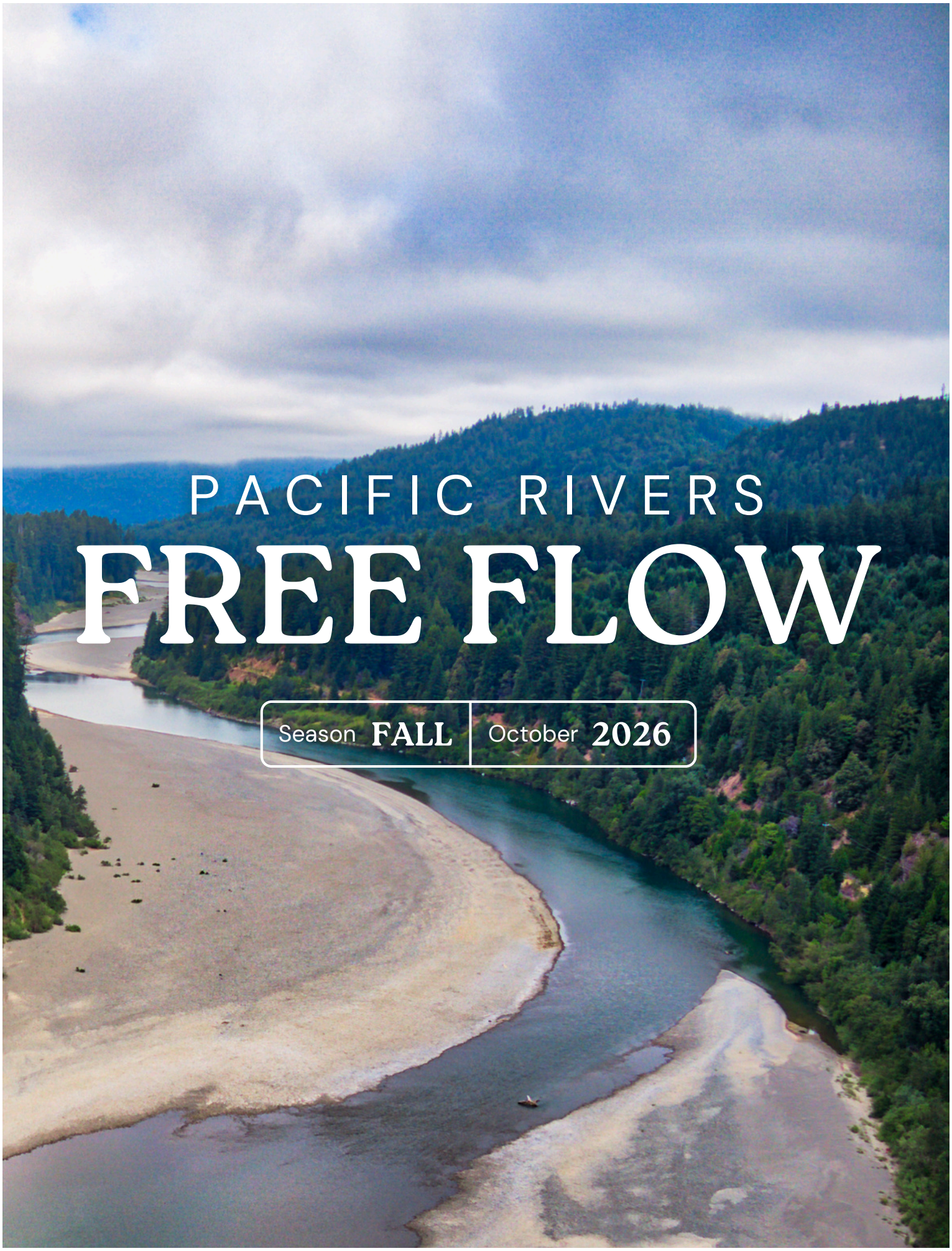
PACIFIC RIVERS
FREE FLOW
Season FALL
October 2026

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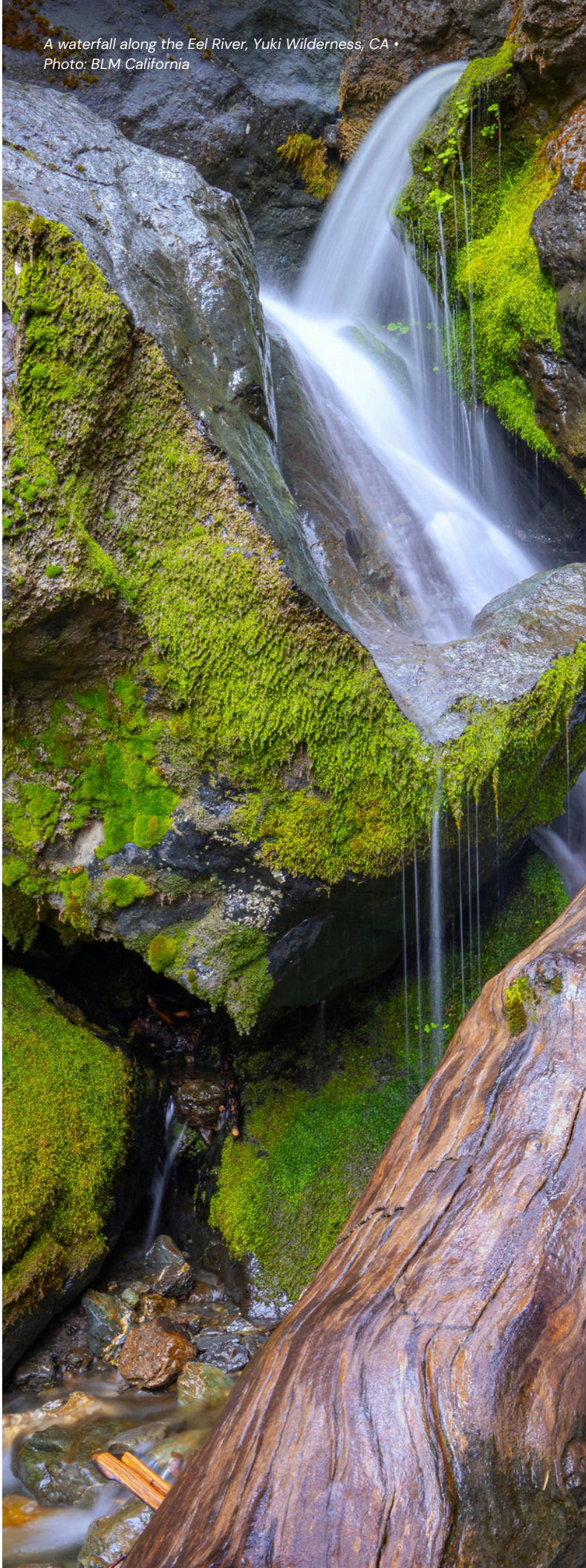
Cover Photo: The Eel River by John Huynh.



A waterfall along the Eel River, Yuki Wilderness, CA • Photo: BLM California

Letter From the Chair

Mike Morrison • Board Chair

Hello faithful *Free Flow* readers, and welcome to the Fall 2026 edition!

To begin, please accept our heartfelt thanks for all the support you have showered upon us. As you likely know, we again this year had a board match campaign in the spring, where the individual members of the board collectively pledged to match your donations up to $12,000 which – thank you – we met. In this edition of *Free Flow* we will again try to give you an idea of just what that support has allowed us to accomplish in what is, quite frankly, a hostile world to those of us trying to protect the natural world.

The biggest news for the organization is detailed on pages 30-31, but it deserves a mention here. We are delighted that we not only have reached the stage where we are able to hire a full time Executive Director, but even more pleased that Liz Gilliam has agreed to accept the job. Not only does Liz bring vast experience in watershed conservation to the role, but her qualifications now anchor Pacific Rivers' science-based approach to watershed management. In these trying times, Liz's presence will allow us to fight back more effectively.

One troubling development we are observing is that Federal agencies have allowed only very short time windows for comments on major proposed projects and changes to policy. The purpose seems to be to limit the amount and quality of organizational input and means we must be much faster in developing submissions and testimony. Despite the challenges, we have met deadlines and filed detailed comments on very important issues in recent months. They have included FERC's Draft Environmental Impact Statement (EIS) for proposed relicensing of the three massive dams on the Snake River in Hells Canyon and the National Forest Service's Draft EIS for proposed new logging projects in the Steamboat Creek Watershed. We have also improved our ability to notify you of opportunities to submit comments to proposed actions via action alerts – those of you who follow

have, no doubt, observed how little time is allowed for comments and/or objections. We hope you find our notices useful and urge you to follow up with your individualized comments; that, of course, is difficult, which is why we strive to represent you in our submissions to the various agencies.

Since the publication of this year's Spring *Free Flow* we have supported coalition efforts to defend the Roadless Rule, Wild and Scenic Rivers, and Wilderness areas; and to halt harmful logging, other extraction activities, pollution or development on conservation lands. The number of organizations involved are too many to name here – as are the calls to action. If you have been a part of the many raising their voice in these times, we salute you.

We submitted technical comments, authored by Liz Gilliam, regarding the Chehalis River Dam draft EIS, focusing primarily on sediment load issues and the failure of the draft to address many of the risks of building the dam. Much more on the status of this project is in Liz's article in this issue.

We have been very active on the North Umpqua, where we submitted the above-mentioned comments on the Cedar Creek logging proposal and also submitted testimony to the Oregon Fish and Wildlife Commission opposing the rebuild of the Rock Creek Hatchery, a project that looks like a financial and environmental disaster. (While the Commission voted to leave the funding in the budget as a "placeholder", it did not approve the rebuild.) With the other members of the North Umpqua Coalition, we have met with Governor Kotek's staff to continue to oppose inclusion of funding for the hatchery rebuild in her proposed budget.

On less of a "playing defense" note, please look at the article on this year's snorkel survey of Canton and Steamboat Creeks. Words and photos nicely describe the "twofer" – valuable data was captured about the presence of juvenile salmonids in the streams, and young folks from the Wolf Creek Job Corps in Glide gained valuable life lessons while helping to collect that data.

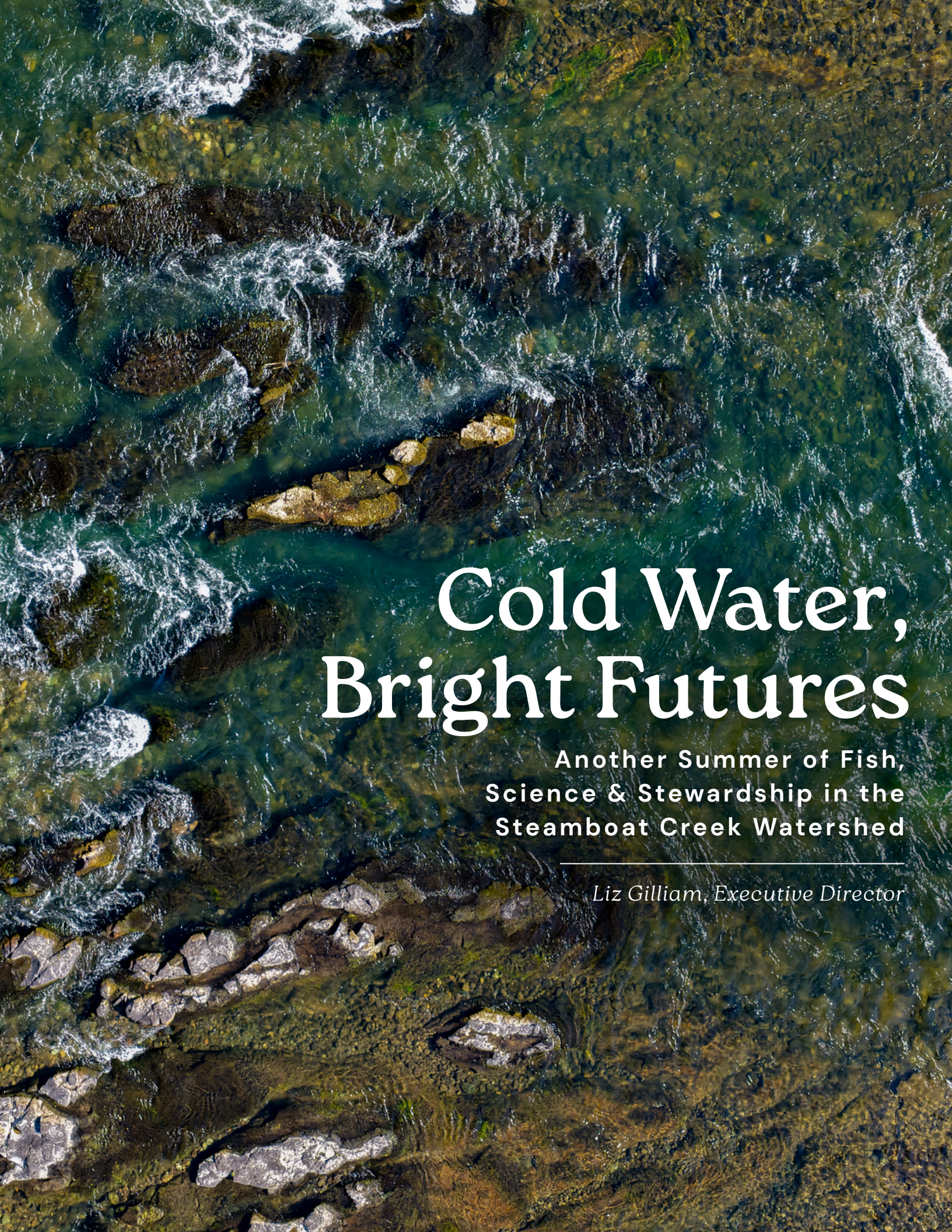
Our work to obtain Outstanding Resource Waters designation of Northwest streams continues. With the federal-level assault on the natural world, this state-based protection takes on even more value. Oregon has advanced and will consider designation of Rough and Ready Creek and the Illinois River; as described in Don Elder's article about this issue, four new streams have been nominated this year for ORW status in Washington. Don reminds us in that piece why this effort is so important.

As we strive to inform and educate via *Free Flow*, we hope you will take a look at the information from Friends of the Eel River about the effort to "free the Eel". Finally, as we ponder new ways to combat climate change and deal with its effects, an article caught our eye, and we reprint it with Bloomberg's permission. In North Carolina, "catastrophe bonds" are now being used to fund disaster preparedness. We wonder, might this concept be useful in the West, perhaps in the Chehalis Basin, for sensible alternatives to new dams?

We hope this edition is worthwhile and, hopefully, gives you a better idea of what we are doing with all of the generous support you have shown Pacific Rivers. We are proud of the work we are doing, and grateful to you for supporting it. Again, thanks.

Sincerely,

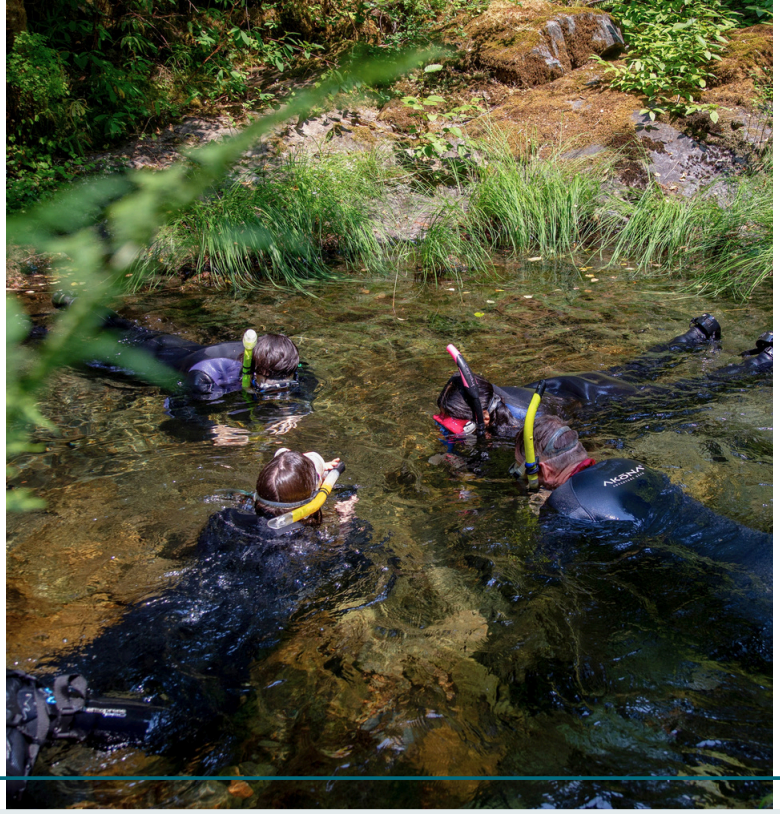
Mike Morrison
Board Chair



Cold Water, Bright Futures

Another Summer of Fish, Science & Stewardship in the Steamboat Creek Watershed

Liz Gilliam, Executive Director



Picture this: a teenager from Glide surfaces from the cold, clear water of Steamboat Creek, mask pushed up on her forehead, sputtering a little — and then grinning so wide you can see it from the bank. She just counted a juvenile steelhead tucked behind a rock in water barely two feet deep. She'd grown up around creeks just like this and never knew that was happening underneath – she'd never looked at her home river this way before.

Now below the water, picture this: a caddisfly larvae holding onto a large piece of gravel in swift current, a Pacific giant salamander lurking in the eddy of a boulder, and as you look ahead, underneath a large tree fallen over on the creek bed, is a small steelhead nursery – with a bunch of 1-inch juvenile fish under the cover of the sticks and branches from the log. It's bright, it's quiet, and there is activity everywhere. "It's a whole new world under the water!"

This is exactly what our student snorkelers experienced over two weeks this summer as they collected fish distribution and abundance data in the Frank and Jeanne Moore Wild Steelhead Sanctuary.

This summer, Pacific Rivers was back in the Steamboat watershed doing what we've been doing since 2011: snorkel surveys of juvenile salmonids in the creeks and tributaries of the Steamboat basin. It's a long-running, rigorous biological monitoring program that has produced valuable long-term datasets. But of added importance is the collaboration with our next generation of scientists. This year, a crew of about 13 young people from the Wolf Creek Job Corps in Glide, Oregon was wading in with us, getting paid for their efforts, getting trained, and getting their minds a little bit blown. *If you've ever snorkeled in our streams or rivers, you know exactly what I mean.*

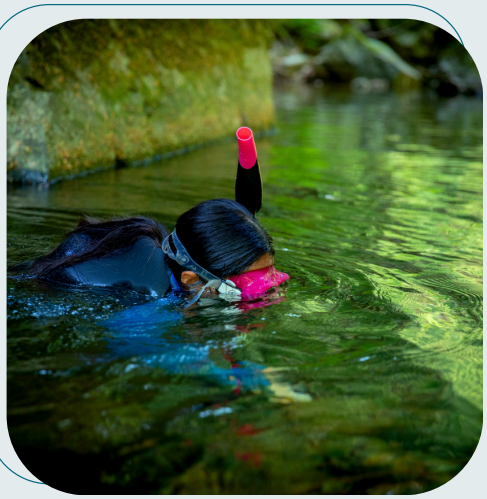
The Program, Briefly

The surveys themselves have a straightforward purpose: our team swims a consistent set of reaches on Steamboat Creek and its tributaries, counting juvenile Chinook, coho, and steelhead by species and age class, measuring habitat conditions, and recording what they find. We have used the same methods since 2011. The consistency is what makes this data powerful. In Canton Creek (Steamboat's major tributary), we now have 20-plus years of comparable observations, at the same sites, using the same methods, and with the same timing — that's rare. That's a dataset that can actually tell you something about how fish populations respond to drought years, to warming water, to wildfire, to storms, and to the slow creep of climate change in a watershed. The information feeds into broader conservation work in the basin.

Dr. Charley Dewberry, a watershed ecologist who has led this program from the very start, oversees the training, the field implementation, and the quality control that keeps the data meaningful. Our dive crew leads bring that same rigorous, quietly dedicated energy to the water every day. They also happen to love working with the students, which is awesome.

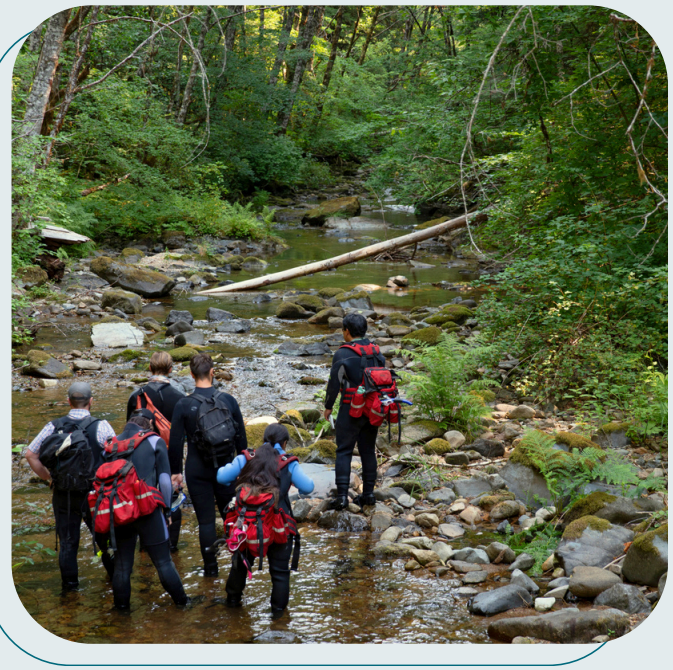
Our professional biologists spent two full months surveying every stretch of creek in the Steamboat and Canton Creek basins that are deep enough to put a snorkel mask into. The snorkel surveys produce data that helps to protect this important steelhead nursery. But the youth program is planting seeds for our future.

The Next Generation of River Stewards



The students are already learning practical trades and building futures for themselves at the Job Corps campus. This year's group of students are pursuing a track focused on natural resources at the school.

It's one thing to experience a creek from the bank - *getting into the water with a mask and snorkel and actually seeing the thriving underwater world is something else entirely.* And getting paid to do science alongside professional biologists, understanding how the data they're collecting connects to real management decisions on federal lands — that's the kind of experience that can open a door that a lot of these young people didn't know existed. Dr. Dewberry started the snorkel season with a full day of instruction about fish ecology, life history, and the conservation value of these homewaters that sets the students up for two weeks underwater. Following the surveys, we continue to work with the students, provide mentorship and present the results to the local community.



Why This All Matters for Steamboat Creek

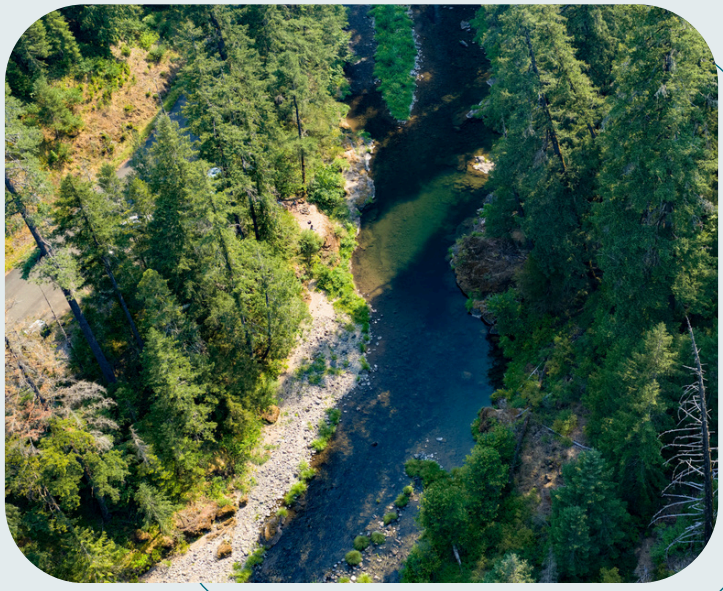
Working alongside professional fisheries biologists, students learn how to identify juvenile fish, estimate habitat, record observations with care, and understand why consistency matters in long-term monitoring.

The work is physically demanding.

Students hike into remote reaches carrying gear, spend hours in cold water, and finish each day comparing notes with experienced scientists to ensure the highest quality data. The professional

biologists spend an additional six weeks covering the remainder of the Steamboat basin, including Canton Creek.

The North Umpqua watershed, and Steamboat Creek in particular, supports wild runs of native fish – a vital stronghold in the region. The Frank and Jeanne Moore Wild Steelhead Sanctuary – which Pacific Rivers helped establish – protects the heart of this system.



This year's Steamboat snorkel surveys were led once again by Dr. Charley Dewberry and managed by Pacific Rivers Project Manager Liz Gilliam. To learn more about the program or support Pacific Rivers' work on the North Umpqua, visit ***pacificrivers.org****.*

Photography by Adam Spencer

A Note on Funding

We want to be transparent with you: federal funding that previously supported this program is no longer available. Funding for direct costs of this year's program – including professional planning, oversight and analysis, as well as equipment and compensation for our student team – was graciously provided by the Roundhouse Foundation, the National Forest Foundation's Matching Awards Program, and the Oregon Department of Fish and Wildlife.

Oregon Department of Fish & Wildlife

National Forest Foundation

This institution is an equal opportunity employer.

The Roundhouse Foundation

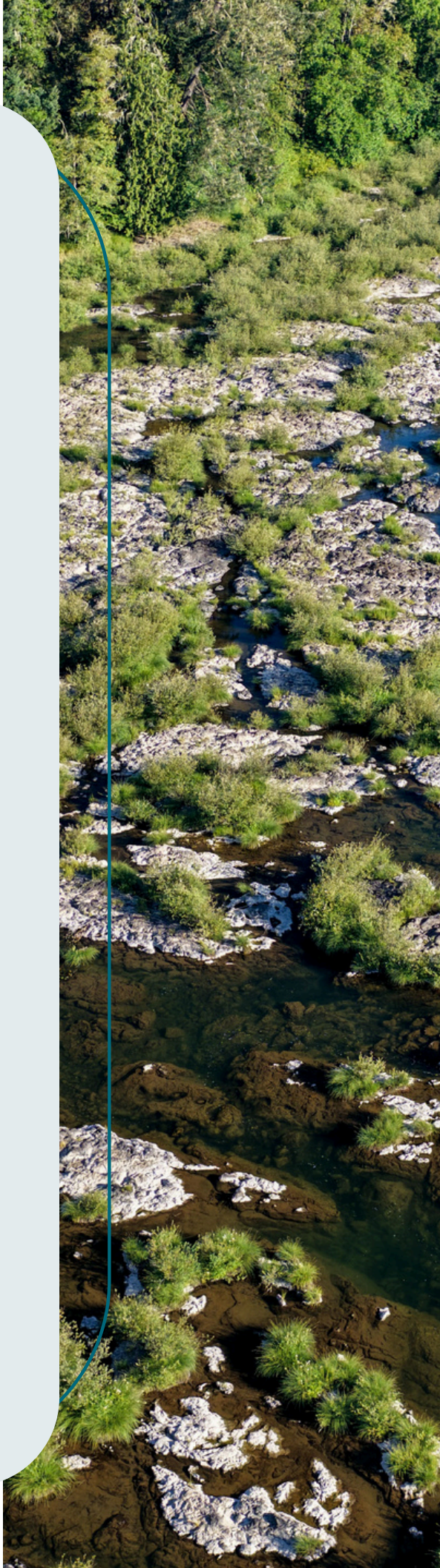
Programs like this require much additional work on the part of our core team. Year in and year out, that work is made possible by the gifts of individual donors like you. Thank you! Please consider a year-end gift to Pacific Rivers to support continued growth in our conservation work and results.

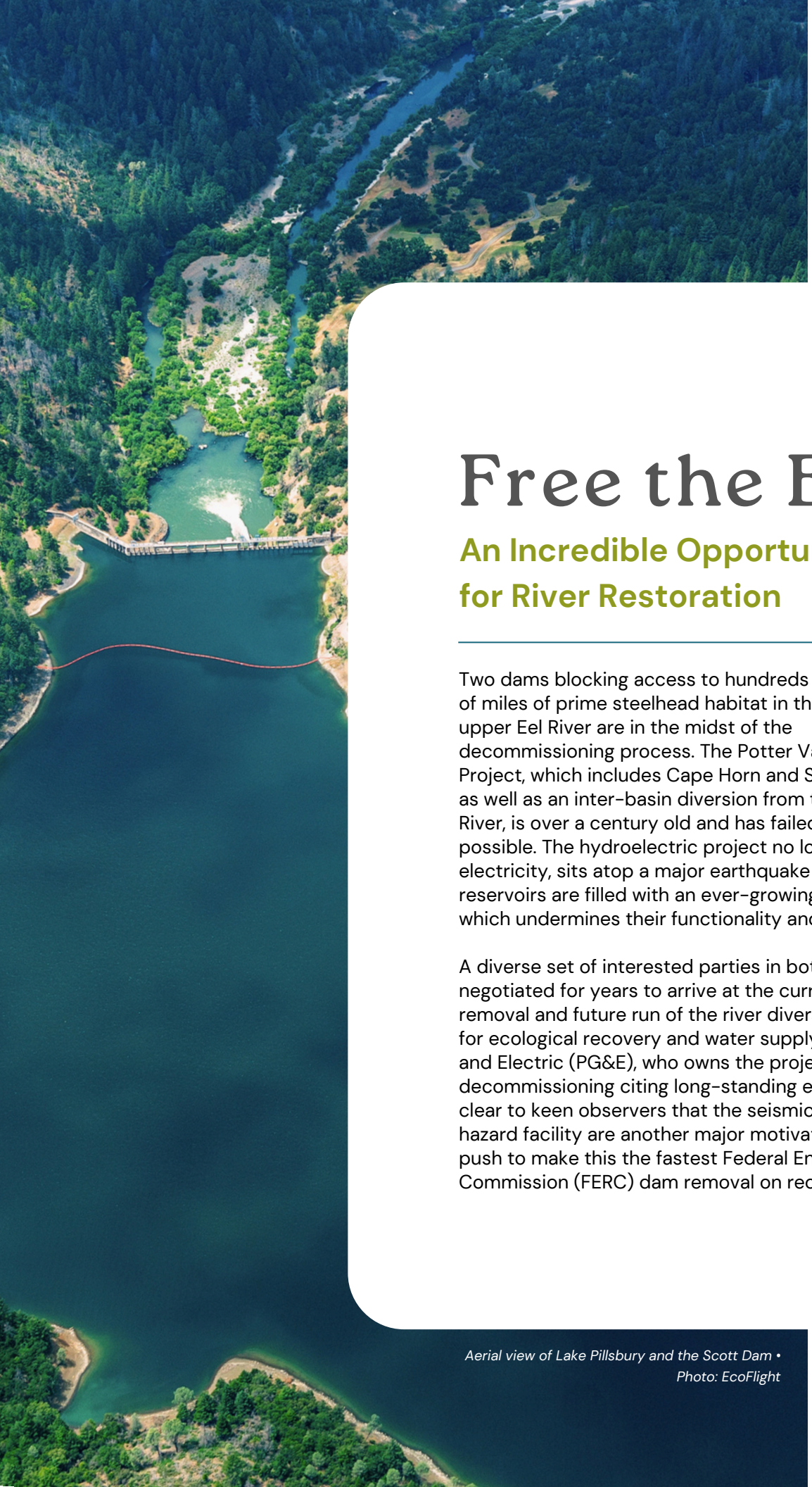
What's Next

In the meantime — we'll be in the water and we'll be advocating for the fish. Keep an eye out for footage we collected from the field and stories from the students – in their voices.

You can watch "Pass Creek Revisited", a new film about decades of advocacy work in the North Umpqua, produced by Pacific Rivers, Steamboaters, and The North Umpqua Foundation, at vimeo.com/pacificrivers.

And you can find our monitoring reports on our website.





Free the Eel:

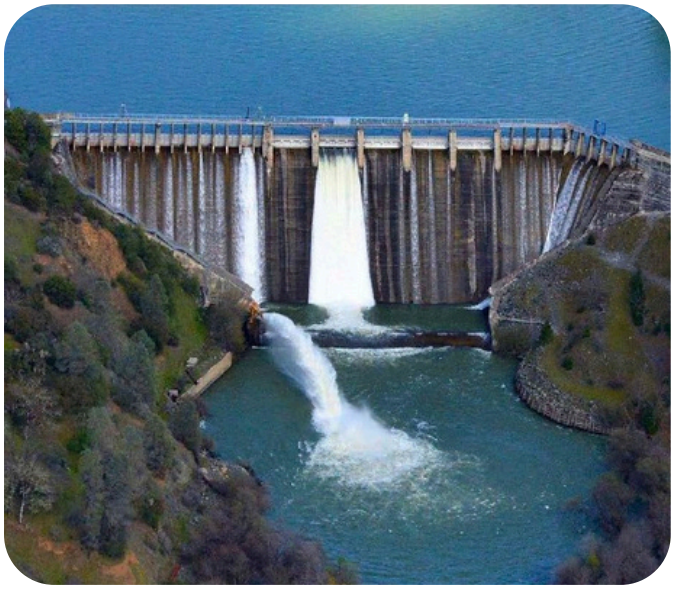
An Incredible Opportunity for River Restoration

Alicia Hamann • Executive Director, Friends of the Eel River

Two dams blocking access to hundreds of miles of prime steelhead habitat in the upper Eel River are in the midst of the decommissioning process. The Potter Valley Project, which includes Cape Horn and Scott Dams, as well as an inter-basin diversion from the Eel to the Russian River, is over a century old and has failed in nearly every way possible. The hydroelectric project no longer generates any electricity, sits atop a major earthquake fault, and the reservoirs are filled with an ever-growing load of sediment which undermines their functionality and stability.

A diverse set of interested parties in both river basins negotiated for years to arrive at the current plan for dam removal and future run of the river diversions, a deal that allows for ecological recovery and water supply security. Pacific Gas and Electric (PG&E), who owns the project, is eagerly pursuing decommissioning citing long-standing economic losses. It's clear to keen observers that the seismic risks at the high hazard facility are another major motivation behind PG&E's push to make this the fastest Federal Energy Regulatory Commission (FERC) dam removal on record.

Aerial view of Lake Pillsbury and the Scott Dam • Photo: EcoFlight



The Scott Dam (left, courtesy of PG&E) and Cape Horn Dam (right, courtesy of Friends of the Eel River)

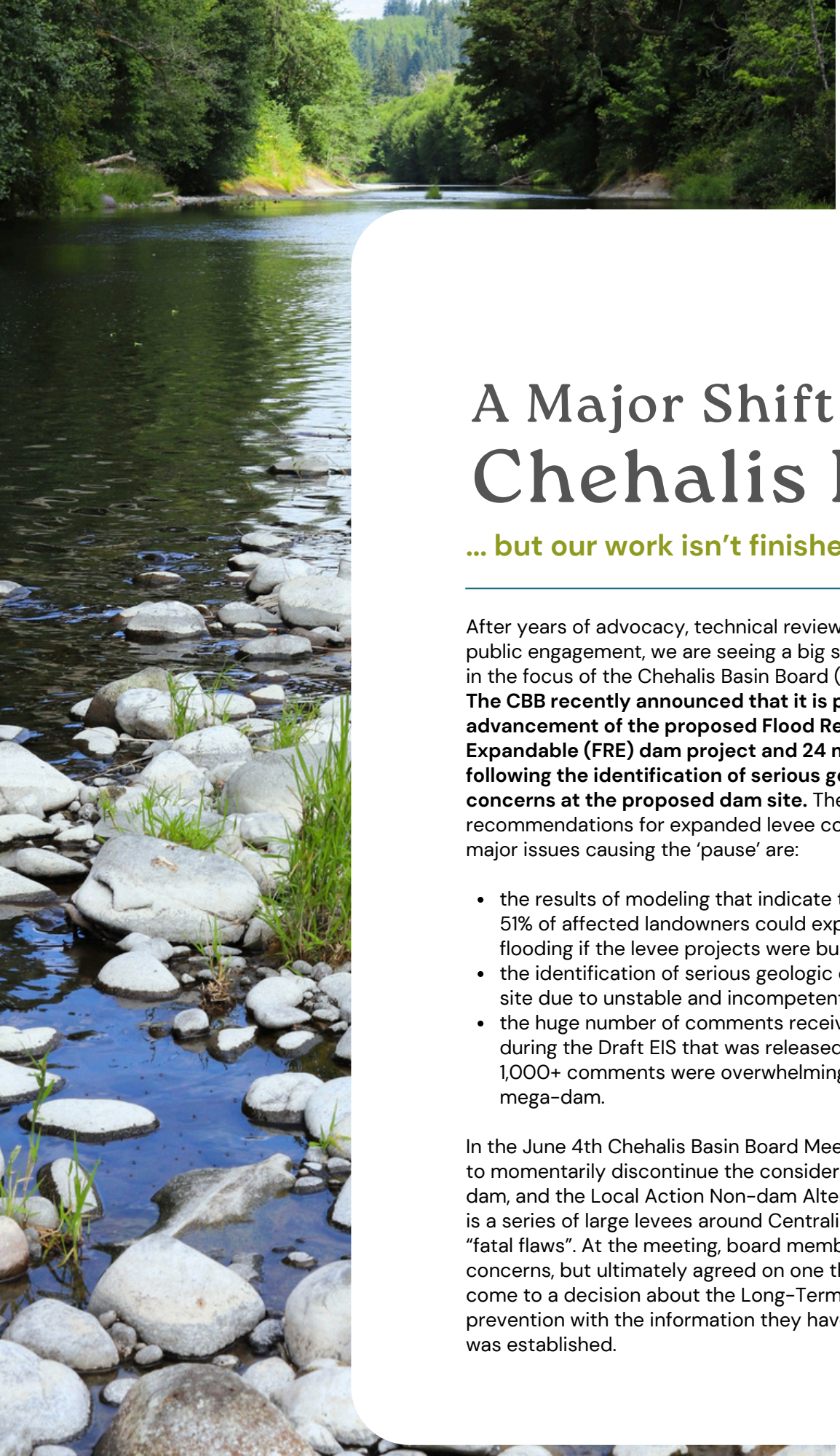
Cue the Trump administration. In his first term, Trump's stance on Klamath dam removal was that the federal government should not interfere with private business decisions, even if those decisions advance "woke nonsense" like environmental health and Tribal sovereignty. Today though, via USDA Secretary Brooke Rollins, the Trump administration is intruding on Eel River dam removal, seeking to upend years of negotiations between farmers, fishers, Tribes, and environmentalists, and delay or prevent dam removal.

Two water agencies in Southern California, the Elsinore Valley Municipal Water District and San Gorgonio Pass Water Agency, are collectively "conducting due diligence" to inform their interest in taking over the Project. The opportunity to take over the existing FERC license has long since passed, not to mention the high cost of rebuilding infrastructure to once again generate electricity. And the Eel is not connected to the State Water Project, so there's no current way to divert its water to those agencies.

What has become clear, through documents received from a series of Public Records Act requests, is that the Southern California water agencies believe there is opportunity to keep the dams in place and profit from selling water to existing customers in the Russian River watershed at absurdly high rates. Their internal documents suggest rates of $8,000.00 per acre foot, an astonishing 22,000% increase on what customers in the Potter Valley Irrigation District currently pay.

As we progress through the FERC regulatory process, it is heartening that the Commission does not yet appear to be compromised by the current administration. The recently issued NEPA scoping notice is clear that dam removal is the only path forward. Alternatives that include keeping Scott Dam in place, or even analyzing a federal takeover of the project are too unrealistic to even consider. A public comment period for scoping comments just ended in September. Next, PG&E will submit their 40+ detailed plans to FERC by fall of 2027, the California Water Board will issue a clean water certification, and FERC will complete their NEPA analysis and hopefully issue a license surrender order within a few years.

*Alicia is the Executive Director of **Friends of the Eel River** and facilitates the **Free the Eel Coalition**, of which Pacific Rivers is a part. Please stay tuned for updates as we work for a free-flowing Eel River! Learn more and get involved at eelriver.org.*



A Major Shift for the Chehalis River

... but our work isn't finished.

Liz Gilliam • Executive Director

After years of advocacy, technical review, and public engagement, we are seeing a big shift in the focus of the Chehalis Basin Board (CBB). **The CBB recently announced that it is pausing advancement of the proposed Flood Retention Expandable (FRE) dam project and 24 miles of levees following the identification of serious geologic and other concerns at the proposed dam site.** The Board is also pausing recommendations for expanded levee construction. Among the major issues causing the 'pause' are:

- the results of modeling that indicate that approximately 51% of affected landowners could experience increased flooding if the levee projects were built,
- the identification of serious geologic concerns at the dam site due to unstable and incompetent bedrock, and
- the huge number of comments received from the public during the Draft EIS that was released last November. Those 1,000+ comments were overwhelmingly opposed to the mega-dam.

In the June 4th Chehalis Basin Board Meeting, the board voted to momentarily discontinue the consideration of the mega-dam, and the Local Action Non-dam Alternative (LAND – which is a series of large levees around Centralia and Chehalis) due to "fatal flaws". At the meeting, board members aired a range of concerns, but ultimately agreed on one thing: They could not come to a decision about the Long-Term Strategy for flood risk prevention with the information they have now. No new timeline was established.

Now, while these decisions do not permanently end either proposal, they represent an important shift. They validate many of the concerns that Pacific Rivers and our partners have raised regarding the long-term effectiveness, extreme costs, and wide-ranging consequences of large structural flood-control projects.

The Chehalis River is an important fishery for many local community members.

We know that years of sustained public engagement have played an important role. Public comments submitted during recent environmental review processes were overwhelmingly critical of the dam proposal, reflecting growing recognition that the basin needs more forward-looking solutions. Our community came to these meetings well informed and armed with facts to convey their concerns about the short-sightedness of this proposal and the clear need to do better. A dam is an outdated, destructive solution to a more nuanced problem.

Although we view this as a significant win, communities are still very much at risk, and our work is far from complete. The dam proposal has been paused—not terminated—and there remains a risk that variants of these projects could reemerge in future planning efforts. In fact, we have seen it happen here before. As a result, Pacific Rivers is increasing our advocacy during this critical period of transition and uncertainty.

Our focus remains on advancing solutions that reduce flood risk while improving ecological resilience, including:

- Stronger floodplain zoning and land-use policies that keep new development and extraction industry out of high-risk areas;
- Voluntary relocation and buyout programs that move people and infrastructure out of harm's way;
- Floodplain reconnection and habitat restoration projects that restore natural river functions while reducing flood impacts;
- Investment opportunities in watershed resilience that benefit both communities and fish and wildlife.

Looking ahead, the Chehalis Basin Board will release its 2027-2029 legislative budget proposal and program priorities this fall. We see this as a pivotal opportunity to encourage the Governor and State to redirect public investments away from costly structural projects and toward ecologically beneficial, long-term flood resilience strategies. **Since planning the dam began in 2007, the FCZD/CBB has been given over $100 million to pursue flood reduction strategies.** If more of those funds had been spent on ecologically-sound approaches, communities would already be in a better place. But instead, the money was thrown at a flawed mega-dam.

The State coffer cannot continue to be the sole funder of these efforts and the CBB is exploring alternative funding strategies. Pacific Rivers is also exploring innovative funding mechanisms to help support these sounder approaches. One potential mechanism we are bringing to the spotlight is creative use of "catastrophe bonds". One recent example comes from North Carolina, where catastrophe bonds are helping fund stronger "super roofs" that reduce hurricane damage. As more homes become resilient, risk goes down, insurance losses decline, and the financing improves over time. It creates a feedback loop that rewards resilience instead of simply reacting after the fact. A similar "cat bond" program in Washington to address flood risks could reduce dependence on state appropriations at a time when Washington faces significant budget pressures. The program could fund proactive approaches to increase resiliency and reduce damages from flooding, as well as potentially improve the response and recovery efforts following a large flood event. We believe these emerging approaches may help create new pathways for funding flood-risk reduction, habitat restoration, and community resilience across the basin. This would be a novel program in Washington State that could bring much-needed funding to flood recovery and proactive impact reduction. It could also be a tool to limit wildfire risks. These both affect communities across the state of Washington, and it seems possible that Washington could become a leader in resilience financing if we begin exploring innovative approaches now. We are trying to get the conversation started. Next, we have included a reprint of Leslie Kaufman's Bloomberg article "*How 'Super Roofs' Reward Insurers, Cat Bond Investors and Homeowners*" about the topic.

The coming year presents a rare opportunity to reshape the future of flood management in the Chehalis Basin. With your support, we will continue advocating for science-based solutions that protect both our communities and one of Washington's last great free-flowing rivers.

Photography by Lindsay Schuelke

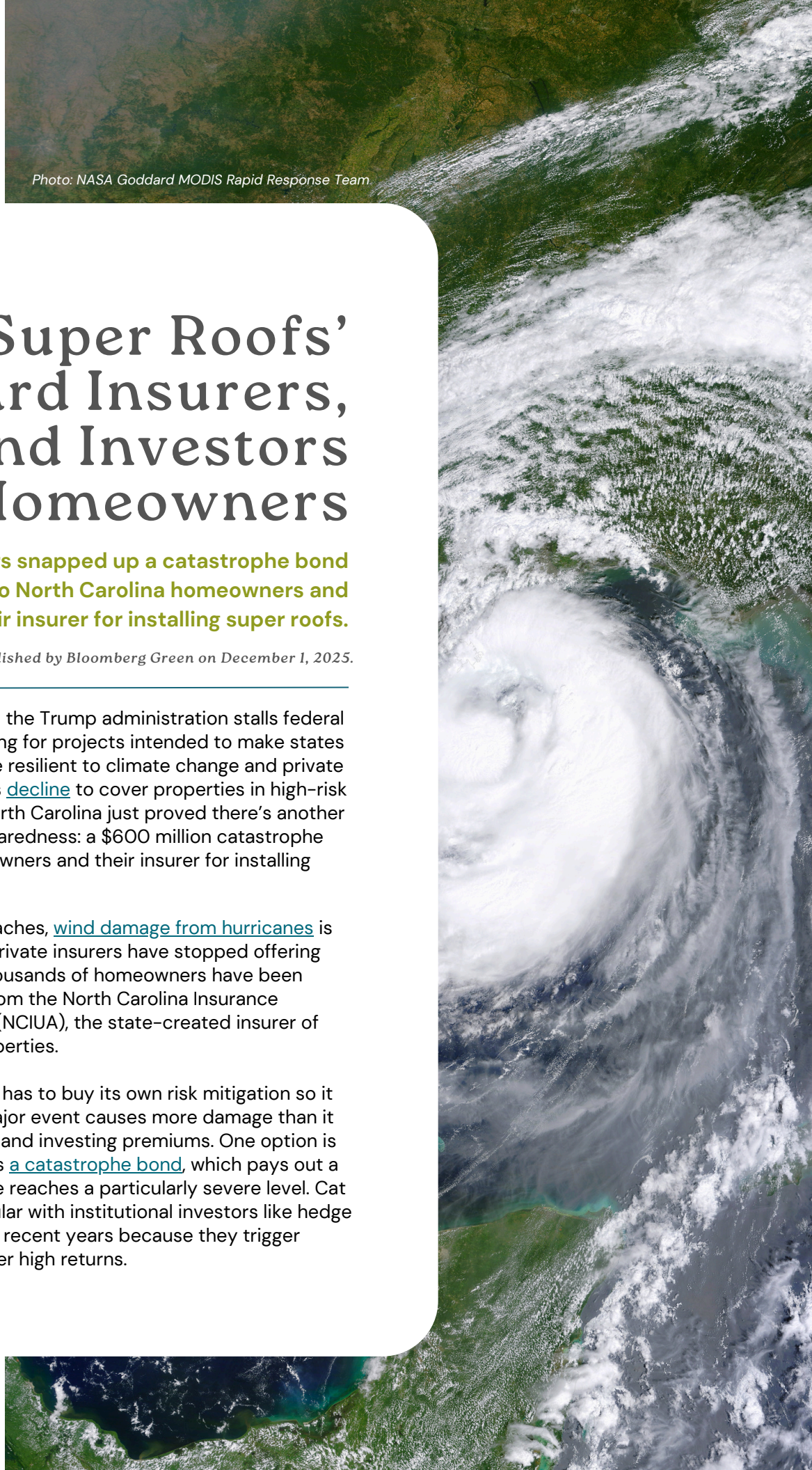


Photo: NASA Goddard MODIS Rapid Response Team

How ‘Super Roofs’ Reward Insurers, Cat Bond Investors and Homeowners

Investors snapped up a catastrophe bond tied to North Carolina homeowners and their insurer for installing super roofs.

Published by Bloomberg Green on December 1, 2025.

Leslie Kaufman • Climate & Environment Journalist

As the Trump administration stalls federal funding for projects intended to make states more resilient to climate change and private insurers decline to cover properties in high-risk zones, North Carolina just proved there’s another way to fund disaster preparedness: a $600 million catastrophe bond that rewards homeowners and their insurer for installing “super roofs.”

Along North Carolina’s beaches, wind damage from hurricanes is such a threat that many private insurers have stopped offering coverage. Hundreds of thousands of homeowners have been forced to buy coverage from the North Carolina Insurance Underwriting Association (NCIUA), the state-created insurer of last resort for coastal properties.

Like other insurers, NCIUA has to buy its own risk mitigation so it can pay customers if a major event causes more damage than it has saved from collecting and investing premiums. One option is reinsurance and another is a catastrophe bond, which pays out a specific amount if damage reaches a particularly severe level. Cat bonds have become popular with institutional investors like hedge funds and endowments in recent years because they trigger rarely and otherwise deliver high returns.

According to NOAA's Office for Coastal Management, there were 115 weather and climate disasters in the U.S. from 2020 to 2024 with losses exceeding $1 billion. • Photo: Carol M Highsmith

For years, academics and brokers have discussed whether cat bonds could do more than just clean up after disasters — whether they could incentivize mitigation work that would lessen damages in the first place. Earlier this year, NCIUA decided to test it: They offered investors a cat bond with two features linked to reducing wind damage risks to homes in its portfolio.

First, if no major losses occur each year, $2 million returns to NCIUA — earmarked exclusively to incentivize homeowners to install super roofs that are especially wind-resistant. Second, as more people add these roofs, the annual pricing on the bond resets to reflect the changing exposure.

"For years, academics and brokers have discussed whether cat bonds could do more than just clean up after disasters — whether they could incentivize mitigation work that would lessen damages in the first place."

It's modest financially but revolutionary conceptually, said Shalini Vajjhala, founder and executive director of PRE Collective, a San Diego-based nonprofit that works with communities and government agencies to clear barriers to building climate resilient infrastructure.

"The North Carolina program is game-changing," she said. "It's a precedent-setting way of linking how you manage your financial risks with how you manage physical risks."

Its origins go back to 2009, when the North Carolina legislature passed a law encouraging NCIUA to look at mitigation strategy. The state was worried because the number of homes insured by NCIUA was creeping up as private insurers pulled back after damaging storms. It's similar though less dramatic than what's happened in Florida and California in recent years as state-sponsored insurers of last resort found themselves covering more and more properties.

NCIUA officials researched options to reduce liability, landing on a seemingly simple one: roof fortification. The technique uses things like ring-shank nails, designed for gripping, and extra sealing for the roof's underlayer and edges.

There was one big roadblock. Super roofs prevented damage, but since they exceed building code requirements and cost roughly $3,400 more than a standard roof, few homeowners installed them.

So in 2017, NCIUA began offering free super-roof replacements to homeowners who needed a new roof after a storm. They met resistance at first, said Gina Hardy, chief executive officer of the association. "With the free grants, people thought we were running some kind of scam."

> *The North Carolina program is game-changing... It's a precedent-setting way of linking how you manage your financial risks with how you manage physical risks.*

So the association engaged in consumer and contractor education. They also expanded incentives. In 2019, NCIUA offered $6,000 grants for super roofs during routine re-roofing, even though the upgrade cost just a fraction of that. They later increased it to $10,000. Homeowners essentially use the rest to defray regular roofing costs.

It was those new grants that turned Marie Raynor, 59, from a skeptic to a buyer. She's lived in coastal North Carolina her entire life, and in 2024 her home in Wilmington, just a few miles from the beach, had a leaking roof. She received a mailing advertising the roof program, but worried it was an empty sales pitch; a call to the insurance office verified the program's veracity.

Structural damage to the roof of the Camp Johnson Chapel on Camp Johnson, North Carolina, Nov. 21, 2019. The chapel, built in 1941, is undergoing historical preservation and reconstruction projects after sustaining significant damage caused by Hurricane Florence in September 2018. • Photo: Lance Cpl. Ginnie Lee, U.S Marine Corps

Eight weeks after she applied, she had a new roof. And now she is "thrilled." It was one of the most painless renovations of her life, she says, and she is convinced that the new construction is venting wind and even heat in the summer.

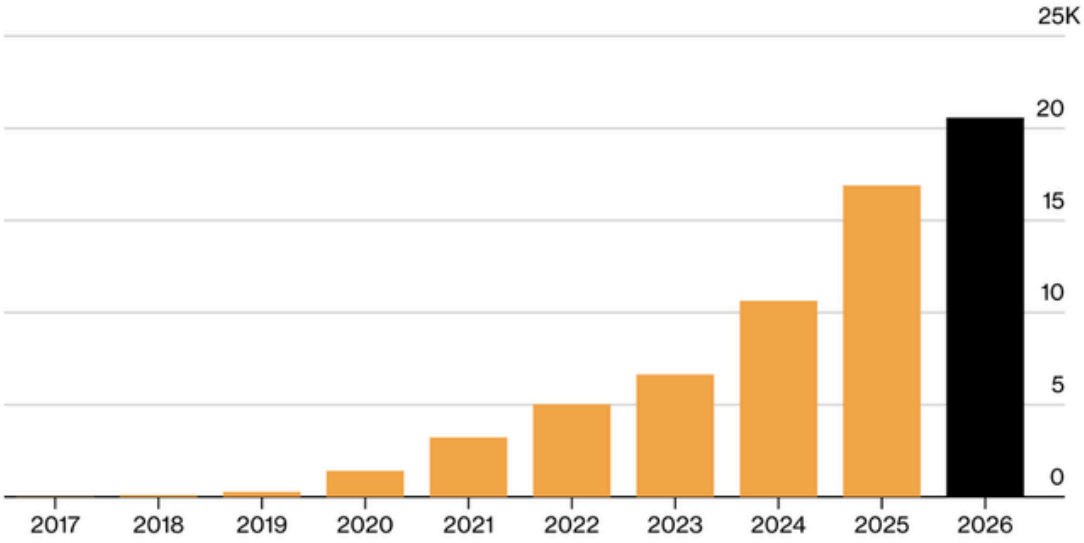
About two years ago, the program began really catching on. Today, more than 20,574 homes have these roofs or are in the process of adding them and more than 6,000 were added just this year. And the financial benefits are already accruing. After every storm, NCIUA checks the results. They've found that fortified homes had 60% fewer claims than code-compliant homes during regular storms, and 20% to 30% fewer claims with lower severity during named storms.

Roof repair technician • Photo: Happy Days Roofing, Lehigh Valley

NCIUA says its financial analysis is that it will recoup $72 million over 10 years on the investment in roofs, some from avoided losses after storms but even more from having to purchase less reinsurance because their portfolio is less risky.

With demand for roofs finally surging, Hardy wanted to make sure she had adequate capital for all the willing participants. She began looking beyond her own surplus to fund grants. Every year the association pays for a combination of reinsurance and cat bonds to cover portfolio risk. She had read about cat bonds with resilience features in academic literature and now wanted to make one a reality.

> *Today, more than 20,574 homes have these roofs or are in the process of adding them and more than 6,000 were added just this year. And the financial benefits are already accruing.*



"For a long time, people have been asking, 'Could we monetize the savings from mitigation efforts to pay for the mitigation efforts?' But it's incredibly complex," said Cory Anger, managing director of insurance-linked securities at Guy Carpenter, the broker for the bond. North Carolina, however, has a five-year track record showing its program worked, which was very enticing to investors.

When the Cape Lookout Re bond was sold to investors in February, it not only secured an interest rate at the low end of expectations, according to Artemis, the industry trade magazine, it attracted far more interest than expected. Offered at $350 million, it instead drew $600 million in investor interest. "It was a really successful offering," Anger said.

The timing couldn't be more critical. Since taking office, President Donald Trump has held back billions in Building Resilient Communities and Infrastructure grants awarded by the Biden administration.

Many working to make homes and cities more resilient to storms and wildfires worsened by climate change are hopeful the association's success will be a model. "North Carolina did the really heavy lifting, and when it's done, it opens up this whole universe of opportunities where you can basically create a plug-and-socket between programs that reduce risk and insurers who benefit," said Vajjhala.

There are reasons to believe replicating this model for other climate threats may be challenging. A direct relationship between roofs and reduced wind damage has been established. Individual efforts by homeowners to reduce fire risk, for example, aren't as perfectly correlated because community factors like the state of nearby forests and forest breaks are also in play.

Still, Dave Jones, a professor at the University of California at Berkeley and former California Insurance Commissioner who led a team that designed and placed the first wildfire insurance policy priced to account for local forest management—including controlled burns to reduce the chance of huge blazes—argues that such bonds should interest all 35 state-backed insurance plans of last resort.

"It's going to vary based on the circumstances," he said. "But I think it's worth looking at."

Northwest "Outstanding Resource Waters" Update

Momentum Builds for New ORWs in Washington & Oregon

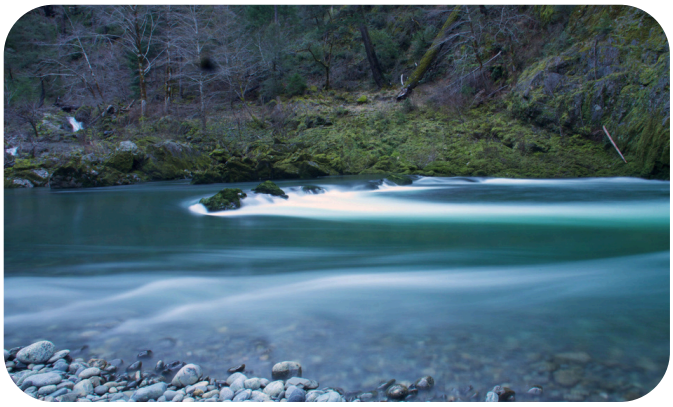
Outstanding Resource Waters are those classified for the highest level of water quality protection in state and tribal water quality standards. While this is a required element of water quality standards, no waters in the Northwest had been so classified by states until 2017, when Oregon designated the North Fork Smith River. It followed with classification of Crater Lake and Waldo Lake in 2021. Washington's first ORWs – the Cascade, Napeequa and Green Rivers – were designated in 2023.

All these designations were made by state water quality agencies in response to petitions from coalitions of environmental and other public interest groups. Now, two Oregon and four Washington waters are under consideration for new ORW classifications. The two Oregon waters, the Illinois River and Rough and Ready Creek, were highlighted in the Spring 2026 issue of *Free Flow*. Petitions for these waters were submitted to the Oregon Department of Environmental Quality in 2024. ODEQ accepted the petitions in 2025 and began the formal process this year. We expect the public comment period on these Oregon nominations to begin soon. *Please stay tuned for updates and action alerts.*

In this issue we are pleased to highlight four new Washington waters that were nominated as ORWs this year:

- *Ruby, Granite and Canyon Creeks*
- *Upper Sultan River*
- *Upper Lewis River*
- *Methow River Headwaters*

Upper Falls of the North Fork Lewis River, WA •
Photo: Frank Kovalchek



Oregon's Illinois River (left) and Rough & Ready River (right) were highlighted in the Spring 2026 issue of Free Flow • Photos: Zachary Collier, Northwest Rafting Company

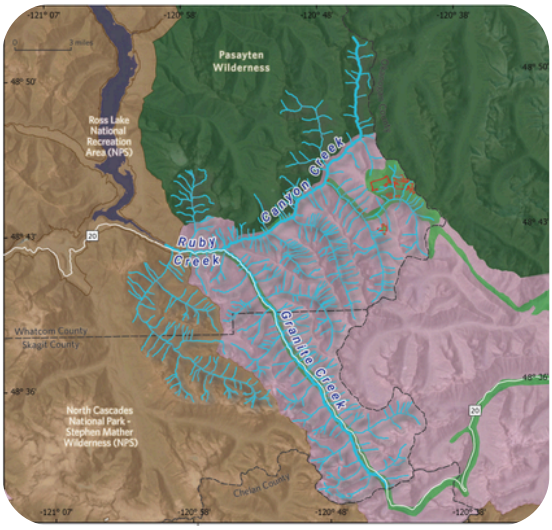
The coalition that submitted these nominations to the Washington Department of Ecology included American Rivers, American Whitewater, Cascade Forest Conservancy, Methow Valley Citizens Council, The Pew Charitable Trusts, Trout Unlimited, Washington Wild, and Wild Salmon Center.

On August 12, the Washington Department of Ecology (DOE) announced it was beginning the development phase of its rulemaking process for evaluating these nominations. In this phase, DOE will "gather information, develop draft rule language and evaluate economic and other impacts." There will be public involvement opportunities including meetings and listening sessions to "gather community questions and concerns about outstanding resource waters." We will keep you posted.

DOE's announcement included this concise definition of its ORWs: "An outstanding resource water designation is the highest water quality protection under the Clean Water Act and state antidegradation rules. This designation protects a waterbody from any future action that would permanently lower water quality. Some actions, such as road or trail maintenance, wildfire treatment or prevention, or other activities that protect the public interest, are still allowed if they cause only a temporary change to water quality."

We believe each of the waters under consideration is highly qualified for protection as a Washington ORW. The following descriptions are our summaries of their qualifications as described more fully in the petition.

Ruby, Granite & Canyon Creeks



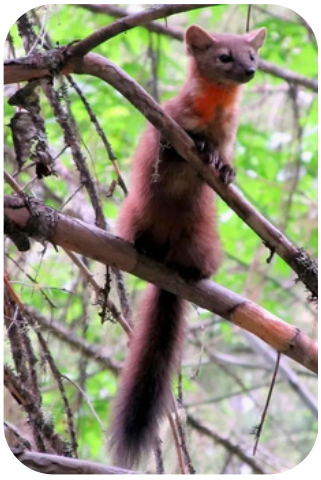
Granite and Canyon Creeks originate in the glaciated alpine zones of the North Cascades and flow west to form Ruby Creek. Ruby Creek then flows west into Ross Lake, a reservoir on the Skagit River. They are nominated as Washington ORWs for their high water quality, recreational value, and ecological significance.

Bull trout require specific conditions sometimes called the "four C's": Cold, Clean, Complex and Connected habitat. The modern scarcity of streams that provide all four is the reason bull trout are endangered today. Ruby, Granite and Canyon Creeks, which possess the "four C's" in abundance, are population strongholds that play a key role in sustaining bull trout in the Skagit River system. Their importance will be all the greater as the climate warms.

In addition to fish, the Ruby Creek watershed supports a high level of biodiversity. Other species of conservation concern that benefit from a healthy Ruby watershed include gray wolf, North American lynx, wolverine, fisher, marten, and harlequin duck.

The Skagit is one of Washington's largest and most ecologically significant river systems; it is the only one that supports all five salmon species as well as steelhead.

Ruby Creek, near Ruby Mountain, WA • Photo: Washington Trails Association

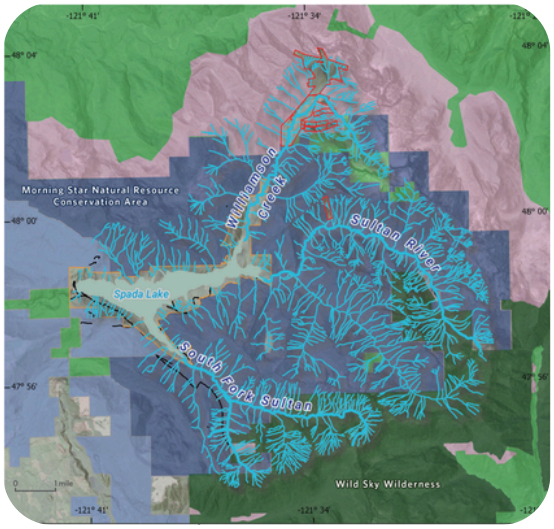


American marten in North Cascades National Park • Photo: National Park Service

The high water quality and high-elevation headwaters habitat of Ruby, Granite and Canyon Creeks are vital to the entire Skagit ecosystem. They should receive the highest degree of water quality protection as Washington Outstanding Resource Waters.

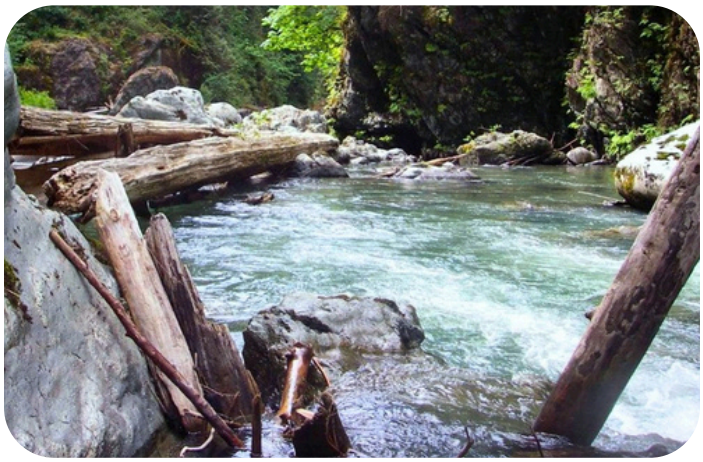
Upper Sultan River

The Upper Sultan River is located above Spada Reservoir in the North Cascades. It is nominated as a Washington ORW for its exceptional water quality, wilderness character, regionally unique habitat types, and importance as the source of drinking water for 675,000 people in the City of Everett and Southwest Snohomish County.

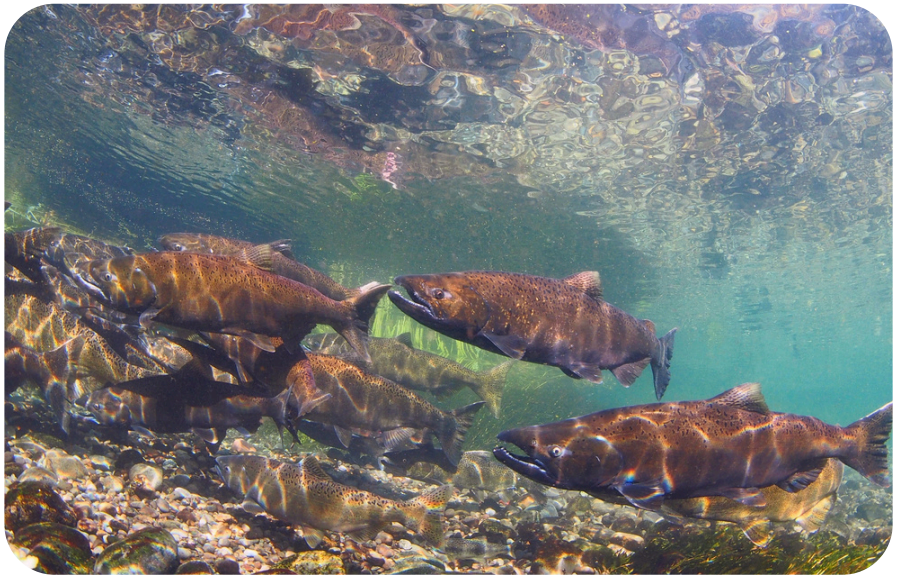


The Sultan's watershed receives an annual average of 165 inches of rainfall – roughly four times that of Seattle – making it one of the wettest in the continental United States. The upper Sultan's watershed is in good condition, and its hydrological system is robust and largely undisturbed. Official drinking water reports characterize its water quality as "naturally pristine" and "pristine high quality mountain water".

With very high precipitation and cool temperatures that allow subalpine communities to occur at unusually low elevations, the Sultan watershed supports a regionally unique ecology. It features mid-elevation and subalpine forest plant communities, as well as numerous wetlands and bogs that support rare plant and animal species. The Upper Sultan watershed has a key role in regional conservation strategies due to its biodiversity, critical habitat, and largely intact natural landscape.



Upper Sultan River, WA • Photo: Liz Gilliam



Mature spring Chinook salmon return from the Pacific Ocean to spawn in their natal freshwater rivers and streams. • Photo: Roger Tabor, USFWS

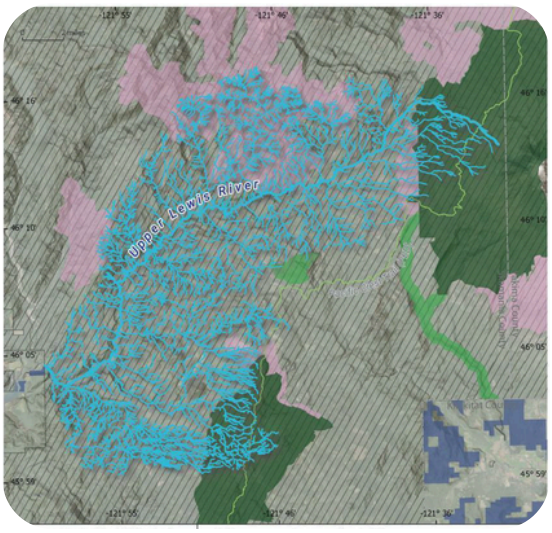
The integrity of the Sultan headwaters is vitally important to the downstream water and habitat quality of the Snohomish River, one of Washington state's primary producers of anadromous fish including ESA-listed Chinook salmon, steelhead, and bull trout.

The Upper Sultan watershed also supports vital terrestrial habitat for a number of species of concern, including the federally threatened marbled murrelet and northern spotted owl, and the state-sensitive Pacific fisher.

The Upper Sultan's water quality is of immense value to the health, economy and quality of life for all the people of the Snohomish basin. It richly deserves protection by classification as a Washington ORW.

Upper Lewis River

The Upper Lewis River begins on the glaciated western slopes of 12,276' Mount Adams in northeastern Skamania County. It then flows southwest through magnificent old-growth stands over spectacular waterfalls in the Gifford Pinchot National Forest. The Upper Lewis is nominated as a Washington ORW for its high water quality, regionally unique recreational value, exceptional statewide ecological significance, and cold water refugia. The nomination includes the Lewis and its named and unnamed tributaries, wetlands and intermittent and perennial streams, from the river's source in the Mount Adams Wilderness to the boundary of the National Forest, just upstream of Swift Reservoir and southeast of Mount St. Helens.



The Upper Lewis watershed is vital habitat for many aquatic and terrestrial species, several of which are threatened. The upper watershed in the Mount Adams Wilderness is an ecologically complex landscape – a blend of dry east-side and moist west-side ecosystems that support diverse types of vegetation and wildlife. Downslope, the federally threatened northern spotted owl resides in the mature and old-growth stands along the river. Other species of interest and concern in the watershed include Larch Mountain salamander, American goshawk, western toad, Rocky Mountain elk, and wolverine.

The Washington Department of Ecology has designated areas that are crucial for survival of bull trout and other salmonids in the Upper Lewis watershed as "Char Spawning and Rearing" and "Core Summer Salmonid" habitat. Since 2008, area Tribes and other groups have worked toward restoration of access for anadromous fish to high-quality habitat in the Upper Lewis by providing fish passage at the four major dams downstream.

The Upper Lewis is a recreational haven for thousands of annual visitors including hikers, bikers, boaters, anglers, wildlife watchers, and waterfall enthusiasts. Segments of the Pacific Crest Trail pass through the upper watershed. Downstream, Lewis River Trail #31 winds through magnificent Douglas-fir, western redcedar, and bigleaf maple old-growth forests. The trail also offers access to spectacular waterfalls, including the massive Lower Lewis River Falls and the uniquely beautiful Curly Creek Falls. Anglers prize the wild fish, natural beauty, and abundant access points of the Upper Lewis. The river is immensely popular among whitewater enthusiasts who travel from far and wide to enjoy the thrills and challenges of its rapids that range from Class II to Class V+.

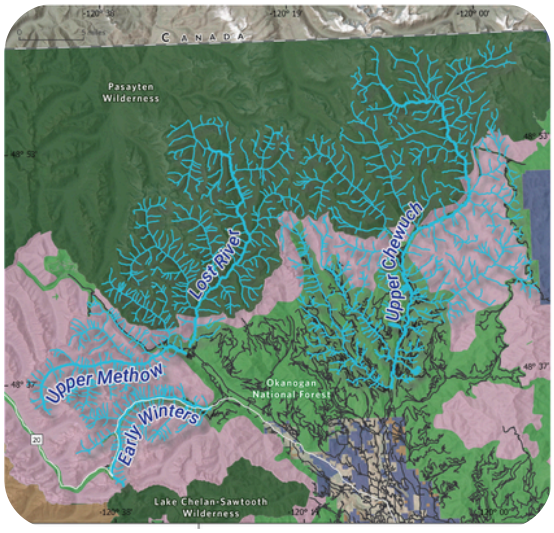
For its outstanding water quality, ecological importance, and recreational value, the Upper Lewis River clearly deserves classification as a Washington ORW.

Northern spotted owl • Photo: Kyle Sullivan, BLM

Lower Lewis River Falls • Photo: Jeff Hollett

Methow River Headwaters

The Methow Headwaters streams rise on the eastern slopes of the North Cascades in northern Washington, just south of the Canadian border. These streams drain alpine and subalpine landscapes rich in glacial features, mature conifer forests, and critical wildlife corridors. They are vital headwater systems supporting downstream water quality and flow regimes. Reaches nominated for Outstanding Resource Waters classification include the Lost River, Early Winters Creek, an upper portion of the Methow River (commonly called West Fork Methow River), and the upper Chewuch River.



The lack of intensive development in the Upper Methow watershed has largely shielded it from significant human-caused degradation. Monitoring indicates overall high water quality, with pristine quality in many of the headwater streams.

Upper Methow streams provide an essential contribution to the recovery of federally listed fish populations: endangered Upper Columbia River spring Chinook salmon, threatened Upper Columbia River steelhead, and threatened bull trout. All four major headwaters—the upper Methow, Lost River, Early Winters Creek, and the Chewuch River—provide critical habitat for these species, with portions of the Chewuch designated as critical habitat for all three.

The Methow Headwaters support a rare intact, high-elevation ecosystem that is home to a number of sensitive species. WDFW has identified over 40 priority habitats and species within the Methow watershed. Eleven of these species are listed as threatened or endangered at the state or federal level.

The Methow Headwaters watersheds are part of an established wildlife corridor between the North Cascades and Canadian Rockies. This is one of the few remaining places in the country where a number of federally protected species—including grizzly bears, gray wolves, wolverine, and Canada lynx—exist alongside populations of mountain lions, moose, and the state's largest migratory mule deer herd.

The Methow River along Highway 153, just north of the town of Methow, WA • Photo: Jasperdo via Flickr

The Methow Headwaters watersheds are the foundation for the region's recreational economy, which according to a 2015 study generates over $150 million per year for the Okanogan County economy. Their clean, cold streams support a renowned wild trout fishery. The area also offers superb skiing, hiking, climbing, camping, river rafting, and mountain biking, among other activities. When flows are suitable, the Lost River offers one of Washington's finest wilderness whitewater trips, prized for its remoteness and canyon scenery.

The Methow Headwaters' excellent water quality, high biodiversity, exceptional habitat for native fish, and splendid recreational opportunities make it a superb candidate for ORW classification by the Washington Department of Ecology.

Riding for Salmon

Lindsay Schuelke • Development Manager

Portland, Oregon is known for many things, including its vibrant biking community. One reason that I love living in this city is the two-wheeled aspect of our transportation system. Biking improves wellbeing for individuals and the collective, and the environment broadly. Choosing this mode can be an important lifestyle choice for us urban dwellers who love and care for the natural world!

Each year, on June 1st "Bike Summer" (also known as Pedalpalooza) kicks off. All summer long a variety of themed bike rides happen around the city *every day*. From music genres, quirky apparel, or obscure routes, to bubbles and pickles...in classic Portland style, there is something for everyone. When I started working at Pacific Rivers in 2022, I already had a "bucket list" goal of someday leading a ride. I could not have fathomed how expansive and beautiful that dream would become!

Three years ago, in collaboration with Greater Hells Canyon Council and Save Our wild Salmon, Pacific Rivers hosted the first "Salmon Life Cycle" community bike ride. Now three years running, with MUCH support from partners and friends, the Salmon Life Cycle has become a tradition.

Key organizers from Save Our wild Salmon, Pacific Rivers and Greater Hells Canyon Council: Abby Dalke, yours truly, and Nash Wadhams. • Photo: Nick Basaraba

The ride begins atop a hill at a scenic park on the east side of the city, our symbolic "headwaters" for the day with socializing, art and music. From there, our route runs – fittingly downhill – along Salmon Street. We convene at Salmon Springs Fountain to share about the life cycle of salmon, their journey, their importance to the ecological health of the Northwest, the threats they face, and their at-risk status. Our aim is to appreciate and celebrate salmon and to raise our voices for them. This year our ~100 participants contacted their representatives requesting they strongly support Six Sovereigns' appropriations requests for the Fiscal Year 2027 to support salmon recovery and habitat improvements, including removal of the four Lower Snake River Dams. The return trip – fittingly uphill – brings us back to the park, symbolic of the salmon's return journey.

Fun Fact: this ride inspired the "Salmon on Salmon Street" painting project by local advocates at Bike Loud and StrongTowns PDX!

This year, we incorporated a new special stop on the ride to visit the Native Arts and Cultures Foundation. During the break, we riders had the opportunity to learn more about NACF's great work elevating Indigenous art and artists with Jonas Angelet, Public Programming Manager while appreciating the brilliant and bright salmon mural outside of their building by Jacob Meders (Mechoopda/Maidu) and Toma Villa (Yakama Nation). The symbology and design elements are significant, as they center salmon and other species, as well as cultural practices represented in the curb-to-curb, block-long mural.

It's not just literal intersections we traverse on the Salmon Life Cycle (*thank you, corkers!*). Together, people of all backgrounds converge and flow as freely as we wish for our rivers to. And like a river, pedaling along, you can connect with life force. The salmon move us.

The Native Arts and Cultures Foundation mural by Indigenous artists Jacob Meders and Toma Villa is a stunning addition to our inner Eastside streets. • Photos: Native Arts and Cultures Foundation (above) and Nick Basaraba (right)

Special thanks to our Salmon Life Cycle business partners:
Patagonia, Ginger Cult, Trailhead Coffee Roasters, Mad Hippie and B-Line!

Welcome, Liz!

by Mike Morrison, Board Chair

All of us at Pacific Rivers are beyond excited to announce to our *Free Flow* readers that longtime PR supporter, consulting scientist, and former board member Liz Gilliam has joined the staff as Executive Director. Not only does this demonstrate significant progress for the organization to move from a volunteer executive director to having a full time employee at the helm, but Liz's impressive qualifications and her intimate familiarity with the organization mean that she is truly the perfect person to ensure Pacific Rivers' vitality going forward.

Among the attributes that make Liz an exceptional fit for the job is her deep knowledge of the organization. Aware of the work we were doing and the films we were producing, she offered to volunteer her considerable skills. That led to her joining the Board of Directors in 2018. I've had the pleasure of knowing and working with Liz since meeting her and her husband Steve at her first board meeting. Given her skills, she was a natural to become Board Treasurer and, with that, to serve on the Executive Committee. It was the Executive Committee that evaluated the need for organizational change in 2021 and acted to strengthen Pacific Rivers.

In late 2021, Liz and Steve moved to Southeast Asia for five years. She remained a committed member of the board, Zooming into meetings at the break of (her) dawn. As our capacity and need for her scientific skills emerged, Liz agreed to work as a consulting scientist, working on projects including our Chehalis dam opposition, Frank and Jeanne Moore Steelhead Sanctuary management plan efforts, and Steamboat and Canton Creek snorkel surveys. (She resigned her board membership and Treasurer position when she began her paid position.)

Liz holds Bachelor of Science from Western Michigan University in Geology and Geographic Information Systems, completed post-Bachelor's studies in Fluvial Geomorphology at Cal Poly Humboldt and earned her Masters in Applied Geosciences from Colorado State University. She has worked as the senior geomorphologist and project manager for OTAK, leading river, floodplain, wetland and estuary restoration projects throughout Oregon and Washington. Before that she worked as a Research Scientist and Project Manager, leading watershed assessments, hydroelectric relicensing studies, sediment transportation investigations and restoration planning across the Pacific Northwest. Somehow, while busy with professional commitments, she found time to serve as an Adjunct Professor at Portland State University between 2009 and 2021, teaching geomorphology and restoration science in the Restoration Professional Certificate Program, mentoring more than 425 professionals over 12 years.

While I could now be accused of really piling it on, Liz can claim scientific contributions in watershed assessment and planning, dam removal, river restoration and process-based design, long-term monitoring and applied research, and climate resilience. Her professional fingerprints are all over the Northwest's rivers: Oregon's Columbia, Clackamas, Umpqua, Deschutes, and McKenzie; Washington's Sultan, White Salmon, Green, Smith, Lewis, and Snohomish; and California's Gualala, Merced, Yuba and Tuolumne.

And there are the dozen or so publication and presentation credits to add to numerous professional appointments, not to mention having worked as a river raft guide.

Stellar qualifications aside, Liz has a quiet, calm and steady demeanor that is apt for the serious challenges the environmental community is facing today.

Liz lives in Portland with her husband, Steve, and their Bali rescue dogs Iggy and Esme. Growing up, her family's first dog back in Michigan was named Lucky because someone drove by their house, left a puppy, and drove away. Now Pacific Rivers and the watersheds of the northwest are lucky that Liz somehow dropped herself off here.

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THANK YOU FOR YOUR SUPPORT!

We want to thank our many supporters for giving us the information, inspiration, motivation, and yes, funding, to tackle the most important river and watershed issues of our day. We could not do it without you.

OUR MISSION

The mission of Pacific Rivers is to protect and restore the watershed ecosystems of the Northwest to ensure river health, biodiversity and clean water for present and future generations.

OUR VISION

We work for the day when all the people of our region have clean drinking water sources; rivers are safe for ceremonies, boating, swimming and fishing; native fish populations are abundant, sustainable, and safe to eat; and healthy watersheds provide cool, clean water to river systems that are resilient to climate change.

PACIFIC RIVERS

PACIFICRIVERS.ORG
1001 SE Water Avenue, Suite 450
Portland, OR 97214
info@pacificrivers.org