

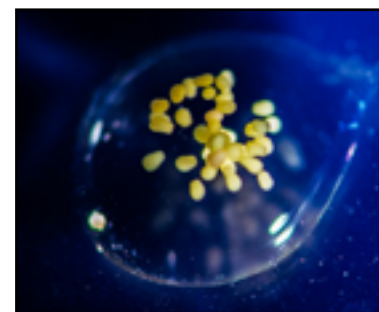


Leveraging Sleeping Pad Technique to Do the World a Favor – Inspiration by Jack's Plastic Welding

by Risa Shimoda

Jack's Plastic Welding (JPW) has been a staunch supporter and partner for decades, primarily known by river runners for the fine performance and durability of their catarafts, Paco Pads, waterproof gear bags, and other river trip-tested products. In a recent conversation with Jack Kloepfer, the company founder commented on RMS's recent discovery of his company's product and pricing list in the Spring 1996 *ARMS Newsletter*! He was clear that "when your members use my products, I couldn't ask for better advertising."

Jack and his design team have applied their knowledge, experience, curiosity, and creativity to develop a fascinating variety of products to serve customers beyond recreational paddlers and outfitters whose need for performance and durability is high. One particularly exciting and recent success story for



CRIB Curacao. Credit: Rita Sellares

Top R: Coral larvae in a drop of water. Credit: Reef Patrol

Middle R: Baby coral on substrate. Credit: Mendoza Quiroz

Lower R: Five-year-old raised coral on reef. Credit: Paul Selvaggio

Jack's Plastic Welding prototyping services is in the support of restoring one of our planet's wonders that is at great risk, our coral reefs. Jack and his team have developed a 'coral kindergarten' that has become a proven tool to grow baby coral at scale. Technicians refer to the kindergartens as floating Coral Rearing In-situ Basins, or CRIBs.

An announcement by SECORE International (a research, education, and outreach organization) shares celebration of a substantial advancement toward helping coral regain a healthy

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

Executive Director's Eddy

Opportunities and Responsibilities of a Better Normal

As rangers, planners, researchers, and leaders of organizations committed to informed and wise resource stewardship, we have opportunities to support the future of river management like never before in most of our lifetimes. Outdoor spaces have been visited by a crazy number of people during the past two years.

National forests and grasslands received 168 million visits in 2020 – an increase of 18 million when compared to 2019, according to their [National Visitor Use Monitoring](#) program. New power boat sales reached a 13-year high in 2020, according to the [National Marine Manufacturers Association](#). [GetMyBoat](#), an online (again, power) boat rental marketplace, has seen business grow 700 percent in 2021. Most river outfitters broke even or better after shutting down during a few peak months in 2020. Retailers of canoes and kayaks were asked to place orders from manufacturers in July for products they will hope to receive in June 2022 — lead times that would have been unimaginably long prior to 2020. Outdoor recreation visitation skyrocketed in 2020. Usage of outdoor spaces was up as much as 75% (US Forest Service's Wilderness numbers) and 75% of the newbies indicated they wanted to return to do more outdoors, but have shared that they don't know where to go to gain more experience. ([Outdoor Industry Special Report: New Outdoor Participant, COVID and Beyond](#), March 2021). *The need to expand and improve access to rivers and other boatable waters has never been greater.*



Risa Shimoda

The passing of the Great American Outdoors Act and permanent support for the Land and Water Conservation Fund has exploded the number of high quality opportunities for federal, state and local agencies to repair, create and enhance access to rivers. *We will be smart to develop strategic partnerships with communities who can plan and implement projects to leverage the tremendous assets and resources that will be annually available.*

As boating interest has increased, so, too, have boating accidents. On August 4, 2021, the [New York Times](#) reported that there were 767 boating fatalities in the United States in 2020, an increase of more than 25 percent from 2019, according to the U.S. Coast Guard. Total accidents increased 26 percent, and the number of nonfatal injured victims increased 25 percent. Preliminary 2021 data from the Coast Guard show casualty numbers so far to be even higher. *Messaging and media need to be harnessed in new, creative ways to deliver an understanding of boating safety to new users.*

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RMS President's Corner

“RMS continues to rethink how to become more inclusive and diverse ...



Judy Culver

Adaptation to new recreation patterns, water flows, and learning through virtual tools has launched river managers into the new decade with a bang. Reevaluations of the value of human connections, the natural environment, and the refreshing and sometimes scary awakening of the importance of public lands can be forgotten as we try to get in one more trip before winter descends. 2021 may forever be known as the battle of the boats as we hope the old boat doesn't gasp its last breath and sag into a puddle of old rubber before we can borrow, rent, or for the lucky few, purchase a replacement.

Ironically after scoring both a raft and an IK this year, I left both behind as I headed to Loma, Colorado, for the annual RMS Board meeting and the Southwest Chapter Ruby-Horsethief float. Waking up as the sun crests over the hill, dew dripping off the tent, and the sound of that one early riser setting about making coffee reminds me of why we love rivers. Reconnecting with old friends and making new ones on this fall chapter trip had the added benefits of being serenaded by bighorn sheep every morning and watching a 3-year old little girl enjoy her first river trip.

After quick goodbyes with promises to connect soon, many of us raced north, south, and east to beat the first winter storm of the season. As the snow fell on northern New Mexico, I reflected on the great strides RMS has made in enhancing our mission of *supporting professionals who study, protect and manage North America's rivers* by hosting in-depth training and workshop planning efforts, as well as the Wild and Scenic Webinar Series, which had 218 attendees. In 2022, RMS will continue to expand professional development opportunities as well as plan the 2023 symposium (that will occur in or near San Antonio, Texas) that will provide an opportunity to learn more about WORD of Comal County, that manages one of the most heavily recreated stretches of river in the country.

RMS continues to rethink how to become more inclusive and diverse in not only the chapter and national boards but also in how we communicate, train, and provide opportunities to learn and explore the nation's river systems. As part of this effort, during our annual board meeting, the RMS charter was changed to permit Organizational Leads and Student

members to vote as well as hold office after being part of the RMS family for one year. If you are hesitant to consider a board position, there are other large and small ways to try your hand in leadership roles or to become an active member within RMS.

If you do not yet feel you are part of our family, please consider joining a chapter river trip or attending a training session, many of which are free to our members. RMS chapter trips provide the opportunity to exchange ideas, build long-term relationships, seek out potential mentors, as well as jump on a boat to experience the lifelong journey of running rivers. Don't let a lack of river or camping gear stop you, as the trip leader or chapter trip coordinator can assist you in locating the basic gear you need to enjoy your first excursion down one of America's great or small rivers. ♦

Judy Culver
RMS President

Never Too Much Paddling, Skiing, or Commitment to Rivers – Just Not Enough Time

by Risa Shimoda

August 29, 2021 – Long-time RMS member, multiple chapter officer, unofficial photographer, and friend Bunny Sterin had to take a back seat to her courageous battle with lung cancer.

Bernice Sterin was born and raised in Swampscott, Massachusetts. She left the East for West to attend the University of Denver and Utah State University and secure a BA in Biology and MS in Watershed Science, respectively. She spent the majority of her thirty-five-year career working for the Bureau of Land Management.

Bunny was also an avid kayaker and rafter who ran the Grand Canyon multiple times, paddled in Patagonia, swam with humpback whales in Tonga, and watched the sunrise at the base of the Himalayas. She was a skilled wildlife photographer who shot one of the rarest animals on the planet, a Spirit Bear, in British Columbia.

Dennis Willis, past RMS President, recalls her early BLM days. “Bunny worked as a seasonal ranger on the San Juan out of Monticello, Utah in 1983-84. She moved to Price, Utah, in 1985-86 as a hydrologist and set up a thorough, thoughtful water quality monitoring program. They sampled water quality quarterly on all managed rivers and streams, including a handful of stations above and below significant confluences. Rangers trained to test for salinity, conductivity, etc., and they would fill bottles for chemical analysis for a hydrologist who would have a portable incubator to measure bacteria levels. I’ve not seen the likes of her monitoring program since.”

Reflecting on another aspect of Bunny’s approach to life and work, he shared, “Be glad you are not regularly shaving your legs. It was about 1981 – 82. An unnamed BLM manager issued an edict that female river rangers could not wear shorts unless they shaved their legs, and he would be the judge of adequacy and frequency of said shaving. Bunny went to war, insisting the edict be rescinded or that all river rangers be required to shave. She prevailed, to the relief of rangers everywhere. Bunny was an adventurer whose understanding of fear was relegated to a vague notion found in the dictionary.”

Bunny spent the 1990s in Anchorage, Alaska, working as a State hydrologist for the BLM. An avid skier, she volunteered as a ski patroller at Alyeska Resort, learning avalanche and mountaineering skills and emergency care. Considered one of the best and beloved by her fellow patrollers, she also coordinated and was recognized by Eagle River Rescue, a group of police, military and civilian, fire rescue, state troopers, and park rangers.

Bunny returned to the lower 48 to work in Vale, Oregon, on the Owyhee River; took a break to work for the US Forest Service in Jackson, Wyoming; and returned to school at the University of Idaho, where she authored what was perhaps the first training framework for river managers. After returning to the BLM and their Kremmling, Colorado office, she made a final move to Salt Lake City as the National Conservation Lead for Utah BLM. She worked with the Wild and Scenic Rivers team to develop a hallmark set of Wild and Scenic Rivers training modules.

Judi Zuckert, one of Bunny’s closest friends, has shared what might startle but not surprise: “Bunny was a tremendous adventurer and very comfortable in the wilderness. She slept more often on the ground than in her own bed. Her master bedroom faced the street, while an extra bedroom faced the creek in her backyard. She chose to sleep there in the much smaller room and use the hallway bathroom to hear the creek, leaving the larger and fancier master bedroom with a fancy shower, etc., for her guests.

Who else, while battling cancer for three years with remarkable strength and determination, would go snorkeling with whales in French Polynesia? Or lead me down a double-black diamond run at Snowbird? Or boat a remote Alaskan river one more time and plan another trip to Africa, even though she knew it would not be possible?

Bunny’s local boating buddies took her on her last trip on the San Juan River this past summer. Since she’d needed 24-hour oxygen for about a year, they hauled canisters of air for several days along with them.

Bunny taught me about river etiquette on river trips, when everyone would pitch in to cook and clean. She always offered to help at every meal and was appreciated one particular time when Frank and I were in charge of a meal for 18, and were not completely confident! I have always remembered this delightful characteristic of my friend, and I make a point of doing this now on trips.”

There has been no greater supporter of RMS from leading the 1998 Symposium in Anchorage as its Chair to being the Agency lead for the 2013 River Management workshop in Grand Junction. She held several positions of chapter leadership: Alaska Chapter President (1999-2001), Northwest Chapter Vice President (2003-2005), Southwest Chapter Secretary (2006-2007), and Southwest Chapter President (2008-2011). An organizer of countless national and chapter events, RMS thanked her with the Contribution to the River Management Society Award in 2007.

Bunny offered countless hours to planning, leading, attending and following up River Management Society events and initiatives in roles that shouted commitment, care, talent and a love of our nation’s spectacular rivers. She was the go-to photographer for symposiums and workshops, and a reliably generous contributor of silent auction items. To the end. This past spring, she donated nearly two dozen personal jewelry items - silver earrings, pins, and bracelets - to the most successful-ever 2021 RMS Symposium auction.

Bunny’s family has created the [Bunny Sterin Scholarship](#) in the S.J. Quinney College of Natural Resources at Utah State University, intended for students pursuing a degree in river management. ♦

This recollection represents interviews and online comments with and by colleagues and friends, including Judi Zuckert, Monica Zimmerman, Dennis Willis, Elaine Grace and David Cernicek.



Bunny Sterin

In Memory Of

It saddens me to announce that a fine friend of the River Management Society, John Helland, has passed away.

John spent an illustrious career as the chief researcher, policy analyst, and writer on environmental matters for the Minnesota legislature, and between river-related work there and a personal passion for scenic rivers and canoeing, became a staunch supporter of efforts to better manage and care for our rivers nationwide. Some readers here will remember John’s unflagging good spirit from an RMS Rogue River trip several years ago.

Through the years, I had the personal pleasure of canoeing with John and learning much from his encyclopedic knowledge of the rivers of Minnesota.

John was the picture of vigor, curiosity, and health, but died suddenly in late June of an aortal aneurysm at the age of 77. I find this comment by his wonderful wife, Linda, to be poignant, inspiring, and honoring: “John embraced life, people, and new experiences with joy, and it is that lesson I hope we can live by for the time that we each have left.” Many of us will miss John, his sharp eye, and universal kindness. ♦

~ Tim Palmer



A couple of dusty ‘ole rangers passing on love for a river, the desert, and life

by former Deso Canyon River Rangers

When you think of Desolation Canyon, what comes to mind? For many, it is Jim Wright and Mick Krussow, two rangers that have been working that canyon for nearly two decades! Recently, they both have decided to pass on their job duties to the next generation of rangers and float down other rivers of life. Their love of the Green River and the boaters who traversed that lonely canyon will live on in the hearts of everyone who has had the chance to hear one of their ranger talks at Sand Wash, meet them along a remote camp on the river, or — for the lucky few — enjoy late Tuesday night changeovers before a coveted river trip.

Jim and Mick, both long-time GS-5/6 river rangers, lived the quote that hangs prominently in the Vernal office of the US Fish and Wildlife Service: “*Passion and dedication are often inversely correlated with GS level.*” Despite a revolving door of leadership that constantly put into question the existence of one of the longest running river programs in the country, they stood up for the resources and the many boaters who know that Desolation Canyon is a sacred place deserving of our strongest advocates. At times they put their jobs on the line to remind short time managers what Desolation Canyon’s river program stood for and how many of the other programs in the western United States emulated the Green River Management Plan. Unlucky be the manager who stood in the way of such a successful management plan and attempted to make changes that were against what had worked historically in that desolate place. Jim and Mick, along with their co-workers, were awarded the 2015 River Manager of the Year Award in recognition of their work.

Jim and Mick are like characters from the desert southwest’s most famous literature — it’s as if they walked out of the pages and onto the boat ramp. One can only imagine these two rangers discussing wilderness with Ed Abbey or hashing out land boundaries and jurisdiction with Herm Hoops.

These rangers operated in an always rewarding but often unforgiving environment. Mick once stated that he and Jim had been taking care of each other out there for nearly two decades. River rangers are forced to care for one another not only in a physical capacity but for each other’s psyche. The tone for how all rangers should look out for one another has been set by Mick and Jim and passed on to numerous rangers, co-workers, and supervisors that they interacted with during their tenure in the Price Field Office.

We have no doubt Jim and Mick’s impact will be felt by future generations of boaters and rangers who will fall for these desert landscapes — and hope people will care, and encourage others to care, for the rivers and desert as they both did. Many of us will be thinking about what Jim or Mick would do as we continue to travel in the wilderness... and we hope Jim and Mick are proud to have shared their love of rivers and wilderness with so many along the way. We wish them the best of luck in their future endeavors and hope to float with them in the future. ♦



by Bud Hoekstra

The big day had arrived, and from a bridge upstream, hundreds of numbered rubber ducks spilled into the river, as bags of them were dumped. It was the day of the annual duck races that charity fund-raising had made so popular. Downstream, queues of ticket-holders lined the banks to cheer and nudge their ducks toward the finish line. Below them, the judges waded into the water ready to catch the first ducks to make it across the finish line, and below the judges, a fun-filled herd of kids splashed in the water ready to scoop the concourse of floating ducks to toss them ashore. Suddenly, a florescent tide turns the river water yellow-green in a grossly unplanned event.

You are the event’s sponsor and the river’s manager — what do you do? Must the show go on? Or, for safety’s sake, do you evacuate the river and cordon the tide until a mystery contaminant can be identified? Is the ghastly color from an upstream spill of a toxic chemical, or is it a benign algal release from an evaporation pond? What safety precautions do you take, and to whom do you report the incident?

In this real-life incident in California, a prankster dyed the river green during a Lion’s Club fundraiser. The dye was a florescent sea marker called Fluorescein that was harmless to people and used by divers or vessels in distress to mark their location for aerial rescue. Though the children had been exposed to the green dye, they played and left unscathed. The county’s environmental health unit okayed it, but one could imagine the outcome to be quite different. Unplanned malfeasance could have introduced a substance to a water body resulting in fish kills, lifeless insects, dead bank swallows and water ouzels.

More serious events have occurred in rivers that call for pressing action. If you are a river manager, how do you respond to an accidental spill or a deliberate act of terrorism?

In 1968, 9000 sheep died, spread over 32-square miles of the Rush and Skull Valleys of Utah. The exact number is still unknown, but the dead sheep numbered in the thousands in these high desert watersheds where ranchers with allotments grazed their animals on BLM rangeland. The size of the kill stirred



Trench burials had to be designed to prevent the contamination of both surface and ground water.

that nine out of ten sheep would die. Reader’s Digest echoed the warning with its article “Poison Rides the Range.” In 1954, Congress reacted and passed the Halogeton Act that dispensed more money to exterminate this weed than it gave the BLM to manage its entire millions of acres of land.

The Army blamed halogeton in its press releases, but not everyone was convinced. Dugway Proving Ground was nearby, and a chemical weapon may have escaped the testing site to poison all these sheep. The U.S. had entered an international treaty to ban chemical weapons, so the treaty made this scenario unlikely.

The State of Utah lacked state-of-the-art equipment to chase down a trace chemical residue on forage or in snow and water, and eventually, the CDC experts were called in from Atlanta to furnish answers.

The press found out that Dugway had tested Agent VX days before the sheep kill, and VX is a lethal organophosphate, not unlike Malathion, Diazinon or Chlorpyrifos. The sickness resembled an organophosphate (OP) poisoning. (OP disables the chemical transmitter in nerve cells that enable the firing cell to relax and stop firing. Under the influence of OPs, the nerves fire and fire again, muscles stiffen, and paralysis sets in.) The local

headlines in papers across the country. The cause was unknown, and the press dubbed it “Skull Valley Disease.”

The State of Utah msent its foremost experts into the field to isolate the cause of the sheep deaths. Was it “Annie, Fannie and Mike” — three toxic algae that drinking water engineers recognized — Anabaena, Aphanizomenon and Microcystis? Or was it poisonous plants like rabbitbrush or halogeton? Or was it the advent of an exotic new disease like Blue Tongue?

Halogeton was a presumed possibility. This invasive from the Steppes of Russia poisoned flocks — up to 500 or 1000 sheep in a single poisoning. After World War II, Life magazine published photographs of dead sheep and put the carcasses on their magazine’s cover with the dire caption

ER at the hospital had filled with an unusual number of patients following the outbreak, and unsubstantiated rumors abounded of families being ill. As it turned out, only the sheep had died — other livestock seemed okay.

The course of events had been a sinister ordeal. No one knew if a newly infectious disease had emerged, or if falling snow had harbored a microbe, or if the river water seethed with a chemical. How do a handful of ranchers collect and bury 1000s of dead sheep to contain the unknown outbreak? Can they bury the dead sheep before predators eat them and spread the disease? Burying carcasses can put water supplies at risk, because the pits could leak and contaminate seepages. Even in 1968, the logistics were not fully appreciated. Utah had no recourse but to lean on the Army to render burial services for the sheep.

But something had to be done with the sheep, the myriad carcasses spread over miles, to make the range once again safe for foraging animals.

Data collection to solve the mystery disease delayed some burials. A vet inventories a carcass before its removal.



The troops moved in with backhoes to dig trenches away from underground source water. The carcasses were piled on trailers behind jeeps or in trucks and caravanned to these pits. The men dumped the carcasses and covered them so that coyotes and bears would not dig them up.

If this incident had occurred today, the U.S. would be better prepared to handle it. READIO (Regional Emergency Animal Disease Investigation Organization) would be mobilized to identify the cause. Hospital staff get mass casualty training, and fire-fighters are trained to deal with hazmat events. Cert and Red Cross volunteers act during disasters of this ilk, but we know only too well from the COVID outbreak in China, whistle-blowers who sound the first alarm can be repressed.

River managers need to be made aware of biosecurity issues and the public relations turmoil that may follow. Better-late-than-never is not an option when people die. The challenge is knowing what signs on the river require an immediate cordon. At the first inkling of an incident, who receives the initial report? How do river managers react to a sudden, extreme event like Skull Valley Disease? Source waters, especially drinking water reservoirs, are known to be potential terrorist targets. The Army Corps of Engineers razor-wired its reservoir dams after 9-11, but spills, even dirty bombs, are possible in remote, rural, free-flowing streams and rivers.

What’s your protocol? ♦

Two men swing the body of a dead sheep into the bucket of a dozer. Carcasses had to be collected and buried before bears, coyotes and vultures spread the unknown disease. The accompanying photos, formerly classified, are part of a U.S. Army collection.



Tusher Dam

The new dam includes a boat passage (marked by two center-channel boulders) that allows boaters to connect Desolation Canyon with Labyrinth Canyon, making the Green River boatable along its entire course through Utah.

by Tony Mancuso

The Green River is the largest tributary in the Colorado River system, and flows from its headwaters in the Wind River Range all the way south to its confluence with the Colorado River in Canyonlands National Park — traversing 730 miles of the intermountain West. The Green River is a critical surface water resource for municipalities, agriculture, habitat, and recreation. The only major impoundment of the Green River — Flaming Gorge Reservoir — is one of the principle components of the Colorado River Storage Project. If you begin at Flaming Gorge Dam — with all the proper permits and authorizations — a well outfitted and experienced boater can float from Dutch John, UT, all the way downstream to the confluence and on through Cataract Canyon, passing through some of the most spectacular canyons in the American Southwest.

Opportunities for these extended floats — synching permits together and floating hundreds of miles downstream for weeks at a time without having to disembark or portage — are one of the

river runner’s most idyllic experiences, at once exceedingly rare and increasingly sought-after. This had not always been the case on the Green River. Up until 2016, an agricultural diversion on the Green River that provides fresh water to farmers in Green River, UT, had blocked most boaters from connecting the Desolation Canyon section upstream with the Labyrinth Canyon section downstream. When boaters came to Swasey’s Landing at the end of Desolation Canyon they would have to get out of the river, drive around and through town, and put back on several miles downstream from where they had stopped.

The snowmelt during the spring of 2011 reminded everyone of the river’s true character. The Tusher Dam had been a near-century-old low head diversion and it did not weather the flood well. When the waters receded, it became apparent that a complete reconstruction of the dam would be needed. This reconstruction provided the catalyst for one of the great examples of collaboration in the Colorado River Basin.

Obviously, agricultural stakeholders had a place at the table while plans for the reconstruction were made, but they were joined by recreators, landowners, ecologists, land managers, and associations. This conglomeration of interests allowed the final product of the dam to be one which dramatically improved the conditions along the Green River not only for boaters, but for wildlife and water users. The new design of the dam included a boat chute that allows downstream travel for rafts or kayaks, as well as both upstream and downstream passages for the endemic, endangered fish in the basin, which have become a bit of a regional mascot for river-oriented interests in the Southwest. In fact, the Utah Division of Wildlife has tracked an individual razorback sucker that has traveled from Green River, UT, as far upstream as the Gunnison River and then downstream to Lake Powell and again upstream all the way to Dinosaur National Monument, using the new fish passage to access roughly a third of its 900-mile-long migration (a migration comparable to that

of salmon in the Pacific Northwest). Of particular note is the involvement of Herm Hoops in advocating for the boat chute which finally allowed for continuous travel from Flaming Gorge Dam downstream to Lake Powell, opening up one of the longest potential continuous floats in the southwest, traversing nearly the entire length of the State of Utah. Herm has been honored previously by the River Management Society for his lifetime of contributions to river protection. Herm passed away last year. He was a role model who is deeply missed.

Today, the southwest sinks deeper into one of the most remarkable droughts in history. Looking solely at water yield, the Colorado River Basin has not seen such little water since 2002, the lowest river flows in 19 years. This spring, “wildfire fuel ERC’s” (energy release components) — which index a measure of wildfire danger due to drought — reached levels not seen since the Dust Bowl. As of this writing, Lake Powell, fed partially by Green River inflows, is at its lowest pool elevation since 1969 — just 181’ above “dead pool” when the dam can no longer produce hydroelectric power. Thankfully, the designers of the new Tusher Diversion Dam anticipated the need for planning and coordination in the face of extreme low river levels.

An agreement was reached which is outlined in the “Operations and Maintenance Plan” that describes which low-flow thresholds must be met for components of the Dam to be turned off. Although the Dam is new and assessments like these are subjective, modeling suggests that the Tusher Boat Chute is passable down to 1,300cfs. I’ve personally run it as low as 1,800cfs, and out of an abundance of caution for my raft I will not likely be running it any lower than that. When the streamflow Gauge in Green River, UT, reaches 1,200cfs, the operators of the dam may stop log the Chute to preserve their agricultural water right. (Stop logging the boat passage involves the process of fixing a dimensional wooden beam spanning the entrance of the boat chute to divert water to components of the dam which serve prior water rights.) Before they would do so, they notify the Utah Department of Natural Resources so they can get the word out to river runner groups like the Utah Guides and Outfitters Association and American Whitewater.

The Tusher Diversion Dam — and



A warning sign for boaters, and the old diversion dam before reconstruction. Photos courtesy of Utah DNR: Sovereign Lands.

its boat and fish passages — represent an achievement of collaboration between various stakeholders. Once the need had been identified, separate interests came together and explained their positions. Partners respected each other’s

concerns and worked together to reach a compromise that benefits all. The coming seasons will continue to ask us to reach these compromises, and we’ll be wise to remember what is possible when we work together. ♦

Schools offer new career pathways for students passionate about rivers

by Angie Fuhrmann

The River Management Society (RMS) welcomes Western Colorado University, Eastern Washington University, and Fort Lewis College to its growing network of colleges and universities dedicated to preparing the next generation of river managers and stewards. By offering the River Studies and Leadership Certificate (RSLC), these schools now provide students with a new pathway to professional river-focused careers.

RSLC coursework focuses specifically on river systems, yet it is interdisciplinary in nature. Students explore and study river systems in ways that integrate the life and earth sciences, policy and conservation, socio-cultural and economic factors, as well as education and recreation.

Faculty members serve as RSLC Advisors at their respective schools, collaborating with students to design and complete a personalized academic program that empowers them to address the real-world challenges facing our nation’s rivers.

“We are immensely proud to know our RSLC Advisors, for they will introduce to students the opportunity to understand the multifaceted aspects of rivers as resources to protect, manage, and enjoy,” said Risa Shimoda.

Eastern Washington University (EWU) in Cheney, WA, will host the certificate program through its Geosciences Department. Assistant Professor of Geosciences Dr. Erin Dascher will serve as the RSLC Advisor. Her research focuses on human-nature interactions related to river connectivity and restoration, aquatic species distributions, and water resource management, as well as broader human-environment interactions.

Fort Lewis College (FLC), located in Durango, CO, is home to the Four Corners Water Center, an interdisciplinary information hub that builds relationships and creates dialogue to address the challenging water issues faced in the southwest. Dr. Gigi Richard, one of the original RSLC founding Advisors who started the RSLC program at Colorado Mesa University, is now the Director of the Four Corners Water Center and an instructor of Geosciences and has brought the RSLC program to Fort Lewis College. Dr. Richard’s research focuses on watershed hydrology in Colorado, from snowmelt-driven systems to intermittent desert streams. She also studies human impacts on river systems, including the downstream effects of dams, levees, and other human activities on rivers in Colorado, New Mexico, and New Zealand.



A perfect complement to the RSLC program, FLC launched a new college-wide river program called Fort Lewis on the Water (FLOW) in 2020 in collaboration with Four Corners Water Center, Outdoor Pursuits and departments at the college. According to a school news release, “FLOW opens the door to next-level experiential learning opportunities, leadership development, recreation and wellness outlets, service-learning components, and programs that serve to advance partnerships with regional schools.”

As Dr. Richard prepares to launch the program, she said, “This unique certificate gives students hands-on experience and fits perfectly with FLC’s experiential learning focus, natural resource courses, and programs like the Four Corners Water Center and Fort Lewis on the Water.”

Western Colorado University (WCU) in Gunnison, CO, is home to the Clark Family School of Environment and Sustainability, which offers interdisciplinary education focused on global networks of place-based change, cultural inclusivity, and cross-boundary environmental stewardship. In addition to solution-focused academic programs, the Clark School includes major conferences and public initiatives under two centers: the Center for Mountain Transitions and the Center for Public Lands.

The RSLC Advisor is Dr. Jeff Sellen, Professor of Environment & Sustainability, where he teaches classes in U.S. and global environmental politics and policy and water policy. He is also the Director of the Colorado Water Workshop, which is held annually in July in Gunnison and serves as a venue for the ongoing discussion about the most significant natural resource in the West, water.

When reflecting on what excites him most about his field, Dr. Sellen said, “As we address the most challenging issues of the day (climate change, wealth inequality, biodiversity loss, global poverty, to name a few), we are required to think in terms of fundamental change. I remain optimistic but committed (along with my students) to making this fundamental change. Our work at the Clark Family School of Environment & Sustainability at Western is not merely academic; it is the work that is necessary to change the world.”

With the addition of these three schools, RMS is excited about the growth of the certificate program and looks forward to supporting RSLC advisors as they prepare the next generation of river professionals. ♦

Virtual Discussion Series about River-related Careers

In partnership with the USFS, RMS is hosting a virtual discussion series for current, prospective, and alumni RSLC students called “Braided Channels: Opportunities for River Careers” from September-December 2021.

Thursday, September 16, from 3-4 pm ET - “Answers about river-related work on public lands”

The first virtual discussion will feature a Q&A discussion with Colter Pence and David Cernicek, who work on Wild and Scenic Rivers for the USFS. They will answer questions about what kinds of jobs are available and help students better understand how to land a river-related job with a federal land management agency.

Thursday, October 7, from 3-4 pm ET - “Getting started with Federal Career Pathways”

The second virtual discussion will explore internship, entry-level, and direct hire opportunities for students and recent graduates who wish to enter the federal workforce. Participants will hear from a panel of young professionals who have taken advantage of these opportunities and will have the chance to ask questions about navigating the process.

Wednesday, November 10, from 3-4 pm ET - “How opportunities relate to cultural and social priorities on public lands”

The third virtual discussion will examine how new job opportunities are related to the cultural and social priorities prevalent at many public land agencies. Participants will learn about initiatives from different agencies to attract and retain a diverse and inclusive workforce and the current priorities around climate change, increased visitation, and other relevant topics.

Thursday, December 2, from 3-4 pm ET - “Leveraging your education, certifications, and special skills”

The fourth virtual discussion will explore how your credentials can be a powerful tool to differentiate yourself from others. Participants will hear from a panel of river professionals about how they leveraged their education and certifications to begin their careers, including diverse perspectives from NGOs and river advocates, engineers and consultants, river managers, outfitters and guides, and more!

All discussions are free and open to current, alumni, and prospective RSLC students, as well as anyone interested in beginning a river-related career. To register, visit the RTC webpage at www.river-management.org/river-training-center.

(Executive Director, from p.1)

Extreme weather events (e.g., severe storms, prolonged periods of high temperature) and related river conditions (droughts, flooding, raised water temperature) have prompted river closures frequent enough to no longer shock us. *We must plan for the normalization of extreme events by designing or retrofitting infrastructure to be flexible, and embrace adaptive planning techniques.*

Despite the overwhelming needs and opportunities to manage and steward rivers, the arteries of life and stages for research, commerce and healthy activity, priority for river programs is not clear in resource management efforts. While Wild and Scenic Rivers administering agencies have increased their attention on training and education for staff and partners responsible for the federally protected rivers in their jurisdiction, staffing and training for their ‘other’ rivers is lean and not improving.

- During the introduction to the recent celebration of the Bureau of Land Management’s 75th Anniversary references to rivers, lakes and streams were referred to generically, perhaps in an effort to be politically correct, as “waters” by senior agency leaders.
- US Forest Service recreation management is merging with the management of Wild and Scenic Rivers and Wilderness, removing an opportunity for important and sometimes competitive voices to advocate internally for programs, projects, and resources.
- River ranger positions have broadened and renamed without reference to the resources once viewed as deserving of specific skills and experience.

These melding and genericizing actions of efficiency reflect the need for the special skills and ethos learned and practiced by river professionals. The lack of clarity about how the management of rivers is funded has made it virtually impossible to advocate for an appropriate level of staff and training support.

The importance of seeking, developing, training, and leading workforces — whose diverse perspectives enrich — has risen in priority for offices throughout the nation. We hope to hear from and work with you to address the daunting but important process of re-establishing a high profile for rivers and river managers who can invite others to enjoy public lands with expertise and pride. ♦



Risa Shimoda
Risa Shimoda
Executive Director



FOR IMMEDIATE RELEASE
August 25, 2021

Graduates earn River Studies and Leadership Certificate, pursue river management careers

The River Management Society (RMS) has announced the recipients of its 2021 River Studies and Leadership Certificate (RSLC). Certificates have been awarded to Erica Byerley and Lindsay Hansen from Northern Arizona University (NAU) and Tyler Dagliano and Kate Steele from Virginia Commonwealth University (VCU) for completing interdisciplinary coursework and a field-based practicum in river-based science, policy, conservation, education and recreation.

“The recent graduates have inspired us by demonstrating their passion for rivers,” said Judy Culver, President of the River Management Society. “Through their research, field work and volunteerism, they’ve already contributed greatly to the art and science of river management, and we are thrilled knowing this is just the beginning for them. Congratulations!”

For many students, the most valuable elements of the RSLC program are the hands-on learning experiences and the introductions to the variety of available river-based careers.

“I was able to learn about many river-related topics ranging from river safety to macro-invertebrate sampling,” said Dagliano, who is currently working with a national consulting firm writing environmental site assessments. “Being able to learn how to use those skills while in the river allowed me to gain experience performing tasks that directly relate to my career goals now that I have graduated.”

Almost all of the 29 students who have received the certificate have begun careers in river management fields like aquatic science, fisheries management, hydrology, geographic information systems (GIS) and outdoor recreation. The 2021 graduates aspire to do the same.

Lindsay Hansen is preparing for her new role as a fish ecologist with the U.S. Geologic Survey (USGS), where she will work with conservation, monitoring and management of native fish and trout on the Colorado River in the Grand Canyon. Erica Byerley will work as a technical boat operator on a trip to monitor the humpback chub for the USGS. Kate Steele is currently raft guiding in western North Carolina and looking for her next opportunity working on rivers.

Visit <https://www.river-management.org/river-studies-leadership> to learn more or to inquire about offering the program at your university.

The River Studies and Leadership Certificate is a program offered by the River Management Society in partnership with 12 colleges and universities to undergraduate and graduate students who have become inspired to join the next generation of river professionals.

For more information, contact Bekah Price, bekah@river-management.org, 423-943-2000.

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Contact:
Bekah Price
bekah@river-management.org
423-943-2000

Erica Byerly has set up her own GIS consulting business and hopes to secure a position with the U.S. Geologic Survey (USGS). In her master’s program, she developed advanced research skills on how to assess debris flow risk that could impact residents and recreators in river systems. She came to the RSLC with several years of experience as a Grand Canyon River guide, and this fall she will work as a technical boat operator with USGS on a trip monitoring the humpback chub.

Kate Steele is currently raft guiding in western North Carolina and looking for her next opportunity working on rivers. While at VCU, she managed trips and worked as the trip leader for the school’s Outdoor Adventure Program (OAP), taking on the great responsibility of maintaining activities during the pandemic. Before COVID, she helped lead the fall RSLC new student recruitment raft trips, giving her time to help advance the RSLC at VCU. She was also a teaching assistant for courses in Wilderness Policy and Outdoor Leadership. “Kate was super positive and competent and academically very strong,” said VCU Professor and RSLC Advisor Dr. James Vonesh. “She was the model of an RSLC student with broad interests, deep conviction to protect and get people outdoors and especially on rivers. She did well in her classes and was an anchor in the student workers at the OAP.” At the 2021 RMS River Management Symposium, she presented her [final project](#) on perhaps the most relevant topic of the year: “Same river, same risks, higher demand. What does COVID-19 mean for whitewater recreation management on an urban river?”

Lindsay Hansen is preparing for her new role as a fish ecologist with the U.S. Geologic Survey (USGS), where she will work with conservation, monitoring and management of native fish and trout on the Colorado River in the Grand Canyon. This builds upon her time at NAU, where she focused her studies on understanding how hydrologic changes in the Colorado River and the Little Colorado River have impacted native species. Outside of school and work, she [creates art](#) that conveys important messages about protecting and restoring rivers.

During his time at VCU, **Tyler Dagliano** worked with captive rearing of endangered mussels at the Harrison Lake Federal Fish Hatchery. He also helped produce a technical report for the scenic assessment for a focal section of the James River as well as a viewshed analysis tools for the Virginia Scenic Rivers Program. He said beyond the experiential learning and exposure to career opportunities, he was able to build relationships and collaborate with other students who share his passion for rivers. “Overall, I am very pleased with my experience with the RSLC program and will remember it as a highlight of my time at VCU,” he said. ♦



Erica



Kate



Lindsay



Tyler

NWSI

by
Risa Shimoda
Jimmy Gaudry
Eric Giebelstein
Nancy Taylor

Background

Once upon a time, it was the winter of 2019-2020. RMS was excited about our plan to participate in the annual Northern Rockies Wilderness Skills Institute (NRWSI), one of several such regional Skills Institutes hosted by the USDA Forest Service and partner organizations. Jimmy Gaudry, Northern Region Wilderness and Wild and Scenic Rivers Program Manager (USDA Forest Service) had invited us to develop and host river management-specific content for his region's successful land-based program at the Powell Ranger Station in Powell, Idaho. We were set to offer a presentation on River Manager Core Competencies and the basics of the Wild and Scenic Rivers System taught by LuVerne Grussing and Ed Krumpke. Ben Lawhon from Leave No Trace agreed to travel to Powell to offer a three-day certification program and Lisa Ronald, Wild and Scenic Rivers Coalition Coordinator, planned to provide an update about this newly-formed group.

We were excited!

The COVID-19 pandemic arrived.

The 2020 NRWSI was cancelled.

Fast forward to fall 2020. As planning began for the 2021 field season, it was clear a traditional skills-based training would not be feasible, so Jimmy and leaders of past regional Wilderness Skills Institute events were invited to invent an alternate means to educate, train and network field staff. Afterall, they still needed to be taught, refreshed and supported in preparation for what might be a second year of unprecedented visitorship.

Jimmy and others recruited a Core Team that developed and hosted the 2021 National Wilderness Skills Institute, and it was 'game on' for five months.



The following describes the creative and entrepreneurial thought, planning, and delivery of the event (May 24-28, 2021) and adds a bit of retrospection from a few members of the Core Team: Jimmy Gaudry, Eric Giebelstein, and Nancy Taylor.

Objectives

We set as the goal of the National Wilderness Skills Institute to provide access to high quality skill building and professional development opportunities for agency staff, partners, and volunteers that engage in wilderness and Wild and Scenic Rivers work. The objectives for 2021 were to:

- Integrate proven course content with new experiences in virtual training techniques.
- Encourage Wilderness Skills Institute instructors and participants from other regions to participate and utilize the training as a springboard for others that can meet their regional needs.
- Develop a) site-based teaching of physical skills which comprise the centerpiece experiences, and b) tools that promote camaraderie of participants while comparing notes and sharing stories around campfires.

The long term objective is to provide an evolving, integrative model for learning and practicing virtual and field-based wilderness, wildlands, and Wild and Scenic Rivers-related skills, addressing training needs, and networking interests with experienced subject matter experts.



History of the Wild and Scenic Rivers Act – Angie Fuhrmann introduces Ed Krumpke (top right) and LuVerne Grussing (bottom)



Bill Hodge – Executive Director,
Bob Marshall Wilderness Foundation



Keynote Speaker:
Dr. Drew Lanham, Clemson University –
wildlife biologist, author, poet

(continued next page)

Numbers Speak Loudly

The registration level for the event shocked and surprised all who were involved — 933 individuals registered to attend at least one of the 70 plenaries, tracks and networking coffee or happy hour sessions! We saw 269 at the opening keynote, and individual session attendance during the week ranged from 50-100. Participants included those from four countries outside of the US, including attendees from the Kingdom of Jordan who want to model our program for protected area management in the Middle East. Session recordings posted online as of July 9, 2021, have been viewed 774 times with an overall impression outreach of 5,018 on YouTube alone. The program, which includes links to recordings of the National Wilderness Skills Institute plenary sessions and workshops, is available [online](#).

Success Factors

Core team leadership and makeup were fundamental elements of the NWSI success. The core team was assembled strategically to include geographically diverse staff and non-profit partners who, while they possess complementary skills and personalities, could agree on important decisions with unanimity and enthusiasm. The USDA Forest Service staff and partners each work toward the practice and stewardship of public lands, and this alignment highlighted the power of collaboration as we planned and implemented this skills training.

People in the wilderness and Wild and Scenic River world were hungry for connection to their professional network. COVID has disrupted the few times that these normally solitary and independent field-going professionals (wilderness and river rangers, crews, biologists, etc.) get together for communion, learning, and passing the torch — folks were eager to participate. The incredible variety of

course offerings, expert instructors, and plenaries focused on the intersection of public land stewardship and social justice issues, for example “Public Lands in the US: A More Inclusive Examination” and “Exploring Native Land Acknowledgments” created an opportunity for people to learn and grow beyond the technical skills and continue to create a community of belonging and focus on including and welcoming all people into this field — an incredibly important goal toward which we all need to strive.

~ Eric Giebelstein

In addition, integrating Wild and Scenic Rivers to the program previously focused on wilderness made it possible for participants to deepen their portfolio as they enjoyed seeing familiar faces and meeting those they would not meet or learn from at a regional event.

Highlights

We were reminded of the energy fueling the highly engaged community of practitioners who steward our wild landscapes on public land. The level of engagement from participants throughout the week during the sessions and in the breakout rooms was fantastic. Continuing discussions took place between sessions and in Coffee Hour sessions in the morning and afternoon Happy Hour sessions, and we have learned anecdotally of participants sharing session learning and recordings.

The platform gave us the opportunity to truly include anyone who wanted to join NWSI, from anywhere, as seen with our international participation! Not only that, but we all had a chance to cross paths with people we otherwise never would have met in our regional trainings held more locally. For some people the virtual environment is actually a comfortable way to connect with a community and it provided a forum where everyone could interact on their own terms.

~ Nancy Taylor

In addition to recruiting and organizing speakers, Jacob Wall, Dusty Vaughn, and Angie Fuhrmann worked behind the scenes to add tremendously to the program and process quality. Our early interest survey provided terrific program development input, and the post-event survey provided a great deal of input for future planning. The NWSI easy-to-navigate website, registration form, and beautiful, information-packed program made attending a session of interest as simple as clicking. Training sessions for speakers ramped everyone’s confidence up to a level that made it possible for the team to recover quickly and gracefully from glitches.

We received positive feedback on both skills-based sessions, to the degree they could be delivered given the constraints of the medium, and discussions about the degree to which public lands are, and ought to be inclusive. The program quality reflects the creativity, insight and ability of the team to recruit fantastic speakers and panels that shared stories with sobering, informative legitimacy. Outstanding examples were Colter Pence’s “Field Leadership Development: Leader’s Intent and Field Briefings,” and Dr. Drew Lanham’s conversation with Bill Hodge about “Inclusion as a Criterion for Future Conservation.” ~ Jimmy Gaudry

Not an Excuse

The imperative for wilderness skills training is knowing field staff possess the skills to manage, respond and protect their stewardship responsibilities. In addition, the interdependence of agency and partner communities enables both to serve their missions. Embedded in the need for training is the lack of mentorship created by budget slimming and a mantra of efficiency, to ‘do more with less.’ Attrition-related cost saving has spoiled finance departments with updated baselines of the resources appropriate for serving the public. Field staff are stretched

thin, armies of detailers complete tasks but have no responsibility, loyalty or long term skin in their river’s game. The combining of departments further diminishes the skills, ethos and values of their respective champions who must all now wear each other’s clothes.

That the US Forest Service wilderness visitation rose 75% in 2020 over the 2019 estimate, roughly double the normal rate of increase, exaggerates a 15-20 year progression of homogenizing staff expertise to the extent current leaders have never floated the rivers they manage or even one of the nation’s 250 Wild and Scenic Rivers. From the standpoint of seeking to serve visitors to our public lands and rivers as welcome “customers,” doing so with fewer staff creates an accelerating “investment per visitor” decline that will surely take a long term toll on the public’s respect for agency personnel, guidance and requested behavior and as a consequence, the integrity of our precious rivers, wilderness and trails.

Giving Forward

All in all, we and the others on the NWSI Core Team were pleased with how the 2021 NWSI was produced and delivered. Looking forward, the next iteration may be as different from this year as 2021 was from the events planned for 2020. We have begun to discuss the options for incorporating positive aspects of this year’s event to the teaching of Wilderness and Wild and Scenic Rivers field skills, in the region where they will be practiced. ♦

Watch for news of the 2022 version of the NWSI. We will seek to keep or repeat unique aspects of this year’s virtual event as we return to in-person skill-based trainings!

National Wilderness Skills Institute – Core Team

Watch the [Kickoff Video](#) online (4 minutes)

J. Dan Abbe - Wilderness Specialist, USDA Forest Service Representative, Arthur Carhart National Wilderness Training Center

John Campbell - Southern Region Wilderness and WSR Program Manager, USDA Forest Service

Ian Davidson - Program Manager, Selway Bitterroot Frank Church Foundation

Bill Hodge - Executive Director, Bob Marshall Wilderness Foundation

Angie Fuhrmann - River Training Center Coordinator, River Management Society

Jimmy Gaudry - Northern Region Wilderness and WSR Program Manager, USDA Forest Service

Eric Giebelstein - Regional Director, Southern Appalachian Wilderness Stewards

Carol A. Hennessey - Recreation, Trails, Wilderness, Outfitter & Guide & Rivers Program Manager, Nez Perce - Clearwater National Forests, USDA Forest Service

Risa Shimoda - Executive Director, River Management Society

Nancy Taylor - Pacific Northwest Wilderness, WSR, Congressionally Designated Areas Program Manager, USDA Forest Service

Dusty Vaughn - Wilderness and WSR Specialist, USDA Forest Service

Jacob Wall - Program Director, Society for Wilderness Stewardship

RMS Board & Southwest Chapter News

by Risa Shimoda

The Board Meets...

The Ruby Horsethief section of the Colorado River from Loma, Colorado, to Westwater, Utah, provided the backdrop for an ‘RMS weekend’ reminiscent of 2013 when we combined a board meeting and Southwest Chapter trip at the same location. The 25-mile Class I and II reach which runs through the McInnis Canyons National Conservation Area is a remote treasure in this region, yet begins under a half-hour from downtown Grand Junction, “[totally underrated](#)” according to our colleagues at O.A.R.S.

The weekend kicked off with the ‘in person’ meeting of the full RMS Board of Directors which, according to our Bylaws, must take place once per year (in addition to monthly Executive Committee calls and full board calls in January, April and July). We took exception to this requirement in 2020 with a virtual annual meeting but decided to go ahead this year with a hybrid meeting to accommodate understandable caution or employer-based travel restrictions. While our in-person attendance was low, we met our quorum requirement, and the meeting went so smoothly that we ended early! Thanks go to everyone who provided excellent materials to review so that we could focus on open issues that required board action, such as the membership framework overhaul we are excited to implement. (See page 36.)

We also thank our hosts, lifetime member Ken Ransford and his sister Sara Ransford, whose ranch home served as a lovely meeting location with a spectacular view of the river. Some say it is the greatest house on the Colorado River. We think so!

And Toasts Troy...

As the meeting came to its pleasantly efficient end, the RMS Board and staff welcomed local Southwest Chapter members to join for dinner, as is customary wherever we meet. This year, we added a special program to the dinner — a tribute to Park Ranger Troy Schnurr who, after working for the Bureau of Land Management for 30 years, is planning to retire. Troy’s wife Pam Schnurr and Collin Ewing, BLM Field Manager in Grand Junction, invited agency colleagues and local friends to offer stories and share experiences from times with Troy, on and off the river. RMS members traveled from near and far to join the festivities, including: Jennifer Jones, past RMS Board Secretary whose field office manages the Colorado just downstream of Ruby Horsethief, and Bob Ratcliffe, National Park Service Division Chief, Conservation and Outdoor Recreation in Washington, DC, who was in town for a river trip and accepted the invitation without hesitation.

In addition to his omnipresence at the Loma boat ramp where the Ruby Horsethief trip begins, Troy’s legacy will undoubtedly be tied to his dedication to restoring healthy river banks by removing tamarisk and Russian olive trees to protect cottonwood trees, and planting coyote willow and other native plants along the river’s banks. Since the late 1990s, Troy has worked patiently and tirelessly to restore the exquisite campgrounds and access to hikes through gorgeous canyons and viewing native petroglyphs. At the end of the 2014 field season, after 15 years of focused effort to remove tamarisk, Troy led the last large-scale chainsaw crew to remove the stubborn invasives with a grant secured



Where do you begin?

The adventures of Troy and Sparky go way back to the ‘90s, and they include so much more than river restoration, although that became the focus for years and years. Perhaps it is taking a log skidder, through the Black Ridge Wilderness (then a WSA), to the river and the Cottonwood campsites where heavy down and dead fuels were contributing to fire loss in the cottonwood galleries?

It is the two of us fighting a fire in the river corridor — it is us freezing our tails off seeding fire scars in November. Our desire to be more efficient included hauling ATVs on a raft to make seeding easier, and the design and build of a one-of-a-kind weed-spraying raft. For the latter, Troy kept it an operational boat, me a functional sprayer. It is designing and building gravity-fed drip systems for seedling cottonwoods.

It is the decision and then the determination to exterminate every

Russian olive between the Loma launch and the state line. It was a years-long effort with countless trips in high and low water, but the effort paid off and the river is much better for it. There were innumerable scouting trips to plan and conduct projects for the Conservation Corps, fire crew, and weed crew.

It is swift water rescue training in freezing water.

It is packing out squatter camps with horses. It’s trying not to be struck by lightning in a fierce thunderstorm.

It is trying not to drown while sawing up a strainer of cottonwood in the river.

It is covering every island, every slough, year after year until there is no more purple loosestrife. It is spraying knapweed, whitetop, thistle, kochia, and tamarisk over an entire river corridor.

It is rounding up wild horses — hunkered together at the trap gate waiting for the

last thundering hoof to pass the gate within inches of us. It is chaining up all fours in the cold rain and snow.

It is waking up to a flash flood roaring down Mee Canyon.

It is abandoning ship and swimming for several miles to avoid deer flies.

It is lawn chairs, a campfire, and a beautiful sunset.

When you spend that much time planning and executing projects together, you are either going to kill each other or develop a lifelong trust and friendship. It was certainly the latter. I will forever cherish the memories of our adventures and accomplishments.

~ Mark “Sparky” Taber, BLM, retired

Enjoy a [conversation](#) between Troy and Sparky — “Restoration Work in Ruby & Horsethief Canyons.” <https://vimeo.com/330864417>



Troy Schnurr (see arrow) — surrounded and celebrated by colleagues, friends and family.



Bob Ratcliffe (left) and Troy Schnurr. Photo: Angie Fuhrmann

This was an opportunity I did not want to miss, to attend an RMS gathering on the banks of the Colorado River near Grand Junction to honor my good friend Troy Schnurr and his life's work restoring Ruby Horsethief Canyon, now one of the most remarkable river canyons in the southwest. I have known Troy most of my adult life, as we met over 40 years ago when he was working in an outdoor store and I was river guiding. He, his wonderful wife Pam, and I worked together on ski patrol at nearby Powderhorn Mesa where we shared many adventures on rivers and in the backcountry of the west. Like many of the other folks gathered to honor Troy, we then continued to make a career of giving back to help protect and manage those special places we all loved and enjoyed so much. With that same mesa glowing in the evening light in the distance, about 40 friends, river colleagues, and coworkers gathered at a beautiful spot along banks of the river he managed to recognize Troy, share stories, and reminisce about his career as an innovative BLM river ranger who had a contagious vision to restore the native vegetation, conserve and protect the twenty five-mile Ruby Horsethief desert canyon.

Many said it could not be done... that it would be impossible to restore an entire section of river to its former natural glory... that it was a waste of time and money. Troy was undeterred and for almost three decades, he has led armies of volunteers, coworkers, and river enthusiasts in removing non-native vegetation like tamarisk, Russian olive, and purple loosestrife. Troy kept figuring out solutions to many overwhelming challenges, he kept innovating and inventing ways to meet the goal of removing terribly thick, well-established vegetation, some of it with trunks more than 3' in diameter. When confronted with impossible logistical challenges, Troy kept figuring out how to effectively remove the spiky, thorny, noxious plants and weeds — at one point designing and building a special, first-of-its-kind frame for a raft that could carry and launch an ATV for weed control. Troy replanted hundreds

of native cottonwoods and installed drip water systems to help them survive and become established in the hot desert environment. When presented with the challenge of how to keep all those watering systems full, he simply left a bucket and hung a small sign on the trees that said “water me” — it was just one example of his infectious stewardship.

Troy enlisted the help of thousands of volunteers and every year, year after year, groups of volunteers — girl and boy scouts, church groups, and local organizations of all kinds — were infected by Troy's dedication and passion. People adopted stands of trees, others made multiple annual pilgrimages just to take care of the river because of Troy and his vision. Troy influenced the next generation, too, as he mentored and inspired dozens of interns and young professionals — some who were in attendance and now are environmental leaders, rangers, and natural resource managers themselves. Troy not only helped save a canyon, he also saved lives of visitors, fought wildfires, confronted those who were not good stewards, cleaned up graffiti on ancient petroglyph panels, removed tons of trash, and so much more. Troy took risks, he challenged conventional wisdom, and from time to time, he had the courage to do the right thing instead of following unwise rules or outdated protocols... he gave superiors a run for their money. The canyon is now mostly free of non-native vegetation and those cottonwoods now stand tall, shading the camps of thousands of people who come each year to enjoy this remarkable place, as they will for generations to come. The canyon, and I would dare say, the world, is a much better place because of Troy.

The evening was a magical moment for those who attended as we all shared our many fond and fun memories of Troy, memories we will cherish for the rest of our lives. It was an honor and a pleasure to have an opportunity to recognize Troy's lifetime achievement and something tells me his stewardship work will not end with his retirement. ~ Bob Ratcliffe

by RMS from the RBC Blue Water Project, a ten-year program dedicated to protecting fresh water. At that time, Troy reminded Meghan Kissell with the [Conservation Lands Foundation](#) “While we will always need to monitor and keep the spread of invasive species in check on this 25-mile stretch of the Colorado, the really heavy and large-scale work we have needed conservation crews to address is coming to a close. It's an important and gratifying accomplishment — for the river and all those who enjoy it.”

Success begets both success and new challenges! The transformative restoration of the river benches restored the camping areas, too. By 2011 their popularity overwhelmed the agency's volunteer camping reservation system and after a no-fee test of a new reservation system in 2012, camping permits with fees introduced in 2013 now support the capacity to manage the reach. See this [#riverismyoffice](#) of Troy, shot by Cara Kukuraitis at Rivers Edge West.

As continued evidence of Troy's commitment to the restoration, he has asked 30-year friend Bob Richardson to nurse small cottonwoods from a foot high to a size large enough for them to establish and survive on their own. Ever since Troy helped Bob's son Christian plan an Eagle Scout project that involved removing tamarisk and planting juvenile cottonwoods, he (Bob) and his wife have adopted the Salt Creek Camps #1 and #2 and look forward to keeping them in good shape.

We hope BLM staff and volunteers, like the Richardsons, will continue to plant and protect native cottonwood trees, plant coyote willow and other natives, and monitor habitat and campsites.

(continued next page)

I retired from the BLM about 2 years ago, having served as the Hazardous Materials Program Manager for western Colorado. Over the years I made several trips down Ruby Canyon, all with Troy. I'm not really a river person and floating with him was a real education — on one special occasion we rescued an airplane out of the river. I have had the pleasure of knowing and working with Troy for about 25 years. With adjacent offices, we shared our frustrations and triumphs, could always laugh about those experiences, and I couldn't have asked for a better office neighbor or friend. Troy plays banjo and we occasionally jam together; I look forward to more such opportunities. I always like to remind him of the Mark Twain quote... “a gentleman is a man who knows how to play the banjo... and doesn't!” ~ Alan Kraus

Below: Troy Schnurr on camera discussing restoration work. Photo courtesy of Collin Ewing.



Risa Shimoda presenting Troy's poster. Photo: Angie Fuhrmann



Bighorn youngsters curious about RMS visitors. Photo: Stuart Schneider

Saturday morning, October 9th, twenty-three Southwest Chapter members, families, and friends (plus two dogs), most of whom had met the evening before, converged at the Loma put-in:

National Board and Southwest (SW) Chapter Officers

Judy Culver, President
Shannon Bassista, Vice President
Rob White, Treasurer and Susan Roebuck
Emma Lord, Northeast Chapter President
Dave Schade, Alaska Chapter President
Stuart Schneider, SW Chapter Secretary and Margaret Schneider
Ericka Pilcher, SW Chapter Events Coordinator, Adam Odoski,
Ella (her first overnight at 3 ½ years!) and Capri

RMS Staff

Risa Shimoda, Angie Fuhrmann, and James Major

SW Chapter members and friends:

Ken Ransford, past RMS legal and financial advisor
Martha Moran, past SW Chapter President, Jim-Jim Kirschvink
and Chili Dog
Alan Duncan
John Leary
Tony Mancuso
Bob Richardson
Troy Schnurr
Brad Thompson

We must have been living right, for our weather was delightful: three days of sparkling sunshine and high clouds between desert monsoons the night before putting in and the evening after taking out. Troy and Bob Richardson floated with us down to Salt Creek, where we planted two of the trees Bob has nursed at his home, which allows the agency to purchase trees inexpensively and plant when they are strong enough to live on their own. With the chores completed and a few more miles of swapping stories and catching up, Troy and Bob motored on to Westwater to takeout.

Judy Culver had taken James and Risa’s shopping list to Walmart for a mega shop (thank you!) and aside from squeaking by with our Folgers coffee on the last morning and WAY too much rice the second night, Ericka’s excellent recruitment of gear and supplies, augmented by hundreds of years of combined river experience offered by trip participants, made for successful cooking efforts and cleanup teams. Adam was a hero for his love of cooking, as was Stuart for his affinity to ‘KP.’ Big thanks to Jim-Jim and Martha for both bringing and siting the groover and for Ken’s well-stocked kitchen rigging. Note to self: per Adam, remember to pack one pound of coffee per day for a crew of 16!

Collective high points occurred during our hikes, provided by the neighborhood bighorn sheep. Hiking from our Mee Canyon campsite, a mature buck on the ground near us who spotted a young male around the time we did well above us on an overlook, [ran through our group!](#) We could have never imagined seeing an adult gallop in earnest across our path. Later that day, a few of us watched one take a more than daring leap from an outcrop to a distant sandstone pillar. They were breathtaking to watch and almost-too thrilling to witness! We were visited by one or more Great Blue Heron, bald and golden eagles, wrens and other canyon birds, and a pair of river otters.

Especially notable participants were Martha and Jim-Jim’s Chili Dog, Ericka and Adam’s three and a half year old daughter Ella, styling her [first multi-day river trip](#), and Australian shepherd Capri. While the official chapter trip ended at the Westwater put in, Brad continued downstream on a Westwater permit and Ken was joined by a few kayakers to brave a rainy paddle through. Everyone headed home by mid-week with extra sand in their shoes and great photo memories in their phones! Thank you, Ericka, for your planning leadership, and everyone for pitching in throughout the trip!

Enjoy some trip takeaways and (on following pages) just a few of the dozens of photos taken by fellow tripsters...



Atop the canyon above Blackrocks Campground. Photo: Emma Lord

“ It was a wonderful opportunity to meet Troy and celebrate his life’s work, and meaningful to have my family on the trip. Ella learned about stream restoration and planting cottonwood trees. She knows to pick up trash and leave no trace. Most importantly she saw the Milky Way and sat around the campfire with inspired river lovers. ~ Ericka Pilcher

“ Ella loved playing in the sand and rafting the chocolate rapids, Capri loved trying to find food under chairs, near the trash, and in Chili Dog’s bowl, and I enjoyed meeting you all and seeing the great work you do to protect and conserve rivers and wild places. ~ Adam Odoski

“ I am always impressed by the knowledge and passion of people who work in river management. That again became apparent from all the comradery and wonderful discussions. River trips bring that all home.
~ David W. Schade, MPA

“ It was great to meet so many folks that I had only seen on Zoom, as well as meet so many of my fellow Southwest Chapter members! Highlights included being as close to a bighorn as I ever want to be, eagles on the wing, otters at play, and the changing colors of the cottonwoods in fall. Cheers to all! ~ James Major

“ Rivers are always changing, but some things stay the same — like RMS knowledge and sharing. Our greatest river innovations: pee bucket, blaster, Chums, modern groover, roll-a-table, RPM & self-support kayak, dry bags, Paco pads, Luci lights, Chaco sandals, carabiners! ~ Martha Moran

“ I loved being around people who are dedicated to keeping rivers beautiful, natural, and functional. Thank you, Ken, for leading the hike up to the “amphitheater” shelf, and weren’t those two bighorns amazing? ~ Susan Roebuck

“ RMS trips provide an invaluable opportunity to gain knowledge, management tools, and ideas from interagency partners, nonprofits, and retirees that enhance the way we manage our nation’s rivers. Conversations included:

- How State Parks can address the impacts of BLM’s 2021 social media campaign on both State and BLM lands in Utah;
- Touching base with Tony (Utah) and Collin (BLM, Grand Junction) to gather information about the public campaign to restrict the number of dogs on the river to two, as this will be implemented on the Rio Chama;
- A mentor/mentee connection in the works;
- Comparing notes about successful techniques to obtain buy-in on a project, and expressing appreciation to one’s staff;
- Bringing back the Cottonwood Tree program, including the “ask” of river rafters to help water the trees! ~ Judy Culver

“ What a fantastic trip — there were so many great conversations that I didn’t want to miss any! My reminders:

- send Judy photos of artwork at Potash boat ramp that discourages vandalism
- team up with Dave regarding PPL v. Montana
- send *Herm’s History of Inflatable Boats* to Brad
- get together with James to co-link our websites
- talk to Emma about Partnership Wild and Scenic Rivers

If you pass through the Four Corners, it’d be great to see you!
~ Tony Mancuso



Shannon Bassista, Martha Moran, Judy Culver, Emma Lord, Tony Mancuso, John Leary, Risa Shimoda, James Major. Photo: Angie Fuhrmann

Salt Creek planting — adding protective wire. Photo: Risa Shimoda



Hiking above Blackrocks. Photo: Dave Schade



Adam Odoski and Ella, Ericka Pilcher, Martha Moran, Jim-Jim Kirschvink, Chili Dog, Ken Ransford, Rob White, Susan Roebuck, Alan Duncan, Brad Thompson, John Leary. Photo (and inset of Chili Dog): Angie Furhmann



Ella keeping her household in order while on the river. Photo: Ericka Pilcher

Emma Lord and Ericka Pilcher against the impressive backdrop.



Martha Moran and Risa Shimoda separating cans from gross garbage atop the recycling dumpster. ♦



French Broad Float Energizes Regional Efforts

by Bekah Price

A recent float on Section 9 of the French Broad River (NC) was a timely reminder of the power of partnerships as we work towards shared goals on our rivers. We want to thank RMS member Jack Henderson for bringing everyone together (despite delays from Tropical Storm Fred!) and the Nantahala Outdoor Center for providing boats, guides, lunch, and transportation.

Our crew of about 20 included river managers and stewards from the U.S. Forest Service (USFS), River Management Society, American Whitewater, American Rivers, RiverLink, rafting outfitters, and MountainTrue – including their French Broad Riverkeeper, Green Riverkeeper, and Watauga Riverkeeper.

“We had a great turnout, and I think people really enjoyed learning about the many projects in motion to help manage and protect the French Broad,” said Henderson. “There’s so much happening at each organization, so we hope that by reconnecting and forming new partnerships, people will be able to work creatively together to share information and fund projects.”

As with many rivers, the French Broad is experiencing

increasing private and commercial usage. While this is great news for the future of stewardship and advocacy, it simultaneously crowds accesses, stresses relationships between user groups, and increases funding demands for new and existing infrastructure.

In riverside conversations, attendees shared how their organizations are working to address these issues. The French Broad Riverkeeper gave an update on the 140-mile French Broad Paddle Trail and its positive impact on recreation and water quality. Representatives from American Whitewater and USFS shared an overview of potential Wild and Scenic River designations through grassroots campaigns and Pisgah-Nantahala Forest Planning. And at the USFS-managed Stackhouse Boat Launch, staff from the Appalachian District of Pisgah National Forest and National Forests in North Carolina shared options for improved parking and access infrastructure as well as funding opportunities through the Great American Outdoors Act.

Trips like this are at the core of our purpose at RMS, and it was a pleasure to paddle with everyone! ♦

Photo: Green Riverkeeper Gray Jernigan



Senators Mitt Romney and Michael Bennet Collaborate on Bipartisan Western Approach to Building Climate Resilience



Jennifer Jones captaining the ship for Senators Romney and Bennet. Courtesy Senator Romney’s office.

Senators were Joined by Water, Agriculture, Business, Local Government, and Environmental Leaders from Utah and Colorado to Offer Perspective

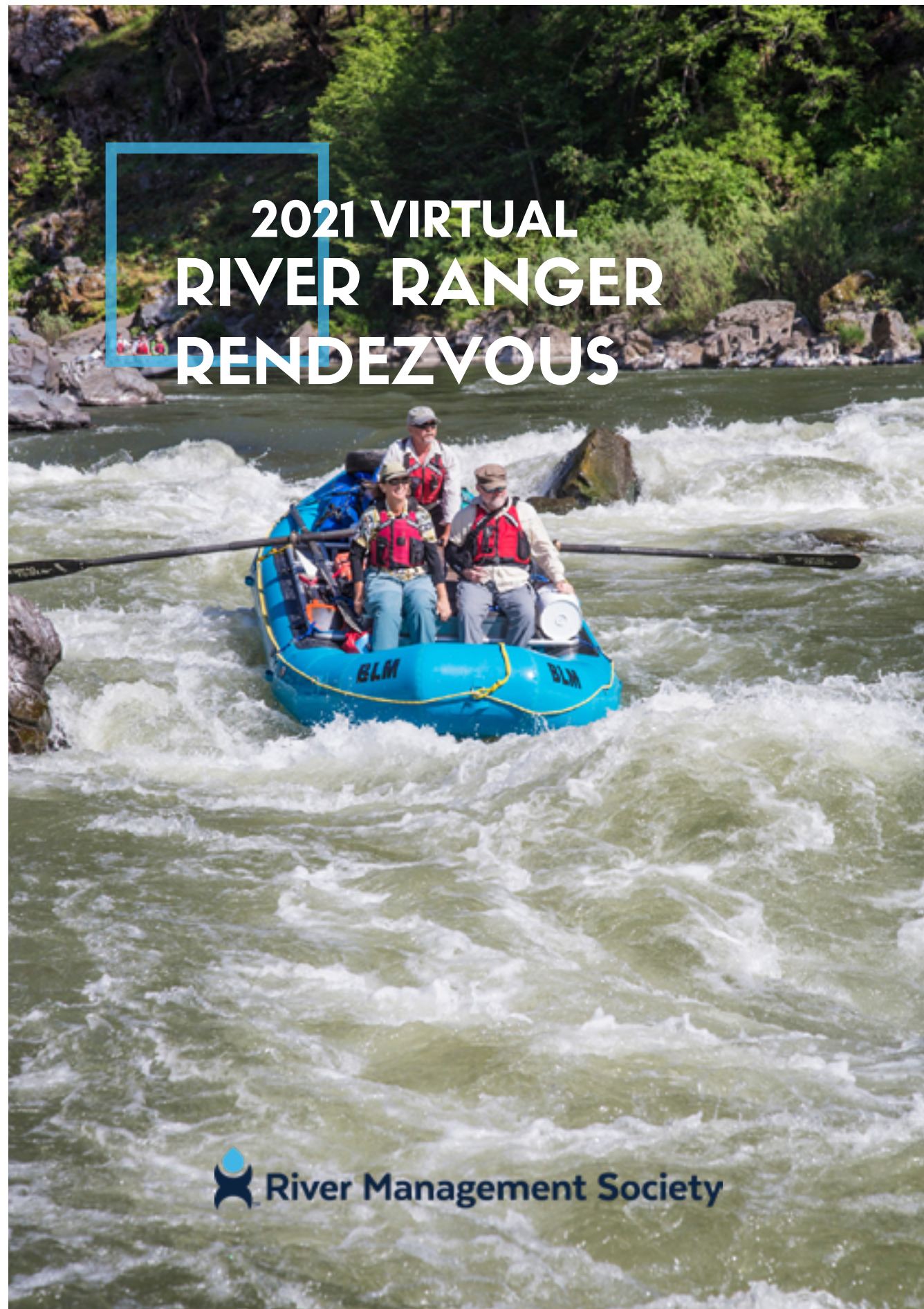
On September 19, 2021, U.S. Senators Mitt Romney (R-UT) and Michael Bennet (D-CO) led a Colorado River trip focused on solutions to building climate resilience in the West. The senators floated 6.5 miles of the river outside of Moab with Colorado and Utah leaders from water, agriculture, business, and environmental communities and local government while discussing a bipartisan approach to address drought, wildfire, and mudslides.

“Water issues are not new to the West. This drought came on quickly, and we’ve seen our communities come together and act to conserve our outdoor water resources,” said Gene Shawcroft, Commissioner, Utah Upper Colorado River Commission. “Today’s trip provided us the opportunity to meet with our counterparts from Colorado to discuss ways in which we can work together to find solutions that better manage our water and mitigate drought conditions. Understanding other people’s perspectives is critically important to tackle these big issues.”

Romney and Bennet have worked together for years to find meaningful solutions to issues affecting the West. In December 2019, the General Accounting Office [accepted](#) their request to review the United States Department of Agriculture (USDA) Emergency Watershed Protection Program (EWP), specifically asking the GAO to recommend improvements and consider the challenges the senators have heard about in using the program for wildfire recovery. The GAO is still reviewing the senators’ request.

Romney and Bennet introduced the MATCH Act to improve the EWP program in [January 2020](#) and again in [2021](#) to expedite wildfire recovery, save taxpayers money, and prevent further disasters. ♦

~ Shared by RMS member Jennifer Jones



River Ranger Rendezvous Goes Virtual!

by Angie Fuhrmann

When Covid-19 made in-person events “disappear,” organizers of the River Ranger Rendezvous understood that the importance of gathering river rangers responsible for the day-to-day management of our nation’s rivers was not going anywhere.

The River Ranger Rendezvous, which traditionally takes place during a multiday river trip, took place this year on June 3, when river rangers representing more than 24 field offices and rivers gathered virtually to exchange experience, knowledge, and get to know each other better. As Risa Shimoda highlighted, “It always has been unique as the only place for on-the-river safety/interpretive/law enforcement professionals to learn some skills, share best practice, and network with peers from other parts and other agencies. This one magnified the sharing and networking scope many times over by it being accessible to essentially anyone, anywhere.”

During the one-day event, 55 river rangers of all experience levels shared advice with each other, discussed increased use and visitation on their rivers due to Covid-19, and traded tips about river rescue and incident management. Participants also learned techniques for effective communication, Authority of the Resource, and Leave No Trace through engaging instruction by Erin Collier and Brice Esplin, members of the Subaru/Leave No Trace Team at Center for Outdoor Ethics.

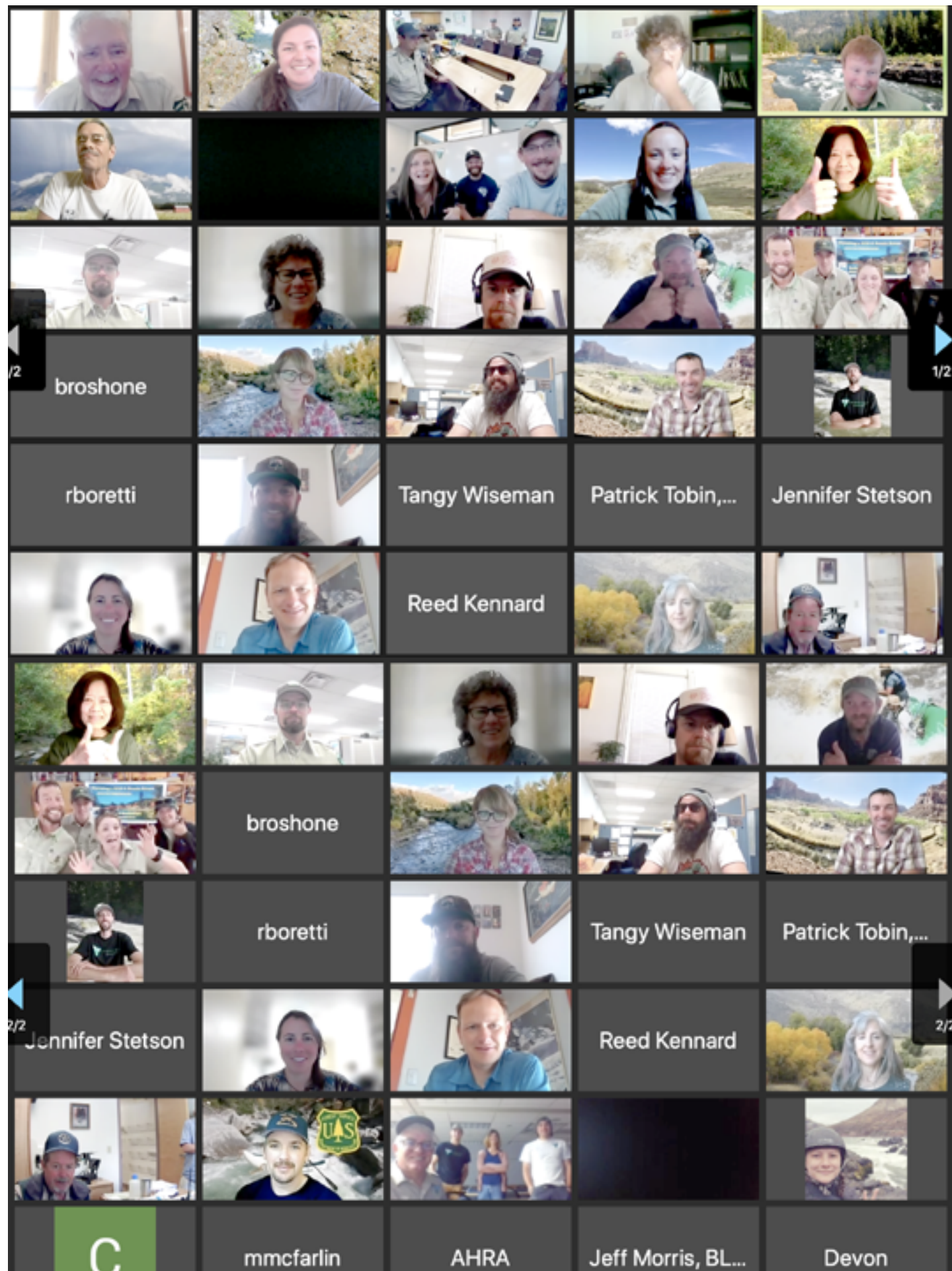
“I was overwhelmed with how much interaction there was,” said David Cernicek, organizer, and Wild & Scenic River Manager/River Ranger for Bridger-Teton National Forest. “This was not a one-way day of presentations like many things I attend. This group was keenly interested in the topics and wanted to know more. They felt comfortable speaking up in the venue we had. It was a special intimate balance that doesn’t come around often. Special.”

The day concluded with a discussion about what an ideal river ranger program would include. “The breakout groups all came up with similar ideas and relatable content. Everyone was interested on how to retain river crews and establish consistency in a river program,” said Matthew Blocker, SW Chapter President. There was a dramatic prize wheel at the end, too. Congratulations to all the prize winners including the big winners, Ian Murray, BLM Desolation Canyon Ranger, and Alicea Kingston, USFS St. Joe River Ranger.

“I will use my newfound river relationships in the future,” said one attendee. Others added, “we appreciated the opportunity to network with other rangers.” The sentiment was shared by organizers, too. “The attendees are river professionals who will collectively patrol, protect, and introduce the public to thousands of river miles this year. They are the eyes, ears, heart and soul of river management in the United States today and represent the leaders who will shape policy and practice for the next generation. They are our future and if we can make it possible for them to know and feel the community they constitute, we should be proud!” said Risa Shimoda.

As a cap to the season, river rangers met virtually again in September for the River Ranger Rendezvous Season Round-up. Once again bringing together new and familiar faces, rangers shared photos, discussed unexpected challenges, celebrated successes, and began sowing seeds for next year’s River Ranger Rendezvous.





2021 RIVER RANGER RENDEZVOUS

The 2021 Virtual River Ranger Rendezvous, hosted by River Management Society, is a one-day workshop geared toward individuals responsible for the day-to-day management of our nation's rivers. The workshop is an opportunity for participants to share leadership and management ideas, build skills related to their everyday job duties, and connect with other river rangers.

TOPICS

- WHAT IS THE RRR AND WHO IS RMS?
- MENTORSHIP BY VETERAN RIVER RANGERS
- EFFECTIVE COMMUNICATION, AUTHORITY OF THE RESOURCE, AND LEAVE NO TRACE
- INCREASED USE & VISITATION DUE TO COVID-19
- 1INTERACTIONS & CONFLICTS
- RIVER RESCUE & INCIDENT MANAGEMENT
- WHAT DOES AN IDEAL RANGER PROGRAM LOOK LIKE?



**The only
event
dedicated
solely to
river
rangers.**



(Jack's, from page 1)

status around the world by: 1) collecting coral spawn during natural spawning events and facilitating its fertilization; 2) culturing coral larvae to settle and metamorphose into coral polyps; and 3) placing the young corals back into the wild. The following is a slimmed version of the organization's August 30, 2021 [announcement](#).

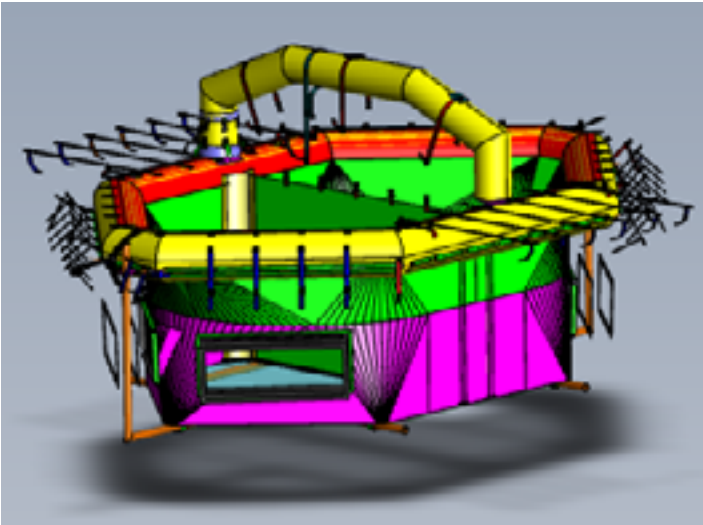
A recent publication¹ by SECORE scientists and co-authors at UNAM (National Autonomous University of Mexico) and Shedd Aquarium (US) in the peer-reviewed journal *Restoration Ecology* shows significant success in closing the gap to scale by settling many thousands of coral larvae in CRIBs. They can be used to produce large numbers of coral recruits without the need for land-based lab or aquaculture facilities. Hence, they can be applied in many locations where coral restoration is needed, but facilities are few.

Research shows that the CRIBs provide similar efficiency of converting coral embryos to settlers as is seen in land-based lab or aquaculture tanks and can be successful in a range of locations and for at least five different coral species. Nevertheless, this is only one aspect of the whole process of sexually breeding corals for restoration that SECORE and partners are developing. For instance, the coral larvae are settled on specifically designed substrates that can be handled easily and are self-stabilizing on the reefs when brought back into the wild, thus avoiding the need for labor-intensive active attachment.

Working with coral breeding, using the corals' own reproduction, not only provides the potential to raise huge numbers of coral babies out of each natural spawning event, but also promotes genetic diversity in the restored population. With the possibility of genetic recombination, some genotypes may arise that can better cope with our rapidly changing environmental conditions than their struggling and dying parents. It is hoped that future restoration efforts can utilize selectively-bred or stress-hardened coral recruits, which, for instance, may cope with elevated sea water temperatures.

¹[Rebuilding Coral Reefs: A Decadal Grand Challenge](#). Knowlton N, Grottoli A, Kleypas J, Obura D, Corcoran E, de Goeij J, Felis T, Harding S, Mayfield A, Miller M, Osuka K, Peixoto R, Randall CJ, Voolstra CR, Wells S, Wild C, Ferse S. 2021. International Coral Reef Society and Future Earth Coasts 56 pp.

Settlement yields in large-scale in situ culture of Caribbean coral larvae for restoration. MW Miller, KRW Latijnhouwers, A Bickel, S Mendoza-Quiroz, M Schick, K Burton, AT Banaszak. 2021. *Restoration Ecology*, <https://doi.org/10.1111/rec.13512>



RMS asked Aric Bickel, SECORE's Director of Technology and Implementation, about the process of working with Jack's Plastic Welding in the development of their coral kindergartens, or CRIBs.

RMS: How did you find JPW as a potential vendor for your CRIB initiative? Do you recall when you first sought a development resource?

Aric: I first contacted Jack in late 2017/early 2018. We had a colleague that had worked with JPW to develop a floating pool for a series of experiments they ran on the great barrier reef, and they thought JPW could be helpful for the device we were hoping to develop (what ended up being the CRIB). Jack was super excited to be involved in the idea when I presented it to him, and from there, we went into the development and design process with our scientists and field practitioners.

RMS: What are the essential features of the JPW product that contribute most significantly to the success of the CRIBs, based on your experience thus far?

Aric: Well, we wanted something that could be easily stored, handled effectively by a small team, and stand up to the rigors of the sites in which we deploy. Early on, it was clear that an inflatable device would be best, and JPW are experts in developing inflatables. We had a bit of a needle to thread in finding source material and a design that would not negatively impact the larval corals (which are very, very delicate in their early life stages) and would be sufficiently strong.

In 2018, we spent a lot of time working with Jack and the JPW team to finalize the designs. In the initial stages, we had a working group of scientists and practitioners from SECORE's network that came up with a list of design constraints. We met with Jack through a series of 8-10 working sessions to hone in on a design that we thought could work. JPW produced a handful of initial prototypes that we tested in the field. In 2019, we met with their team to refine the devices, and we have made minor adjustments since then. Through the entire process, the JPW team members were very open to hearing us out and finding solutions that would make the CRIBs more effective.

RMS: How would you describe the unique or otherwise notable role Jack has played in developing the CRIB?

Aric: We came to him with an idea and some homemade prototypes that we had created to prove the theory, but he was integral in taking our napkin sketches and turning them into something tangible. It was a collaborative process, but it was clear that Jack was incredibly passionate about this project and went above and beyond to make it happen.

As an organization, we (SECORE) are focused on creating coral restoration technologies and methodologies that are more efficient, less expensive, and scalable. One billion people rely on coral reefs for food or their livelihood. For restoration to play a role in maintaining the benefits humans get from coral reefs, we need to reduce the cost drastically. The CRIBs can be a vital tool for accomplishing this: by our calculations, they are eighteen times more labor efficient than a land-based culture system and are opening up large-scale restoration to areas where building a traditional approach is impossible due to cost, footprint, or specialized personnel needed for its operation. To meet these goals, we will need to develop more partnerships with the private sector that can bring know-how and expertise to bear on the issues that scientists have primarily only addressed. Our collaboration with JPW to develop these tools is an excellent example.

Endnote: Lest we think this creative development and in-situ success is simply a philanthropic effort for Jack Kloepfer and JPW, due to the product's success to date, they have received an order for coral kindergartens for use around the world! RMS could not be prouder of our longtime partner and wish them continued success. ♦

An extension of their use as stable, maneuverable, portable platforms for fun,JPW catarafts can provide an excellent platform for study on and in rivers. As Jack comments, "Because of the unique design, catarafts lend themselves to river science projects in a way that no other craft does. They are easy to mount motors and equipment on. They have space between the tubes for measurements of various types. They can do low water stretches with high gear loads, and this will enable a team to get down the river with gear loads that would otherwise be impossible. This can include [search and rescue scenarios](#)."

Farther afield, the prototyping team has designed and built Pontoons for cargo vehicles used to travel across Antarctica and Greenland; water tanks for [Floating Doctors](#); products that support NASA capsule recovery systems and rescue rafts; and litters for rescuing manatees! Read more about JPWS' [unusual products](#) and support for science [on their blog](#).

Photos courtesy of Jack's Plastic Welding.

Water tank for Floating Doctors.





(All L to R) On screen, top row: Bekah Price, Nate Hunt; middle row: Linda Jalbert, Steve Chesterton, Helen Clough; bottom row: Matt Blocker. In person, kneeling: Judy Culver, Emma Lord, Risa Shimoda, Dave Schade, Angie Fuhrmann. Standing: James Major, Shannon Bassista, and Rob White.



RMS Board Votes on Important Membership Changes

by Judy Culver and Bekah Price

The RMS Board held its first annual in-person meeting since 2019 in Loma, Colorado, in October. Although some attended virtually, the meeting was very productive. Those who were able to attend in person were later joined by the Southwest Chapter for an incredible Board and Chapter trip on the Colorado River. Highlights from the meeting include the extraordinary growth of RMS programs, nearly doubling membership, and accolades from external groups on the quality of the training offered by the River Training Center.

RMS now employs a staff of four, which Board President Judy Culver said enables RMS to meet the challenges of today's

use as well as continuing to support more river managers with training and networking opportunities. "This creates a deeper pool of shared knowledge and has made it possible for members to develop new partnerships and avenues for collaboration," she said.

The Board voted unanimously in favor of the following updates to our membership structure and benefits. These changes will be rolled out over the next year, and we will update you on progress via the News Digest and *RMS Journal*.

- Student members and the main contacts for each organizational membership may vote and hold office in Chapters or on the National Board.

- The Professional membership level will now be called "Individual," with no changes to benefits. This is our primary membership level which includes all member benefits. The name change means DOI employees may now be eligible to upgrade to this membership level. Upgrading from Associate or Organizational memberships to Individual means you will receive additional member benefits including a printed copy of the *RMS Journal*, ability to vote and hold office, access to the Professional Purchase Program, and the ability to apply for training scholarships.
- RMS will no longer make a distinction between the types of

organizational memberships (NGO, Government or Corporate), and will distinguish organizational membership levels exclusively by size (1-2, 3-4, 5-8).

- Annual dues will increase beginning January 1, 2022, as outlined below. RMS has not changed its dues in several years despite increased programming, outreach efforts, and a growing staff. This slight increase in annual dues allows us to continue improving the quality of opportunities and services provided to members, while keeping our dues among the most affordable.

You will not see this increase until you renew, so if you would like to renew at the current rate, please call or email rms@river-management.org prior to Dec. 31, 2021. If you have been considering getting a Lifetime membership, you can save \$250 by upgrading to a Lifetime membership prior to these changes taking effect.

RMS leadership and staff have big plans for 2022 and look forward to hearing from, working alongside, and supporting you! Please feel free to reach out to RMS Communications Coordinator Bekah Price, Executive Director Risa Shimoda, or to your national Board Officers if you have any questions about these changes. Thank you for all that you do to make RMS the best it's ever been! ♦



New 2022

Membership Dues:

Individual \$60

(or 5 years for \$240)

Associate \$40

Student \$30

Organizational \$75 (1-2),

\$150 (3-4), \$300 (5-8)

Lifetime \$750

Welcome! New RMS Members

Professionals

Mark T. Engler, Contributing Writer
Tennessee River Valley Stewardship Council, Benton, TN

Nicole Gustine, US Fish and Wildlife Service, Anchorage, AK

Heather Barrar, Regional Trails Program Director
Friends of the Lower Appomattox River, Petersburg, VA

Corporate / Government Organizations

Steve Lawson, Director
Visitor Use Planning and Management
Otak VUPM, Hanover, NH

Annie Engen, Otak VUPM, Lousiville, CO

Abbie Larkin, Otak VUPM, Hanover, NH

Bill Valliere, Otak VUPM, Hanover, NH

Matt Hively, Henry’s Fork Foundation, Ashton, ID

Associates

John Leary, Restoration Coordinator, RiversEdge West
Grand Junction, CO

Calene Bridget Thomas, Biological Science Technician / River
Ranger, Bureau of Land Management, Boise, ID

Robert E Marsh, Kansas City, MO

Mary Patricia Feitelberg, Researcher, New Bedford, MA

Melissa Palfreyman, La Sal, UT

Student

Jonathan Mecklin, Northern Arizona University



This special plaque was presented to
Past President Linda Jalbert
for her many years of service.



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PACIFIC

(vacant)

MIDWEST

(vacant)

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

RMS is fueled by the amazing energy of its members – and, chapters are always looking for leaders who care about the management of rivers. Potential chapter officers are team players who love working with others and believe a regional dialogue would help local members and the organization as a whole – are you ready to serve?

Membership in
RMS makes a
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*RMS is a non-profit professional organization.
All contributions and membership dues are tax-deductible.*



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Organization _____

Office _____

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City _____

State _____ Zip _____

Work Phone _____

Email _____

Job Title _____

Duties/interests _____

Rivers you manage _____

Membership Category (please check one)

☐ Professional \$50/yr (\$200 for 5 years - save \$50!)

☐ Associate \$30/yr

☐ Student \$25/yr

☐ Lifetime \$500 (for individuals only)

☐ Governmental / Corporate Organization \$150/yr

☐ Governmental / Corporate *Plus* \$200/yr

☐ NGO/Non-profit Organization \$75/yr

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

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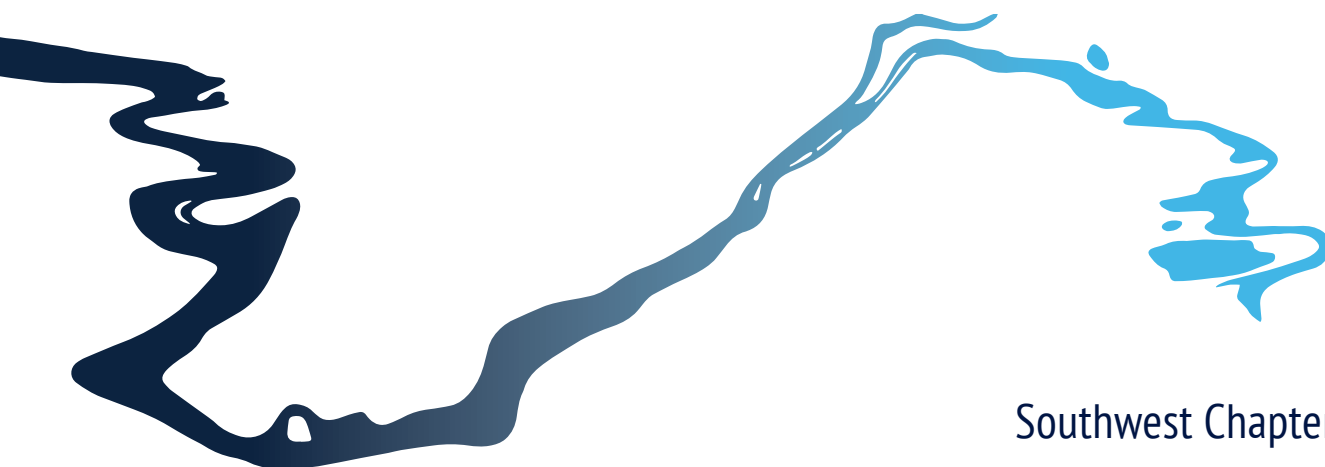
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Southwest Chapter Focus

RMS Journal Submission deadlines:

Winter 2021	Vol. 34, No. 4	Northwest	Nov
Spring 2022	Vol. 35, No. 1	Northeast	Feb
Summer 2022	Vol. 35, No. 2	Pacific	May
Fall 2022	Vol. 35, No. 3	Alaska	Aug
Winter 2022	Vol. 35, No. 4	Southeast	Nov
Spring 2023	Vol. 36, No. 1	Midwest	Feb
Summer 2023	Vol. 36, No. 2	Southwest	May

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