabe Wandering Photography.

Sunset on Current River. Photo: BJ Roshone



Virginia Commonwealth University Hosts National Safety Workshop for River Field Studies Network



Outdoor practitioners from across the country recently participated in a river safety course held at the VCU Rice Rivers Center, where they learned a range of hands-on skills.
Photo: James Vonesh

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by VCU News staff

Rivers support remarkable biodiversity and are vital to society, but they are among the world’s most threatened ecosystems. Training the next generation of river scholars and students is vital to the waterways’ protection and management, but working and teaching on rivers requires unique risk management knowledge and skills.

This summer, Virginia Commonwealth University (VCU) continued its national leadership on the issue by hosting, at the VCU Rice Rivers Center, an intensive weeklong workshop to expand safe and effective river field education. The gathering in late July and early August was organized by the River Field Studies Network, which is training the next generation of river scholars and stewards through immersive, hands-on educational experiences.

“This workshop is a prime example of how VCU is positioned to become a regional and even national hub for building field safety training capacity,” said James Vonesh, Ph.D., an environmental studies professor in the School of Life Sciences and Sustainability. He is also the primary investigator for the network, which operates under a grant from the National Science Foundation to support biology education.

Welcomed by VCU and Rice Rivers Center faculty and summer interns, educators from eight states

The Rice Rivers Center welcomed educators from eight states, highlighting its leadership in navigating field research and risk.



—Virginia, Florida, Tennessee, North Carolina, Maryland, Illinois, Oklahoma and Nevada—joined students ranging from undergraduate to post-doc status at the recent workshop, with up to 22 participants on the busiest day.

The schedule offered a range of certifications and hands-on skills. The VCU Outdoor Adventure Program led a session on team-building and group facilitation, and other segments centered, wilderness first aid, CPR, swift-water safety. Guest faculty expert Melissa Cronin, Ph.D., from FieldFutures led a workshop on preventing harassment and assault in field settings, and University of Florida faculty Anita Marshall, Ph.D., of the GeoSPACE Accessible Planetary Geology Field Course led a workshop using technology to make field labs accessible to students with varying physical abilities.

The River Field Studies Network was created by university professors involved in coordinating their schools’ participation in the River Studies and Leadership Certificate program, an initiative of the River Management Society. They recognized that while field studies are critical for sparking passion and careers in river management and stewardship, they are also logistically difficult and carry inherent risks.

The recent VCU workshop was a direct response to this dual challenge, providing instructors with risk management and safety skills to lead effective courses. Vonesh said the Rice Rivers Center was an ideal location, offering proximity to diverse environments along the James River as well as lodging and facilities that included flexible spaces inside educational and research buildings.

“These combined factors solidify the Rice Rivers Center as an excellent hub for these essential trainings,” he said, noting that such sessions build not just skills but professional collaboration that advances field education.

Vonesh added that in addition to OAP and its field safety expertise, VCU’s Office of Occupational Health and Safety is emerging as a key partner by developing new protocols and resources to support field research and education.

“When combined with the academic leadership of the School of Life Sciences and Sustainability and the wonderful resources of the Rice Rivers Center, VCU has the foundation to become a hub for field safety excellence,” he said. “We view this workshop as an important step in that direction, and we are excited about VCU’s potential to grow as a leader in this critical area.” ❖

Field training complemented classroom learning and first aid workshops during the program.
Photo: James Vonesh

Background: James River Estuary and VCU Rice River Center.
Photo: James Vonesh

River Scholars Cheat River Rendezvous



by Nicolas Zegre

The River Field Studies Network, funded by the National Science Foundation (NSF), aims to connect rivers, people, and science through immersive field-based education. Two central objectives of the network are to build instructor capacity and create interdisciplinary open-source lesson content to be shared across the network. One of the cornerstones of the Network is the River Field Scholars Program, a year-long training program for educators passionate about river science and education. The Program integrates peer-led instruction and mentoring in virtual and field settings to build instructor capacity to develop and lead safe and effective river-based field lessons and courses. The River Field Scholars Program River Rendezvous brings together scholars and instructors to participate in an immersive, week-long community and lesson development workshop that focuses on building skills, confidence, and capacity for river-based pedagogy and safety. This year's Rendezvous took place from May 28 to June 3 on the Cheat River in West Virginia (WV), a location chosen for its high concentration and diversity of river environments (over 56,000 miles of waterways!), lush forests, rich whitewater history, and deep connection of communities to the Mountain State's rivers.

Twelve scholars and five instructors from across the country came together to learn about community-engaged pedagogy, placed-based storytelling, outdoor experiential learning, and hope. Based at a yurt complex at the West Virginia University (WVU) Outdoor Learning Center, the Rendezvous featured day-long river excursions throughout the Cheat watershed. Scholars explored diverse riverine settings (headwaters, wetlands, mainstem, and whitewater), practiced field lessons facilitated by instructors,

brainstormed new lessons, paddled different watercrafts (SUP, sit-on-top kayak, rafts), and engaged with conservation groups (The Nature Conservancy, Friends of the Cheat) to learn about local river challenges, progress, and hope.

In addition, scholars learned about experiential learning cycles, team building, and group facilitation and explored how these concepts can bolster effective teaching in the field from experiential learning professionals at WVU's Adventure WV program. Scholars also learned the power of placed-based storytelling led by Justin Harris from [Mountain River Media](#), an independent WV-based outdoor media company. Justin also gave a crash course on filming, editing, curating, and producing short videos to accompany field curriculum.

Finally, scholars and instructors alike learned the power and importance of pivoting while teaching in the field. The Cheat River watershed experienced one of the wettest springs on record, receiving more than 8 inches of rain in the first few days of the Rendezvous. Streamflow in the temperamental Cheat flashed from 1,600 cfs—ideal conditions for rafting the Class III Cheat Narrows—on May 27, to nearly 15,000 cfs on May 31, effectively blowing out paddling opportunities on the mainstem and snorkeling activities in the tributaries.

2025 River Field Scholars Program Cheat River Rendezvous at Coopers Rock State Forest overlooking the Cheat River, West Virginia

*(Back, L to R):
Kirk Mitchell, West Virginia University, WV
Matt Whalen, Virginia State University, VA
Nathan Harlan, West Virginia University, WV
Jabari Jones, Bowdoin College, ME
Shaley Valentine, Ohio State University, OH
Brad Carlson, Wabash College, IN
Ryan Utz, Chatham University, PA
Nancy Hunter, Portland State University, OR
John Marino, Bradley University, IL
Nicolas Zegre, West Virginia University, WV*

*(Middle, L to R):
Lizz Waring, Northeastern State University, OK
Lisa Tranel, Illinois State University, IL
Rachel Hovel, University of Maine-Farmington, ME
Anna Marshall, University of Tennessee, TN
Mari Rice, Boise State University, OR*

*(Front, L to R):
Carmella Vizza, Hawai'i Pacific University, HI
James Vonesh, Virginia Commonwealth University, VA
Destini Petitt, Brevard College, NC
Susan Washko, Western Colorado University, CO*

Photos (opposite and background): Justin Harris

To address this, scholars and instructors worked collaboratively through a brainstorming and decision-making process to identify priority activities of the group and to pivot to new activities that still met the learning outcomes of the program. Online tools and applications such as the National Weather Service River Forecast Center, American Whitewater, and RiverApp were used to assess river conditions. Field lessons were relocated to smaller headwater streams higher in the watershed, while whitewater rafting was shifted to the Class III Dry Fork River, a primary tributary of the Cheat River. Sharing this hard-to-catch gem with the scholars was a real treat, equaled only by the grace and generosity of Roxanne Tuesing, who greeted us at the take-out. Roxanne, a life-long resident of Cheat, invited our group into the Hendricks United Methodist Church to warm up, change, and share a home-cooked meal and stories of life lived along the Cheat.

In the end, the Cheat Rendezvous reminded us that rivers are not only dynamic classrooms, but also living spaces that connect people, places, and purpose. ❖

There is *One Organization* That Supports River Managers in North America. Your Contributions Make It Possible.



Scan this

Support River Professionals This Giving Tuesday

River management is going through a significant transition. Organizations and agencies are operating with dramatically fewer resources, and protections may be rolled back. Meanwhile, river use is increasing, and river managers are asked to do more with less.

The River Management Society is the only organization dedicated to supporting these professionals that study, manage, and protect our rivers. With your support this Giving Tuesday, we can continue to carry institutional knowledge forward and equip the next generation of river leaders.

This year, we put our mission into action by:

- Serving thousands with expanded tools and timely workshops covering topics like hydropower, water trails, inclusive programming, access design, and wild and scenic river management.
- Bringing 200+ professionals to Ashland, Oregon for the Restoring Rivers for a Resilient Future Symposium, even in the absence of federal staff.
- Presenting the River Studies and Leadership Certificate to 16 recipients.

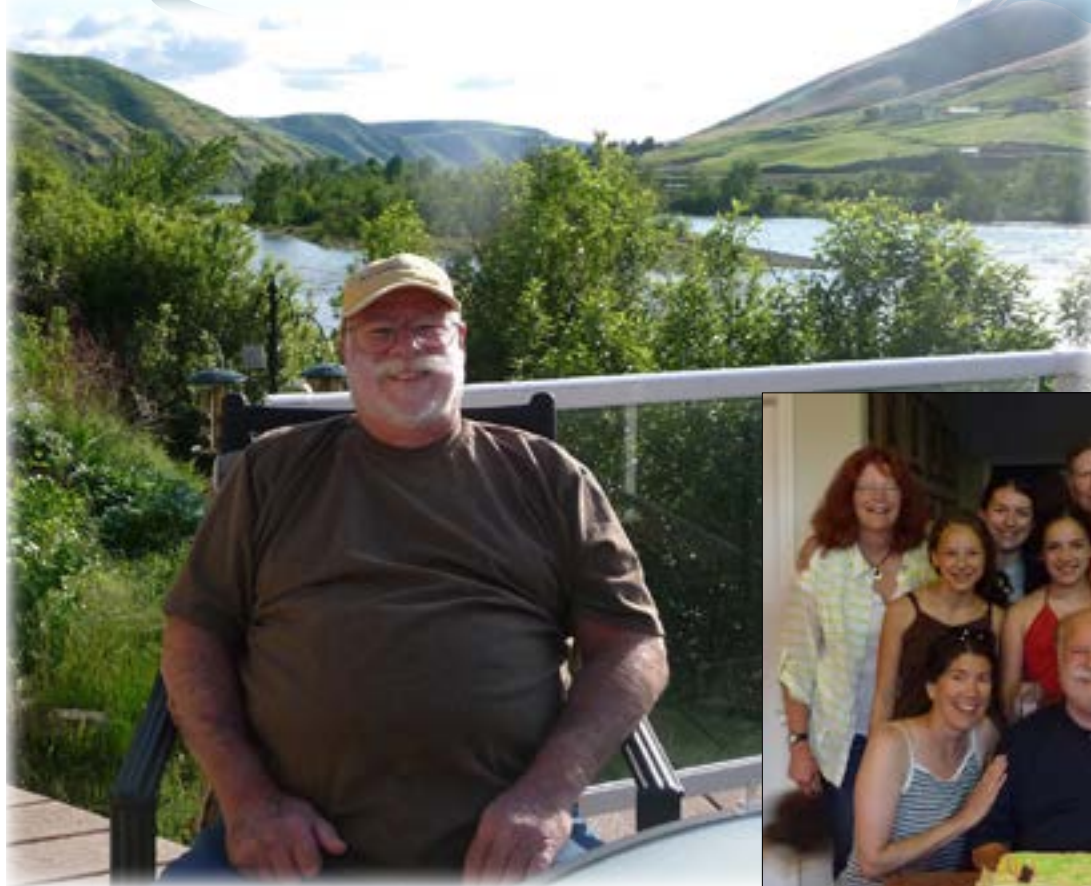
Your gift today helps RMS remain a lighthouse in uncertain waters—sharing expertise, connecting professionals, and training those who will carry this work forward. ❖



River rangers and managers discuss common issues and share solutions at the 2025 River Ranger Rendezvous on the Snake River, Wyoming. Photo: Mari Griffin

Ode to Kenneth Malone Vines

June 12, 1945 to May 14, 2025



Ken on his 70th birthday in June 2015.

“Whenever I parted ways with my old friend Ken Vines, he would say, “Do the best you can”—and then, after he suffered a life-threatening stroke, he would say, “If you love someone, tell ‘em.”

Ken either liked you or he didn’t. To me, he was a bundle of hilarious contradictions. How could he be so cantankerous yet so sweet? How could he be so hot-headed yet so patient? I finally decided that dogs, cats, and little girls were his soft spot.

I have met so many fine people over my ARMS/RMS years.... some, like Ken and Alice, became part of our family. I will remember Ken with a sardonic grin, handlebar moustache, cheerful Hawaiian shirt, and cold beer at the ready. And I will miss him.”

— Caroline Kurz, RMS Program Director (1993-2010)

“Ken Vines will be missed by all who knew him and experienced his love of rivers, his kindness, humor and stories, and especially his wit, wisdom and contagious laughter. Another great river character heads off downstream and around the bend...”

— Bob Ratcliffe, retired BLM

“I was saddened to hear of Ken’s death. I met Ken early on in my RMS involvement, sharing a bus seat on a symposium field trip, though I don’t recall which one. He amused and entertained on the long ride, which was over before I knew it. Ken was an amazing person, extremely generous, self-effacing, funny, and often irreverent. In addition, his personal style was impeccable—think Hawaiian shirts and tie-dyed socks. His love of rivers and riparian areas was immense and inspirational, especially for his beloved Rogue. He made a big difference with his deep and often behind-the-scenes advocacy and support and his death is a great loss to all who love and protect rivers. Deepest condolences to his family and friends.”

— Morgan Jones, old-time RMS member from Kentucky

“Sorry to hear of Ken the “river guy” passing. I can still see him at the oars and suspect he still is somewhere.”

— Denny Huffman, retired BLM

“The first time I met Ken was likely at an RMS symposium.

Over the years, we became friends along with his wife Alice. The Rogue River was one of the original eight rivers designated by Congress via the Wild and Scenic Rivers Act on October 2, 1968. The original designation extended 84 miles from the mouth of the Applegate River (six miles downstream of Grants Pass) to the Lobster Creek Bridge (eleven miles upstream from the Rogue). The first 47 miles are administered by the Bureau of Land Management’s (BLM) Medford District; the remaining 37 miles are administered by the Rogue-Siskiyou National Forest. Ken had a special love for this river as one of the first river rangers out of Gold Beach and the BLM Medford District, working with outfitters and the public as a steward of the Rogue.

I floated the Rogue on eight different occasions and half were with Ken. In July 1998, I remember my first raft trip on the Rogue with Ken and Alice. I also did a Lodge trip with him in the fall of 2001. Both Alice and Ken worked for the U.S. Forest Service (USFS) and they made the best of their USFS quarters in Gold Beach. I called his wife, “Agate Alice,” as she had hundreds of agates collected on walks with their wire terrier “Scout” on the beach, and she taught me how to find them. A testament to Ken’s patience was Alice’s collection of Christmas trees she decorated each year, each tree (some 8-10 of them) with a different theme (e.g., birds, Santa). Ken would set them up for her each Christmas season around the house, which was quite the scene. Ken could pass for Santa, although I can’t remember if he ever dressed up for the part. Ken was a giving soul; a package of salmon would show up in our mail and I knew who it was from.

One day visiting Ken, we toured Brookings, Oregon, where he said we could just eat lunch for free just by sampling cheese and chocolate at the local shops. We also played a very memorable round of golf: He topped his ball, and it rolled down the fairway, up onto the green, hit the pin, and dropped in—a hole in one! It was the first I had ever witnessed, and I was more excited than he. Ken simply said, “But I miss hit it.” I told him that didn’t matter, it still counted. I called him “Ace Malone,” ever after. He always used my middle name because my father was adopted, so I returned the favor by calling him Malone. His birthday was also our wedding anniversary, so I always knew when to wish him well. Ken didn’t care for e-mail, always preferring talking on the phone. At the end of any conversation, he’d always say, “Do the best you can!”

Ken was an original RMS founder (back in the days of ARMS), loved his RMS family, and attended as many symposiums as he could. He always greeted you with a big hug. Ken served as the vice president of ARMS for nine years, from 1988 to 1996. He also was the merchandise coordinator for RMS for a few years. At a 1996 RMS Board meeting, he delivered a memorable line: “Planned giving—wow, there’s a euphemism for you.”

In 2002, Ken was at the BLM



Headquarters, where he contributed to the RMS River Logs. In September that year, we met in West Virginia and ran the Upper Gauley on a private trip guided by Clif Bobinski, former BLM river ranger who worked for the NPS. That evening Ken experienced some numbness in his arm and tongue and sat out the next day’s run. We encouraged him to see his physician when he returned home, which he did. We also had a group picture; **Ken is third from the right in the front row.**

Shortly after that trip, Ken had a major frontal bleed at home and was life-flighted to the nearest hospital. One side was paralyzed and he had to re-learn to speak, and walk all over again. His rehab was remarkable and he recovered some 90-95% of his former abilities post stroke. He eventually was discouraged in not being able to row his raft as he wished and ended up selling his trailer and raft before he and Alice moved to Spokane.

Whenever I read John 15.5, I always will remember Rogue River lover (Ken Vines) who was like a branch flowing from the Cascade Range (Vine) to the Pacific Ocean.”

— Gary G Marsh, retired from BLM



Pillow Rapid Gauley River, WV, September 2002: Back to front (R): Clif Bobinski (guide) Ken Vines (yellow pfd), Cal Hite (NPS), Gary Marsh (BLM DC).

Back to front (L): Alex Lampros, Jim Eicher (BLM Folsom CA), Eric Eckl (American Rivers).

Managing Bank Erosion with Technical Assistance

by John Field and Jim MacCartney

The National Park Service (NPS) has recently published a report titled *Best Practices for Managing Bank Erosion within the National Park Service and National Wild and Scenic Rivers System* as part of its Science Report Series.

Riverbank erosion is a natural process, and the resulting lateral movement of river channels is fundamental to building complex, dynamic, and resilient landscapes. In this sense, bank erosion is crucial to maintaining healthy rivers and should be allowed to continue whenever possible. River managers may deem bank stabilization necessary if bank retreat threatens infrastructure, developed land, or other valuable natural and cultural resources. NPS manages over 220,000 miles of river, approximately 3,750 of which are part of the National Wild and Scenic Rivers System. Unique protections granted to these rivers under NPS policies and the Wild and Scenic Rivers Act require that natural processes be allowed to continue whenever possible, and the approach to managing bank erosion may differ in these settings compared to rivers with fewer protections.

The intent of the document is to steer erosion management practices towards techniques that maintain the ecological and geomorphic functions of rivers. A decision tree guides river managers through a sequence of questions to ensure that bank erosion management strategies most aligned with Wild and Scenic River values and NPS policies are prioritized, while less desirable approaches are considered only if preferred techniques are deemed unsuitable (Figure 1).

If bank stabilization is necessary to protect infrastructure or other valuable resources, a variety of surface treatments and flow deflection techniques are summarized in quick-reference fact sheets, which river managers can use to promote nature-based solutions for managing bank erosion. The document provides a primer on the causes and mechanics of erosion that can help when deciding whether bank stabilization is necessary or which stabilization techniques to use. ❖

John Field is President and founder of [Field Geology Services](#) in Portland, Maine. Jim MacCartney retired recently from the National Park Service in Concord, New Hampshire.

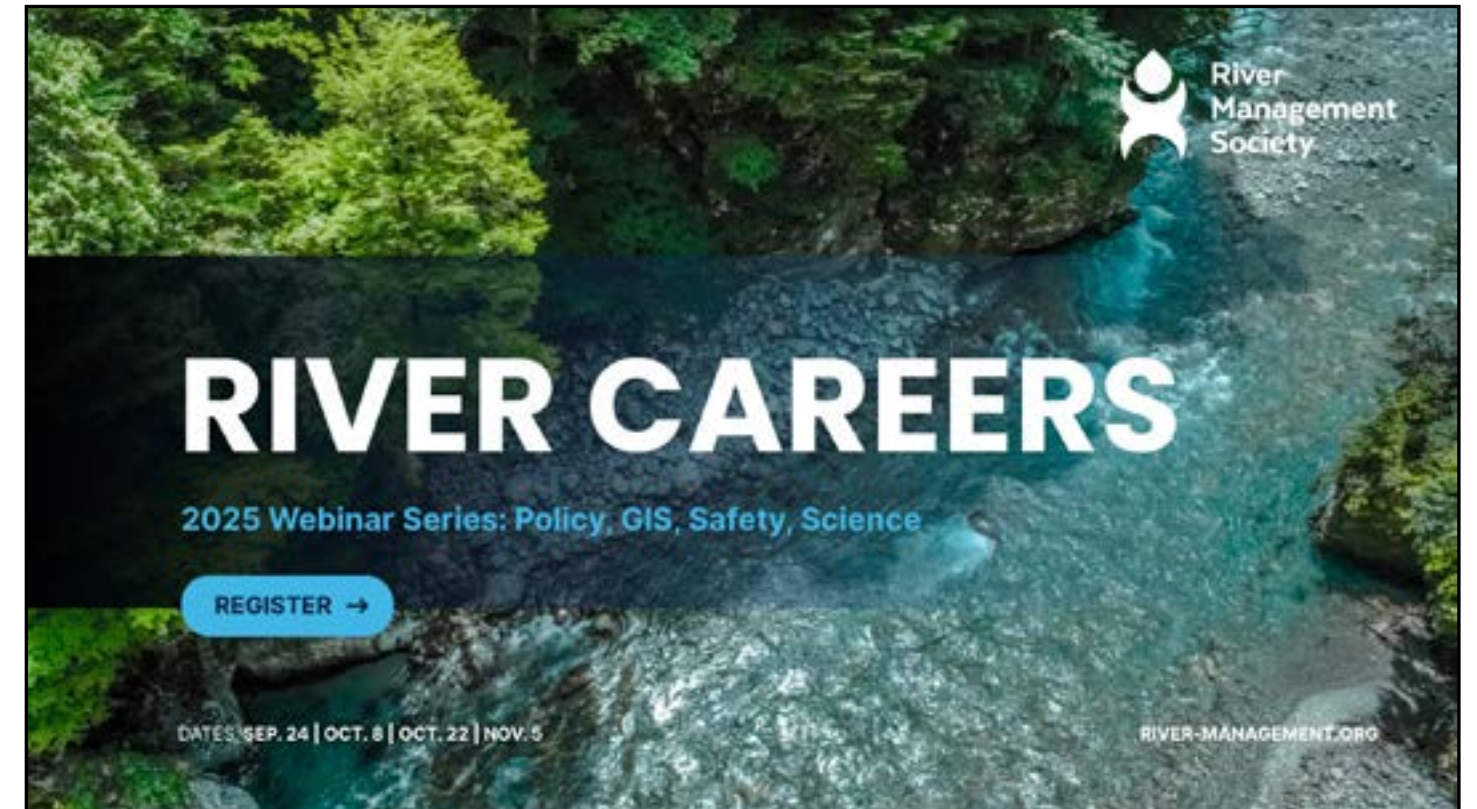
The NPS document is available online at: <https://irma.nps.gov/DataStore/Reference/Profile/2306106>



Figure 1: Bank erosion on the Nissitissit River, a designated Wild and Scenic River, in New Hampshire
With no infrastructure nearby, this is an example of where erosion should be allowed to continue without stabilization to allow natural processes to continue undisturbed. Photo: Diane Carson, Nashoba Paddler LLC

RMS News

Explore Careers in River Policy, GIS, Safety & Science – 2025 Webinar Series



by Bekah Price

Curious about how to turn your passion for rivers into a career? Join us for a free four-part webinar series tailored for students and early-career professionals interested in river-related jobs. Each session highlights a distinct career pathway and aligns with one of the focus areas of the RMS River Studies and Leadership Certificate: Policy, GIS, River Safety, and Science.

In this series, you'll explore a variety of river-related careers, meet seasoned professionals, and gain practical insights to guide your own career.

Sessions will take place on Zoom and a recording will be shared with registrants and on [RMS' River Careers YouTube playlist](#).

All sessions run from 2:00–3:00 p.m. ET and are free to attend. You may attend any or all sessions:

September 24: River GIS Careers

See how geographic information systems (GIS) are used in today's river-related work—from mapping and analysis to planning and advocacy. This session will show how GIS skills can boost your job prospects and impact.

October 8: River Safety Careers

Meet professionals whose roles depend on river safety knowledge and rescue skills—whether they're guiding trips, managing access, or leading public safety programs. Hear how safety training shapes careers on the water.

October 24: River Science Careers

Explore the wide range of science-informed careers that support river ecosystems. From fieldwork to program planning, you'll learn how professionals apply environmental science to make rivers healthier and more resilient.

November 5: River Policy & Advocacy Careers

Discover how professionals shape river policy through advocacy, enforcement, compliance, and public service. Learn how agencies and organizations influence river management and environmental protection. ❖

Learn more and register on the [RMS website](#).
With questions, email rms@river-management.org.

Book Review

Brave the Wild River: The Untold Story of Two Women Who Mapped the Botany of the Grand Canyon

Melissa L. Sevigny (2023) W.W. Norton, 290 pp, ISBN 978-0-0393-86823-4

*Reprinted with permission from the author and the publisher.
Originally published in Boatman's Quarterly Review 36(3), 2023.*

By Rebecca Lawton

Melissa L. Sevigny's *Brave the Wild River: The Untold Story of Two Women Who Mapped the Botany of the Grand Canyon* opens with botanist Lois Jotter waiting for her five crewmates on a river sandbar in Utah. It's Day Four of the 1938 Nevills Expedition on the Colorado River. Two of the trip's three wooden boats are beached near Jotter. Unsure how many of the crew have survived Cataract Canyon's high and wild whitewater, Jotter does what she'll do many times on the 43-day journey: she wonders if she made a mistake in joining it.

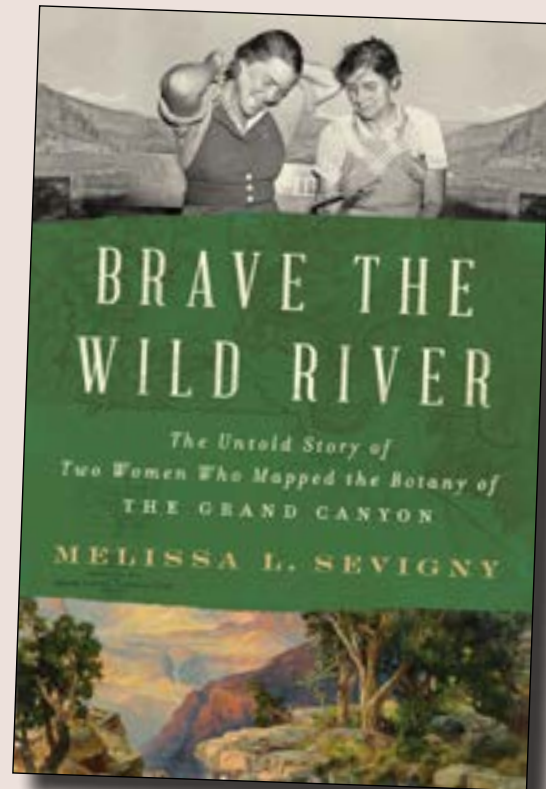
From Brave's first scene through its final chapters, Sevigny takes us on a good river trip. She also convinces us that the historic crew risked their lives for high ideals: passion for work, good science, and grand adventure.

Sevigny's long-overdue portrait of the first botanists to scientifically classify Grand Canyon flora both grips and informs us. A desert native and award-winning science journalist on KNAU (Arizona Public Radio), she excels in reporting on water, agriculture, and exploration (often of space). She also whips jaw-dropping metaphor from thin air, not losing momentum as she weaves beautiful poetry through a clear, engaging narrative.

In 1938, Michigan-based botany instructor and researcher Elzada Clover teamed with whitewater pioneer Norm Nevills to boat the Colorado. Clover aimed to gain access to the flora in canyon country. Nevills planned to extend his riverrunning business downstream of Utah.

Neither Clover nor Nevills had boated the Canyon before. Stakes were high: women who'd attempted the run hadn't survived it. Nevills knew how much the future of commercial river running depended on the trip's safe passage. Time was short: Clover understood that geographically limited plant species would soon be lost to reservoirs that were planned or already filling. Clover invited Jotter and another Michigan colleague, Gene Atkinson, to assist with the science, while Nevills built three plywood Cataract boats and recruited two men (engineer Don Harris and photographer Bill Gibson) to row.

On June 20, 1938, the crew launched on a lively, swollen Green River. Downstream, the Green would meet the high-water Colorado (running 50,000 cubic feet per second at the confluence, about thirty percent above flood stage). A media storm raged all



around, labeling the “daring boat trip” an ill-prepared venture to collect “botanical freaks.” Experienced river runners opined that the mix of women, untried boats, and high water would end in tragedy.

Meanwhile the crew put their hearts and muscle into the daily business of getting downstream. Clover and Jotter rose before dawn to collect plant specimens—some familiar, some not—for their wood-and-paper presses. Clover specialized in cacti, Jotter in primroses, but they sampled and described everything they could. The women would return to camp to cook breakfast, help line boats and portage gear around rapids, and ride with enthusiasm through whitewater Nevills deemed runnable. Boating pioneer Buzz Holmstrom met them at Lees Ferry and noted, “The women in the party are really doing better than the men.” Nevills agreed: “The women are standing up beautifully so far,” he recorded, but he had a complaint about every one of the men.” (As a remedy, Nevills swapped a few boatmen at Lees Ferry and added Emery Kolb as an experienced advisor.)

Sevigny draws from expeditionary journals and archives throughout the West, plumbing the historic boaters' own words for their rich humanity. Nevills and Holmstrom are seen expanding their perspectives about gender and river

livelihoods. Independent, brilliant Clover has come for the plants (and finds them) but also falls for the river, turning to poetry to express love and longing for it. Jotter bonds with “shy, funny, and self-deprecating” Holmstrom, who changes his mind about women not belonging “in the Canyon of the Colorado.” Nevills, anxious while leading the green crew, sees the end of his boating career lurking around every river bend.

Often, while sketching nuanced, flesh-and-blood portraits of Clover and Jotter, Sevigny reminds us they “weren't just women: they were botanists.” Yet they couldn't help but shatter myths about gender, despite its irrelevance to their science dreams. As media hysteria grew, Jotter wrote home to reassure her family that warnings about trip risks and women running rivers were exaggerated. Clover, so key to the expedition that her name belongs beside Nevills' in its historic title, believed that Bessie and Glen Hyde's 1928 run made Bessie the first non-indigenous woman through-boater in the Canyon.

Clover and Jotter both “seem determined never to complain about the hard work and danger,” as the eyes of history turned to them. In private, they believed that “running the river was less dangerous than collecting plants, with sheer walls to scale and things that stung or stabbed in every corner.” Clover wrote, “You've no idea how difficult it is to keep the mind on mere plants when the river is roaring & the boats are struggling to get through.” Her commitment to succeeding, and Jotter's, is part of their legacy as steely-eyed river women.

Sevigny drives us toward an ending we can't pretend not to know. River maps and guidebooks tell us that Clover and Jotter survived and thrived, while Nevills grew his reputation in professional boating. The river worked its magic “tying [the crew] together” throughout their lives. Still, Sevigny's narrative holds us like a familiar campfire story told in a fresh, captivating voice.

Brave is a welcome and important contribution to Grand Canyon literature that will fit on nonfiction bookshelves somewhere between Wallace Stegner's *Beyond the Hundredth Meridian* and Louise Teal's *Breaking into the Current*. Sevigny, too, pioneers new currents in the genre with extensive, informed passages on indigenous culture and consistent, refreshing use of gender inclusive language.

Above all, like any good trip down the challenging, deeply beloved Colorado, *Brave the Wild River* invites us to return again and again. ❖

Rebecca Lawton is a Writer ~ Fluvial Geologist ~ Grand Canyon River Guide ~ Survivor.

For more Rebecca Lawton Sample Stories, Essays, and Articles: <https://beccalawton.com/writing/>

Boatman's Quarterly Review is a publication of *Grand Canyon River Guides Association*.

RMS Chapter News

Southeast by James Vonesh

Take me to the river & Let's read a book!

Here's some exciting news about upcoming fall events. These events provide an opportunity to connect, share ideas, and work together to protect the beautiful rivers in the Southeast. I hope you can attend one or more of these events. The goal is to collaborate to strengthen our impact though events planned for this fall.

Take me to the river!

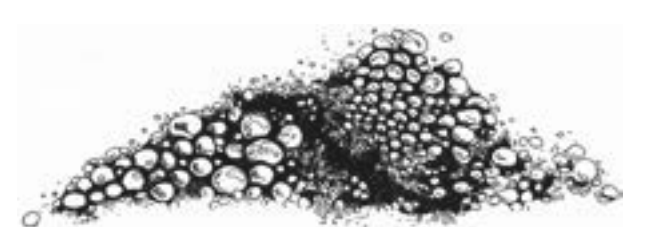
Fall on the Cahaba River, AL - Oct. 24-27

RMS' Southeast Chapter is excited to host a 3-day float trip down the Cahaba River Blueway in Central Alabama with the Cahaba River Society. Come experience one of the most biologically-diverse river systems in the world with fellow river professionals, local partners, and RMS members. Canoes, paddles and PFDs are available by request, and meals are included in the cost. We anticipate this being a great opportunity for current RMS members to meet local folks in Alabama, and for non-RMS members in the Cahaba's region to learn more about and consider becoming a member of RMS. You can learn more and register for this trip on the [RMS calender](#).

Ideas to connect: *Is a River Alive?* Book Club

While spending time together in person, on the river is always preferable, I've been thinking of other ways to connect our Southeast members. With the goal of getting to know each other and building a bit more community around a river theme here in the Southeast, I thought I'd gauge Southeast interest in a Zoom book club focused around Robert Macfarlane's new book, *Is a River Alive?*

Based on input, it looks like there is interest in a virtual book club, so we will try it! If you have been sitting in the eddy, now is the time to get in the flow! Reach out to sign up and then start reading! I'll follow up with specifics about meeting times, but I envision a discussion in October and another in early December. ❖



Estate Planning Checklist: 11 Essential Documents to Get Your Affairs in Order

Shared by our estate planning partners
at Life Legacy

Estate planning isn't just for the wealthy or elderly—it's for anyone who wants to protect their loved ones and ensure their wishes are honored. With modern tools like LifeLegacy, getting your affairs in order is easier, faster, and more affordable than ever. Here's a practical, easy-to-follow checklist of what to include in your estate plan:

1. Last Will & Testament:

Your will is the foundation of your estate plan. It outlines who will inherit your assets, including personal property, money, and real estate. You will:

- Name guardians for minor children or pets
- Choose an executor (person responsible for carrying out your wishes)
- Make specific gifts to loved ones or charities
- Express your general preferences about your legacy

Creating a will gives you control, clarity, and peace of mind—and helps your loved ones avoid unnecessary court involvement.

2. Revocable Living Trust:

While not everyone needs a trust, it can be useful if you have:

- Significant assets or multiple properties
- A blended family or complex inheritance wishes
- A desire to avoid probate or keep distributions private

A trust holds legal ownership of your assets while you're alive, and allows them to transfer directly to your beneficiaries upon your death. Unlike a will, it doesn't go through probate, making the process faster and more private. Trusts are typically created with an estate attorney.

3. Advance Healthcare Directive (AHD):

Also called a living will, this document allows you to:

- Outline your preferences for medical care (e.g., life support, resuscitation, feeding tubes)
- Designate a healthcare agent (someone who can make decisions for you if you're incapacitated)

Having an AHD means your loved ones aren't left guessing about your wishes—they can confidently advocate for your care based on your instructions.

4. Financial Power of Attorney (POA):

A Financial POA allows you to authorize someone to act on your behalf to:

- Pay your bills
- Handle banking and investment decisions
- Manage or sell real estate
- Support dependents or handle business matters if needed

This document ensures your financial life can continue running smoothly, even if you're unable to manage it yourself.

5. Insurance Policies & Financial Account Info:

Make a master list of key accounts and policies, including:

- Life, health, auto, home, or long-term care insurance
- Bank, retirement, and brokerage accounts
- Credit cards, loans, and mortgage details

Include account numbers, login info, contact numbers, and any relevant policy paperwork. Store this in a secure location and let a trusted person know where to find it.

“Life Legacy is knowledgeable and informative on the best methods to provide a portion of your estate to RMS.”

—RMS member who met with Life Legacy for estate planning advice

6. Proof of Identity Documents:

To help your executor or loved ones manage your estate, keep copies of:

- Social Security card
- Birth certificate
- Marriage license or divorce decree
- Passport
- Military discharge papers (if applicable)
- Any prenuptial or legal agreements

Having these on hand helps verify identity, settle accounts, and access benefits.

7. Property Deeds & Vehicle Titles:

Keep copies of:

- Real estate deeds (homes, land, vacation property)
- Car, boat, or RV titles
- Timeshares or rental property agreements

Make sure these documents reflect current ownership—especially if you've added or removed someone's name. If a trust is used, titles should be updated to list the trust as the legal owner.

8. Digital Assets & Passwords:

Today, our lives are increasingly digital. Create a secure, up-to-date list of:

- Logins for email, social media, and cloud storage
- Online banking, investment platforms, and bill pay accounts
- Subscription services or digital wallets
- Loyalty programs or cryptocurrency accounts

You can also name a digital executor in your will—someone who is authorized to manage or close your online accounts.

9. Funeral Instructions & Final Wishes:

These aren't legal documents, but they can spare your loved ones confusion and emotional stress. Consider writing down:

- Burial or cremation preferences
- Service or ceremony instructions
- Obituary details
- Charitable giving or donation requests
- Special readings, music, or speakers

Even a simple letter expressing your wishes can be a tremendous gift to your family.

10. Document Storage & Sharing:

All the preparation in the world means nothing if no one can find your documents when the time comes. With LifeLegacy, you can:

- Securely store your documents in one digital hub
- Easily update them as life changes
- Share access with loved ones, advisors, or executors

Keeping everything organized and in the right hands is an act of care and clarity.

11. Beneficiary Designations:

Some of the most valuable assets you own may not be governed by your will. Instead, they pass directly to whomever you've named as a beneficiary.

These non-probate assets include:

- 401(k), 403(b), or other retirement plans
- Traditional or Roth IRAs
- Life insurance policies
- Payable-on-death bank accounts
- Transfer-on-death investment accounts
- Certain annuities

To ensure these assets go to the intended people:

- Contact each institution to update your designations
- Name both a primary and contingent (backup) beneficiary
- Use full legal names (avoid vague terms like “my children”)
- Revisit your designations after major life changes like marriage, divorce, or the birth of a child
- Remember: **these override your will**, so accuracy is critical

If no beneficiary is listed—or if the named person has passed away—the asset could end up in probate, defeating the purpose of avoiding it altogether.

Final Tip: Revisit Your Plan Every Three to Five Years:

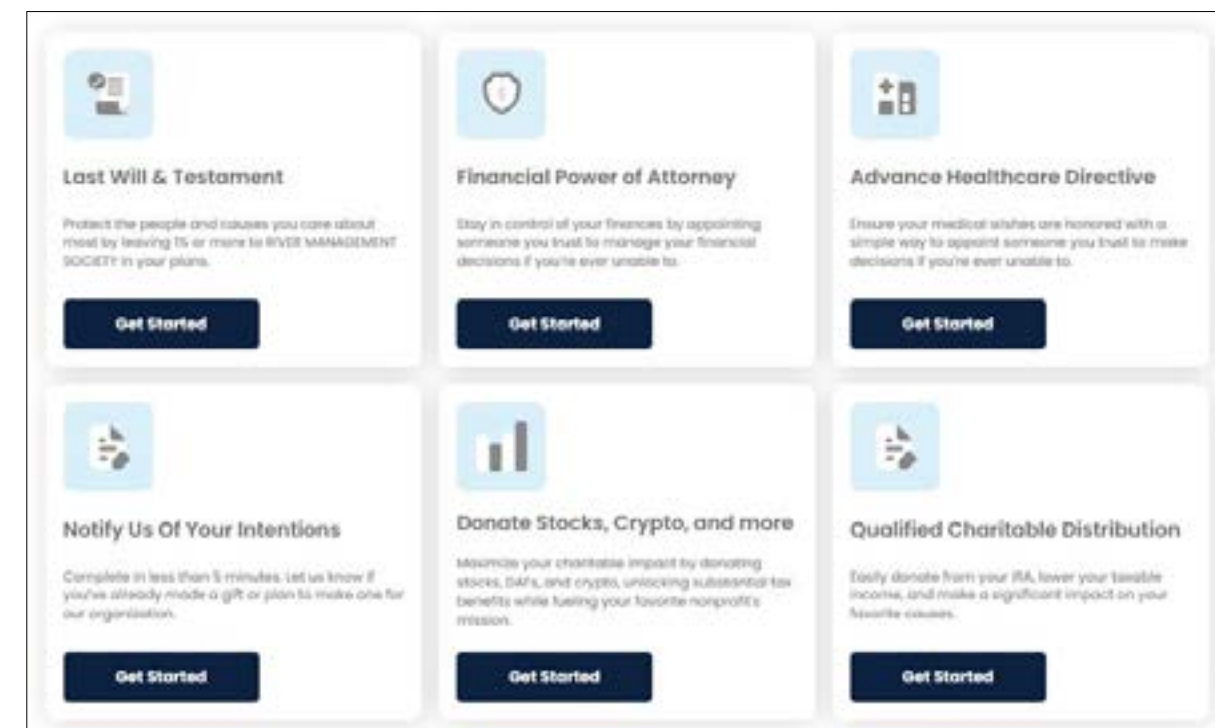
Life moves fast—your estate plan should keep up. Reevaluate your documents every few years or after major life events:

- Marriage or divorce
- Birth or adoption of a child
- Death of a loved one
- Major financial changes
- A move to a new state (laws can vary)

Your legacy is too important to leave up to chance.

With this program developed by Life Legacy and offered to you as an RMS member, you can start—or update—your estate plan quickly and securely. It's one of the most meaningful steps you can take to protect all that you love.

Contact RMS for more info and to get started! ❖



Let RMS Help You Plan Your Next Steps

by Risa Shimoda

Do you have a will? Is it up to date? RMS invites you to create or update it, on us. Whether you’re looking to make a will for the first time or you need to update one that you completed ... ahem ... over ten years ago, our new partners at Life Legacy make it easy for you to create a legally valid will in 20 minutes or less. It’s simple, secure, and entirely yours, and there’s no charge to you as an RMS member. There’s no better time than today to both check a major life task and do a huge favor for those you love.

Consider supporting the River Management Society with your legacy. Knowing your story continues to make a difference through a gift in your will—no matter the size—can fuel the mission of the River Management Society for years.

While a gift to RMS isn’t required, we hope you’ll consider supporting our mission and the next generation of river managers and stewards, whether today, this fall, or in your estate.

For a full suite of estate planning services, or to create or update your will for free, visit: <http://river-management.org/life-legacy> (you’ll need to log into the members’ side of the website).

If you’d like some complimentary advice about any aspect of estate planning, schedule an appointment with our Life Legacy advisor. Reach out to RMS at rms@river-management.org and we’ll send over their appointment calendar.

If you decide to include RMS in your plans (or already have done so!) we sure would love to know through a [Notice of Intention](#). ❖



Paddling into the Future: An Illinois River snow float with the next generation of paddler. Photo: Leif Kindberg

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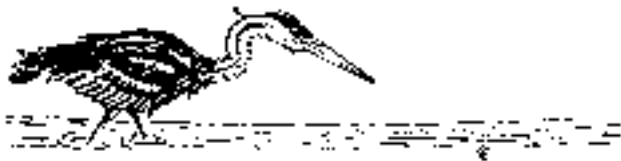
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- ☐ Organizational (3-4 people) \$150/yr
- ☐ Organizational (5-8 people) \$300/yr

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

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Winter 2025	Vol. 38, No. 4	Pacific	Nov
Spring 2026	Vol. 39, No. 1	Alaska	Feb
Summer 2026	Vol. 39, No. 2	Southeast	May
Fall 2026	Vol. 39, No. 3	Midwest	Aug
Winter 2026	Vol. 39, No. 4	Southwest	Nov
Spring 2027	Vol. 40, No. 1	Northwest	Feb
Summer 2028	Vol. 40, No. 2	Northeast	May

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