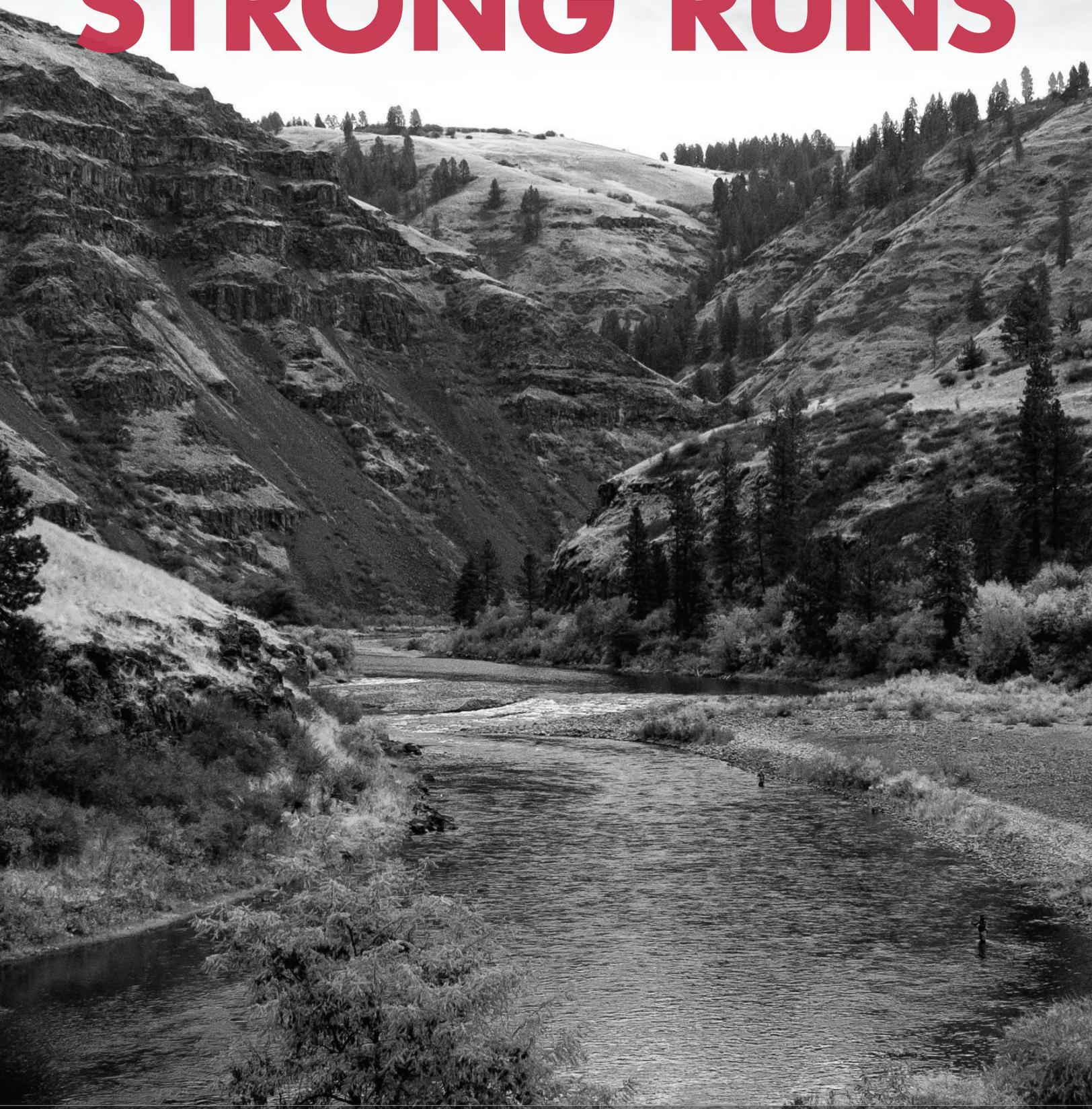


ISSUE 12.2

STRONG RUNS



NATIVE FISH SOCIETY / NATIVEFISHSOCIETY.ORG / FALL 2018

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STRONG RUNS

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REVIVING THE MIRACLE

Building A More Effective Wild Fish Movement

WORDS

Mark Sherwood,
Executive Director

ABOVE

A miraculous run of sockeye salmon in an Alaska stream.

Photo:
Conrad Gowell

Revelations can happen anywhere. One dreary July day in 2007, I stumbled into the first anti-Pebble Mine rally in Dillingham, Alaska. Colorful flags and signs depicting wild salmon were waving in the breeze in an old boat yard that spilled over with commercial fisherman in orange Grundens, sport anglers in waders and ball caps, and tribal members in traditional fishing garb. Hundreds of people were gathered, standing in the mud, to hear about the threat of a mine. I'd just been bored. My hands were stiff from mending nets and I wanted to see what all the commotion was about. Dillingham is a very small town.

Next to a set of rusting speakers a tribal elder introduced himself. "We say not just no, but HELL NO to the development of this mine in our homewaters!" The week before, on the other side of Bristol Bay, I'd hung off the stern of a small fishing boat watching sockeye salmon swim in a miles-long school. Wild salmon had turned the estuary into a swimming miracle. I'd never seen anything like it.

I'd run out of money hitch-hiking north to the salmon grounds in Alaska, spending my last \$20 on a terrible hamburger in King Salmon. While I ate, two bartenders swept up glass from

"The obligation to restore the land and conserve it requires humanity in its highest, completest sense." —Wendell Berry

COVER
The Grande Ronde River in Oregon
Photo: Richard Harrington

ABOVE
River snorkeling
Photo: Russ Rickets

the previous night's fight. Splintered pool cues leaned in one corner, but the bottles of whisky had been saved. If there was a frontier, I'd thought at the time, this must be it. I had finally found the edge of the map where humans turn into wild animals and then recede altogether into harsh, untrammelled frontier.



ABOVE

Cory Boone and NFS Executive Director Mark Sherwood aboard Bracor Bay — Bristol Bay, Alaska, 2007.

Photo: Courtesy of Mark Sherwood

Standing there in the boatyard mud, with the elder's words echoing in my mind, I couldn't believe that a huge multi-national company could find this out-of-the-way place. A sudden revelation turned my idea of wild salmon beyond the frontier on its head. No place was too far, too cold, or too wild to escape the interest of ambitious individuals. This special place, like the ones I'd known in the lower 48, still thrived because people stood up for it. Thanks to their advocacy, I had the opportunity to discover and cherish and be enriched by the wild left in these places.

The threat of Pebble Mine has not been vanquished, but the mine has been held off by the passion and dedication of advocates who continue to protect the world's largest run of wild sockeye salmon. That is the remarkable power of local grassroots advocacy. From that day and their ensuing campaign, I continue to learn how to build an effective movement to preserve and revive that same miracle of wild salmon that enlivens our Northwest homewaters — that miracle swims here too.

My next revelation came after a handful of years driving across the Pacific Northwest, sleeping in my truck, the dirt, and on strangers's couches as I worked to grow and support Native Fish Society's community of River Stewards. Local people who care about their backyard rivers are at the heart of conservation. Without them, it would be impossible to protect and revive the places we all cherish. They are effective advocates because they are speaking on behalf of their home, their neighbors, their drinking water, and their way of life. Social scientists confirm this: A deep connection to place has been identified as one of the most consistent indicators of a meaningful conservation ethic.

Over the past year, we've added two new regional coordinator roles: one in the Columbia River Basin and another in Washington. Additionally, our new Wild Fish Fellowship Program leverages the passion and skill of economists, biologists, filmmakers, artists, and social scientists. As volunteers, skilled advocates ensure that local people have the support and the resources necessary to make their efforts as effective as possible.

In 2018, our staff, board, and volunteers have focused on how to come together with other stakeholders in order to make our advocacy as powerful as possible. That's what this year's conservation initiative — Homewaters: Converge — is all about. As an organization, we believe that bringing together local advocates from diverse backgrounds is the most effective way to build a movement that maximizes the positive impact we can make for our wild, native fish and homewaters. We have to look for

common ground. We have to be willing to build new alliances and relationships.

Although we're just getting started, our efforts are already bearing fruit. Our Women for Wild Fish Initiative, spearheaded by staff members Tracy Buckner and Jennifer Fairbrother, River Steward Mia Sheppard and Keep 'Em Wet Wild Fish Fellow Allison Oliver, hosted 25 women in Maupin at the first Women for Wild Fish Rendezvous. The goal of this initiative is to connect women within and across watersheds to promote women as leaders of science-based education, conservation, and wild fish advocacy.

Also this year, Native Fish Society co-founded the Willamette Salmon and Steelhead Recovery Coalition with Association of Northwest Steelheaders, McKenzie Fly Fishers, and Trout Unlimited. The goal of this coalition is to join together, despite our differences, to promote and support the recovery of wild spring chinook and winter steelhead in the Willamette Basin. We've agreed to disagree for the time being on hatcheries, each of us working on our own in this realm, in order to collectively work together to pressure state and federal decisionmakers to improve water quality and provide volitional fish passage at federal dam facilities that have run amok in the basin. When we work together in spite of our differences, our advocacy means more. It can gain momentum and spread out beyond our own communities.

On Oregon's south coast our River Stewards and staff supported local fishing guides and anglers of all gear types, who share a respect and passion for the region's legendary wild steelhead. The Oregon Coast is the last place in the world where anglers can legally kill wild steelhead. In particular, the South Coast has 10 watersheds that are still managed this way. A lack of funding for monitoring and an increase in angling threatens to reduce the viability of these wild fish. A threat to these fish is, in turn, a threat to the economy of the rural communities that they support. Together, we advanced a catch-and-release proposal starting with a petition carried by dozens of advocates and signed by more than 700 community members.

Seventy one percent of those signatures came from addresses in southern Oregon. Catch-and-release regulations would ensure southern Oregon's wild steelhead remain vibrant and legendary long into the future. It's a proactive step that everyone is willing to take together.

We're also working to align ourselves with the tribal nations of the Pacific Northwest. This year we've been making progress toward dam removal on the Eel, protections for early spring chinook on the Oregon Coast and Klamath, recovering wild springers and winter steelhead in the Willamette, and improving water quality in the Deschutes. In each of these places, there is a Tribal Nation with a deep connection to the fish and rivers. Together our advocacy is about restoring the ecological and cultural integrity of the Northwest.

The underlying question is, for all of the work we do, can wild fish return to the Pacific Northwest in real abundance? Last year, Oregon's legendary Rogue River — once hampered by dams, diversions, and over fishing — supported nearly 300,000 wild fall chinook. 300,000! Thanks to grassroots efforts across the Rogue including the work of our past Rogue River Steward Peter Tronquet, there's a science-based fisheries plan that protects wild fish, keeps water in the river, and prioritizes investment in dam removal, habitat protection and restoration. This fall, fisheries forecasts predict a return of nearly 500,000 wild fall chinook to the Rogue. It is a glimpse into what's possible. If we empower grassroots advocates who, in turn, steward their homewaters and champion the needs of wild fish, then wild abundance is possible.

There are always new revelations to come. But we will continue to use what we know now, expanding our incredible community of supporters and members, and empowering our passionate River Stewards and dedicated staff. We've never been in a better position to deliver on our organization's purpose: to cultivate the groundswell of public support necessary for the revival of abundant wild, native fish. Thank you for your support. 🐟

LOOKING FORWARD

A Message From
the New Washington
Regional Coordinator



SWIMMING IN SANCTUARIES

WORDS & PHOTO

J Michelle Swope,
Washington Regional
Coordinator

If you're interested in collaborating with J. Michelle to help Washington's wild, native fish, please send her an email at jmichelle@nativefishsociety.org.

I am excited to join the Native Fish Society as the Regional Coordinator for Washington State. I live in Olympia, which is a nice jumping off point for many of Washington's great rivers. Three hours from my doorstep, I could be chasing steelhead on the Olympic Peninsula or fishing for rainbow and cutthroat on the Yakima River.

I grew up on the north end of the Hood Canal, with the Olympic Mountains as my playground. I walked the beaches and the rivers that flow into Hood Canal, hiked with my family across the Olympics, camped and fished my favorite river — the Elwha — and explored rainforest rivers like the Hoh, Bogachiel and Queets.

I also watched the decline of our salmon and steelhead runs. I've listened to elders argue and point fingers at the culprits. Some blame the Boldt Decision, others blame the tribes, still others the commercial fisheries, state agencies, or poachers. The list goes on. The truth is, it is not one issue or group that is causing the decline of our native runs. It has been a mix of fishing pressure — commercial *and* sport — hatchery runs that compete with wild runs, and bad logging practices, to name a few. I was thrilled when I discovered Native Fish Society. The organization worked to educate the public and used science as a foundation for addressing the 4 H's (Hydropower, Habitat, Hatcheries

and Harvest). When an NFS staff position came open in Washington, I leapt at the chance to join the team.

I am not a biologist. My background is in Behavioral Science and Organizational Development. I worked, for many years, to improve efficiency, effectiveness, and productivity within groups and agencies. I believe those skills will be invaluable when working on behalf of Washington's native fish. I am also a passionate fisherwoman. Though I am still learning how to protect wild fish and create environments in which they will thrive, I know absolutely that each of us has a part to play. Who doesn't want strong runs of native fish?

I am excited to meet the NFS River Stewards already working in Washington. I am also excited to grow the program. We need passionate, local people working to improve the health of wild fish in all 18 watersheds in the state. There is also potential to collaborate with likeminded groups on these important issues.

I look forward to meeting all of you in the coming months. Please don't hesitate to reach out. We can have coffee, take a walk, or visit your favorite stream or beach. Whatever we do, let's talk about how we can work together to help wild, native fish thrive. 🐟

In the Wenatchee River and Across the Northwest, Native Fish Depend on Coldwater Refuges

WORDS & PHOTO

Russ Ricketts,
Wenatchee River
Steward

HOW CAN YOU HELP?

To make a donation that will benefit the native coldwater fish of the Wenatchee River, or to learn more about cold water refuges, please visit our [Wenatchee Coldwater Campaign page at nativefishsociety.org](#).

In the summer of 2015, I snorkeled into a huge school of salmon, trout and char sheltering in a coldwater refuge. At first, I was confused by what I was looking at. Then I drifted out of the main river's flow and into the cold water. It was an epiphany. I had been looking at our future: increasingly warm temperatures that will wreak havoc on coldwater fish and could undermine our efforts to restore them.

After meeting with NFS River Steward coordinator Conrad Gowell, a plan was hatched to launch a small, crowd-funded study of these important biological refuges. In 2016, thanks to the generous donations of both friends and strangers, I placed temperature monitors in three tributaries to the Wenatchee River and conducted direct observations through the summer. Although summer temperatures were more hospitable to our native fish that year, many still used the coldwater refugia throughout the season. The temporary residents included steelhead, bull trout, spring and summer Chinook, as well as sockeye salmon, westslope cutthroat, whitefish, suckers and dace.

The study didn't work out exactly like I had planned. Three of my Hobo temperature

monitors were stolen. Fortunately, the most crucial monitors were retrieved and that data is currently being examined.

This winter the U.S. Forest Service unveiled plans to reopen a campground that abuts one of the refuges I studied. I sat down with the USFS district fisheries biologist and explained the importance of addressing the needs of these imperiled fish. We discussed measures that could inform the public and protect the most important coldwater refuge in the watershed. I also reached out to biologists at the Washington Department of Fish and Wildlife, as well as regulators at the local office of the U.S. Fish and Wildlife Service.

Every agency in my region has a stake in the future of these fish. My goal is to develop a plan with stakeholders that is both simple and effective. The wheels move slowly and challenges arise, but I'll continue to be a voice for native fish. I encourage all NFS River Stewards and members to identify coldwater refuges in their watersheds and work with stakeholders to ensure these places receive special protections. 🐟

FOUR KLAMATH DAMS WILL FALL IN 2021. IRON GATE HATCHERY SHOULD GO TOO.

WORDS

Jake Crawford,
River Steward
Program Director

ABOVE

The Klamath River
Photo: Rich Zellman

RIGHT

Cold, clean water
will be something
to celebrate.
Photo: Rich Zellman

The construction of salmon hatcheries alongside hydropower dams has been a common practice in the Pacific Northwest for the last century. Dams built without fish passage blocked wild salmon and steelhead from their historic spawning grounds. To make up for the lost habitat, hatcheries were built at the base of dams. Once this seemed like a good solution. But we have learned more about the negative impacts hatcheries pose on wild fish. As we remove deadbeat dams to establish free-flowing rivers and reconnect wild salmon and steelhead with historic habitat, the hatcheries on those rivers have outlived their purpose.

On the border of Oregon and California, four dams on the Klamath River are slated for removal in 2021. When Iron Gate, J.C. Boyle, Copco No. 1, and Copco No. 2 dams come

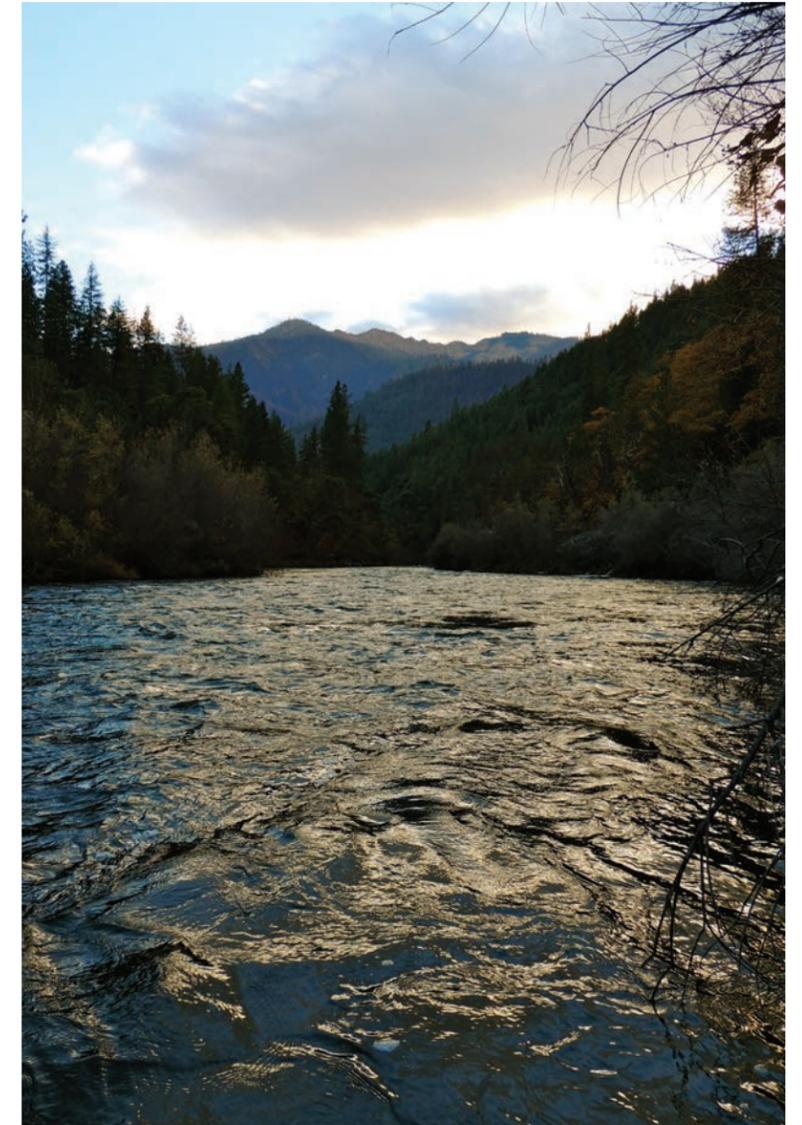
down, communities along the Klamath will have many reasons to celebrate. A broad list of entities support this effort, including the States of California and Oregon, Tribal nations, local government organizations, farmers, ranchers, fishing clubs, and conservation groups. Even the dams' owners, PacifiCorp, support it. Dam removal will enable wild salmon and steelhead to access more than 400 miles of historic spawning habitat and eliminate the stagnant reservoirs that foster toxic algae blooms. This will dramatically improve water quality. It will be an incredible achievement.

We fully support removing these deadbeat dams, as it will be the largest river restoration event in history. It is the first step toward restoring the natural resiliency of a struggling river. But the current plan guiding the decommissioning

process calls for Iron Gate Hatchery to continue producing hatchery salmon for at least eight years after the dams start to come down.

The negative effects of Iron Gate Hatchery on wild salmon and steelhead in the Klamath basin are well-documented. Built in 1961, Iron Gate is the river's largest producer of hatchery salmonids. It releases about eight million chinook and coho salmon annually as mitigation for habitat lost to the dam of the same name. Iron Gate produced hatchery steelhead until 2012, but production was shut down because of poor returns from the failing program. In a May 2013 paper for *Environment Biology of Fishes Journal*, UC Davis researchers Rebecca Quiñones, Michael Johnson, and Peter Moyle show that hatchery salmon and steelhead are replacing natural spawners. The biologists wrote that "anadromous salmonid populations in the Klamath basin are becoming increasingly dependent on hatchery propagation." The authors conclude that, over time, this pattern threatens wild salmon and steelhead and increases their vulnerability to changing environmental conditions.

Continuing to produce hatchery salmon after dam removal puts wild fish on the Klamath River in jeopardy. Four deadbeat dams are coming down to help save the Klamath's wild salmon and steelhead. But *wild* salmon and steelhead are defined by *self-sustaining* populations. According to state law, federal law, and common sense, hatchery fish are not self-sustaining and do not meet this definition. The plan is further complicated by the reality that Iron Gate Hatchery was built at the base of the dam. Much of the infrastructure supporting the hatchery facility will be eliminated as Iron Gate Dam is torn down. To continue hatchery production would require investments in new buildings and raceways — money that could be better invested on long-term salmon restoration projects.



When the dams come down on the Klamath, let's celebrate by letting wild salmon and steelhead go home to their historic habitat on their own. In the fall of 2018, please check nativefishsociety.org for an opportunity to show your support for decommissioning and voice your concerns over maintaining hatchery production. State and federal agencies need to hear your vision for a wild, free-flowing Klamath River. 🐟

STANDING TOGETHER

WOMEN FOR WILD FISH

Alliances are the Key to Saving the Willamette's Native Fish

WORDS & PHOTO

Jennifer Fairbrother,
Campaign and
Columbia Basin
Director

Please add your voice to this effort by joining us at 6:30 p.m. on December 4, 2018 at the Museum of the Oregon Territory overlooking Willamette falls as we kick-off the Willamette Salmon & Steelhead Recovery Coalition.

The Willamette River defines the landscape of western Oregon. Its waters emanate from Cascade and Coast Range peaks, speeding clear and cold through forested slopes until they reach the broad valley that shares the river's name. Twenty-six miles from its confluence with the Columbia, the Willamette thunders over a 1,500-foot-wide basalt ledge, the second-largest waterfall in North America.

The Willamette once supported some of the greatest runs of salmon and steelhead in the world. Native spring chinook and winter steelhead adapted to ascend the falls, above which they found hundreds of miles of spawning and rearing habitat.

In the last 150 years, however, the Willamette has become inhospitable to wild fish. Thirteen dams built in the middle of the twentieth century cut off anadromous fish from nearly 90 percent of their historical spawning and rearing habitat and unnatural flows, degraded water quality, hatchery programs, loss of side-channel habitat, and intense harvest are driving the Willamette's native fish extinct.

Native Fish Society is spearheading a campaign to address these problems. This spring, alongside WildEarth Guardians, Northwest

Environmental Defense Council, and represented by Advocates for the West, NFS sued the Army Corps and National Marine Fisheries Service for failing to act on behalf of Willamette spring chinook and winter steelhead, in spite of their Endangered Species Act protections.

The Army Corps responded immediately and the National Marine Fisheries Service is now evaluating the Corps' impacts. We were pleased to see prompt action. We expect the Corps to evaluate all 13 dams in the Willamette Valley Project, as well as the associated mitigation hatcheries. In the meantime, it is imperative that the Corps take interim measures to immediately improve volitional fish passage, water quality, and flow regimes.

Change for the Willamette's wild fish won't come from litigation alone. That's why NFS is developing a coalition to drive political change and recover these populations. Individuals and entities that have long been at odds are speaking on behalf of native fish and the communities that depend upon them. With native winter steelhead and spring chinook on the brink, our best chance at saving them is to stand together. 🐟

WORDS & PHOTO

Jennifer Fairbrother,
Campaign and
Columbia Basin
Director

ABOVE

NFS Little Deschutes River Steward Jodi Wilmoth shares her conservation journey.

Mission: To bring women together to defend wild places and wild fish.

What do you get when 25 women passionate about native fish and their homewaters converge on the banks of the Deschutes River? Inspiration. Fellowship. Communion. Motivation. Joy. This and so much more defined the kickoff event for Native Fish Society's newest initiative: Women for Wild Fish.

As the number of women involved in fishing, science, and conservation climbs, many are looking for opportunities to deepen their conservation ethics and advocate for the natural resources that bring them so much joy. At Native Fish Society, our mission is best served when we bring many voices to the table. As an organization, we believe that we have a responsibility to create spaces that are welcoming and supportive of women who want to speak on behalf of fish, rivers, and communities.

Inspired by members of our staff and River Steward Mia Sheppard, NFS launched Women for Wild Fish (W4WF) over the summer. Women from around the region converged on Maupin, Oregon in July for the inaugural W4WF Rendezvous. They came from different backgrounds and different stages of life, but

recognized the value of an opportunity to connect, network, and learn from one another. Speakers presented on a variety of topics, from women in the boardroom, to the challenges and successes of organizing women's fishing clubs, to an in-river demonstration of Keep 'Em Wet fish handling practices. And each of us left with a strategy for deepening our wild fish advocacy in the coming months.

Native Fish Society staff and River Stewards look forward to shepherding the W4WF initiative into the future. We know that the connections made on the banks of the Deschutes will continue to ripple outward, wider and wider, becoming a driving force for wild fish conservation in the Northwest. 🐟

A STEP IN THE RIGHT DIRECTION

Working Toward a Sustainable Wild Steelhead Fishery in Southwest Oregon

WORDS & PHOTOS

Jake Crawford,
River Steward
Program Director

ABOVE

The goodbye:
a strong tail splash
from a released
wild steelhead.

RIGHT

Admiring a prized
southwest Oregon
wild steelhead
before the release.

There are twelve streams in the lower 48 states and British Columbia where sport anglers can legally harvest wild, native steelhead. All twelve are in Oregon and ten — the Elk, Rogue, Sixes, Chetco, Pistol, Winchuck, Illinois, and East Fork Coquille rivers, as well as Hunter and Euchre creeks — are in the state's southwest corner.

Earlier this year, a group of local guides and anglers led by Harvey Young of Fishhawk River Co. set out to change that. The group collected signatures for a petition asking the Oregon Department of Fish and Wildlife to require the release of all wild steelhead in the Southwest Zone. The request was rooted in the fact that the status of wild steelhead runs in southwest Oregon is poorly understood. Of the ten rivers listed above, ODFW has no management plan for eight. Inadequate funding and increasing demands elsewhere in the state are to blame. The department simply doesn't have the money or the staff to monitor those stocks.

In other parts of the Pacific Northwest, fisheries managers in similar predicaments have implemented catch-and-release regulations. This has proven to be an effective management tool, without eliminating fishing opportunity. Catch-and-release regulations for wild steelhead

are already in place for almost every other river in Oregon. They have also been in place in British Columbia and Idaho since the 1980s, in California since 2010, and in Washington since 2015. In southeast Alaska, the state added a 36-inch minimum length for the harvest of any steelhead. Though not without pitfalls, this rule protects more than 95 percent of the steelhead population there. Implementing catch-and-release regulations for wild steelhead in southwest Oregon would be cheap, easy, and effective.

In July, Harvey submitted the petition to ODFW, who turned over the petition to the Oregon Fish and Wildlife Commission for consideration at their September meeting. In just six months, he and his team had collected 655 signatures, 71 percent of which came from local anglers.

In the week leading up to the meeting, Harvey added 3,000 more electronic signatures using a change.org petition. For our part, NFS staff and River Stewards dug into ODFW's data and reports. **We discovered the following:**

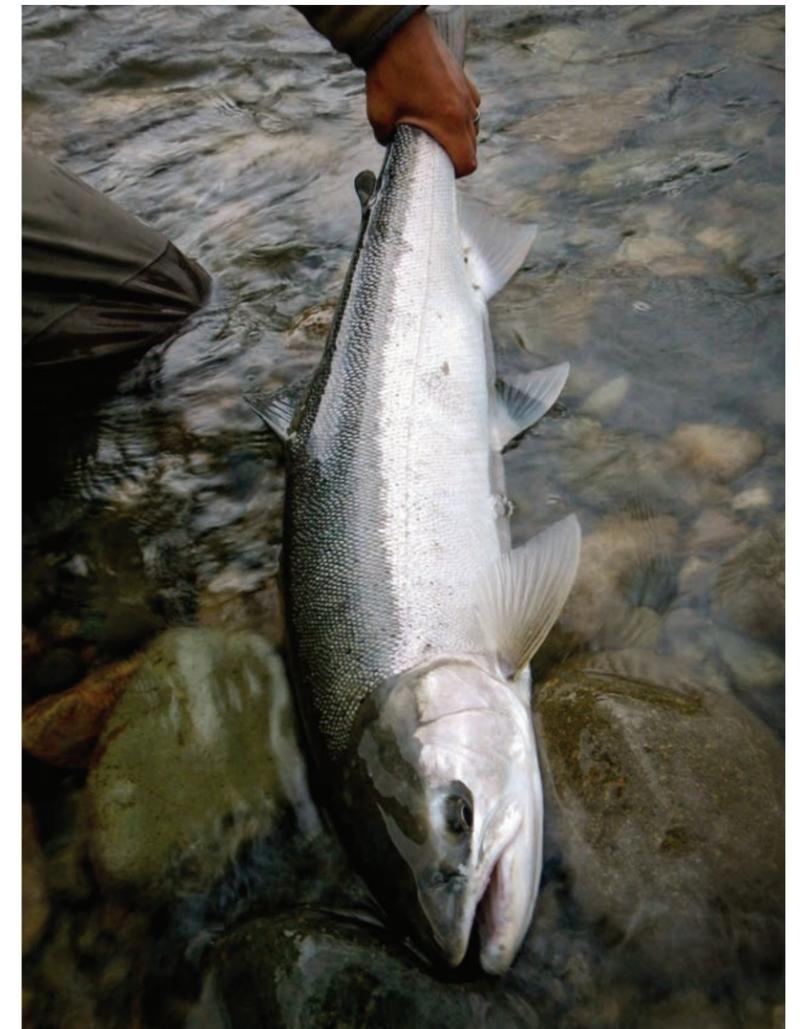
- No spawning surveys have been conducted in the Rogue Management Area since 2009 due to budget constraints.

- No spawning surveys have been conducted in the South Coast Monitoring Area since 2015.
- In 2015, estimates for adult wild steelhead spawners from the Klamath Mountain Province were the lowest since 2003.
- Juvenile steelhead surveys conducted in 2017 showed less than 50 percent of both the five- and ten-year averages.
- Juvenile abundance in the Klamath Mountains Province has generally declined since 2002.
- Harvest of wild steelhead on the Elk River increased 1200% between 2005 and 2016.
- Between 2005 and 2012, wild steelhead harvest increased by 650% on the Sixes River.
- Between 2002 and 2016, wild steelhead harvest increased from between 1600 and 2400 fish to as many as 3400 fish harvested annually in southwest Oregon.

For our part, NFS staff and River Stewards dug into ODFW's data and reports, which we obtained through a public records request.

When September arrived, we were well-prepared for the written and oral testimonies we submitted to the commission. Ultimately, the commission reduced the annual limit from five wild steelhead to three. They also directed ODFW staff to develop a management plan for the South Coast. Though it wasn't the clean sweep we were looking for, these are steps in the right direction.

Looking ahead, we're gearing up to increase the size and breadth of our wild-release coalition. Stay tuned for more events and opportunities to speak on behalf of these remarkable wild fish and the coastal communities they support! 🐟



WE NEED YOUR VOICE.

No matter how you fish, you can help.

- Please sign Harvey's petition — "Catch & Release for Wild Steelhead in Southwest Oregon" — at change.org
- Ask your city council, tackle shop, or fishing club to write a letter of support
- If you own a business that depends on wild steelhead, write a letter of support

Please send letters of support to:

Native Fish Society
813 7th St. Suite 200A
Oregon City, OR 97045

Stay tuned for presentations and events this winter in Southwest Oregon. Contact jake@nativefishsociety.org if you'd like to schedule a presentation in your area.



NATIVE FISH FELLOWSHIP: AN INVITATION

WORDS & PHOTO

Conrad Gowell,
Fellowship Program
Director

If you are interested in applying your unique skills to help NFS protect and recover native fish, please send Conrad an email. conrad@nativefishsociety.org

The Native Fish Society exists to educate, empower, and inspire people so that together, we can create a world where native fish and human communities thrive. Our River Steward Program exists to grow a region-wide network of place-based grassroots advocates dedicated to science-based solutions. But, what about those people who don't know their local watershed, or who don't believe their sense of place is the best way they can contribute? As we build a larger community dedicated to the revival of historically abundant wild fish populations, no one should be left without a role to play. People from all walks of life have an area of expertise, skills, or their own unique talents to protect the wildness in rivers and the fish that call those places home.

Just like the fish, no one should be cast aside.

The fellowship program was born through direct experience. I was still setting up as people began to filter into the foyer of a small theatre in Seattle. The table was being set with a variety of information: inspiring stories of people protecting their home rivers, email sign-ups to stay current on fish conservation issues, and

recent accomplishments to celebrate. Looking around the room I saw old friends, happy to see one another. Trading stories, many of us relayed reports, some of dismay, some of hope.

Milling around the edges were a few new people who I didn't recognize. We were all there to see a new documentary on the reason native fish were threatened with extinction, but what struck me most was the human need to come together over these tough issues.

Someone I didn't recognize came up to the table, eager to learn. John introduced himself, saying that he was new to the Northwest and his knowledge of local rivers was limited. But over the past two years he had become captivated by salmon and steelhead. Most importantly, he was eager to learn.

"I'm struggling on where to start so that I can help make an impact," he said.

If we want a healthier exchange between complex fish ecosystems and human societies, we need all kinds of people: the diagnostic, the descriptive, and the creative. We can't limit

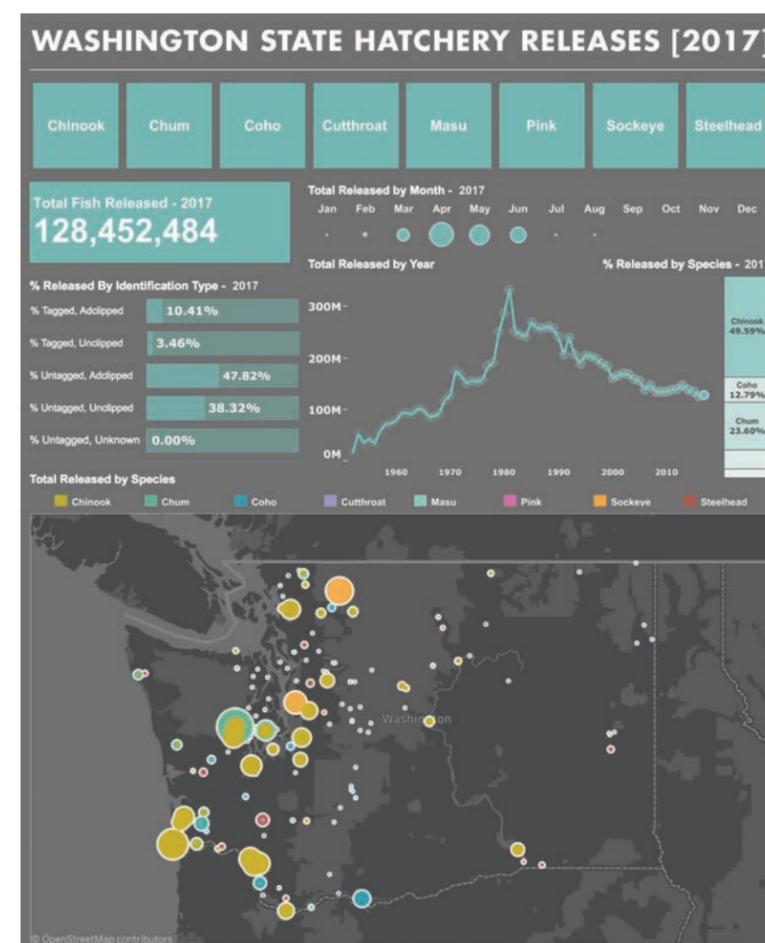
ourselves to only understanding environmental problems through single disciplines. We need artistic, numerical, and experiential people to be partners in the recovery and protection of fish.

John is a business intelligence engineer with Amazon. How can a business analyst help wild, native fish? At Native Fish Society, we needed to summarize a complex dataset of hatchery information throughout the Northwest. Ten days after I met him, John sent me an unexpected email. He had summarized the 128 million hatchery fish planted in Washington waters in 2017. Beyond that, he mapped hatchery programs by location and separated them by species all the way back to 1952!

"Wild fish recovery and protection is extremely important to me, and I want to help out any way that I can," John said. "To say that I'm excited to help the Native Fish Society with analytics and data visualization solutions is an understatement."

Realizing the value people with unique skills and talents could add to fish advocacy, we began working to broaden our community. We discovered videographers, sociologists, economists, etc. They all wanted to help. Each of them was an expert in a branch of knowledge, but lacked an issue, or place, to apply their talent.

In 2018, we started the Native Fish Fellowship Program in order to expand the opportunities for people to take action for native fish. Working alongside staff and River Stewards, NFS Fellows are now an integral part of achieving our strategic goals. 🐟



GRAPHIC

How can a business analyst help wild fish? By summarizing complex data sets like this one. Fellow John Zemrose

BUILDING A WEIR ON THE KOEYE RIVER

Traditional Technology and Salmon Conservation in British Columbia

WORDS

William Atlas,
River Steward,
North Puget Sound
Tributaries

ABOVE

The weir at work.
Photo: Bryant DeRoy

To learn more,
check out the
documentary
"Sitting on Water"
at [vimeo.com](https://www.vimeo.com).

In recent decades, First Nations across Canada have been playing an increasingly active role in the conservation and management of lands and natural resources. In doing so, traditional knowledge and stewardship practices have come to the forefront. Canada is having a national conversation about reconciliation between our government and indigenous Canadians.

Nowhere has this been more visible than in coastal British Columbia. First Nations are leading efforts to protect land from logging, end unsustainable herring fisheries, ban trophy hunting for grizzly bears, and stop the development of fossil fuel pipelines and export facilities in the Skeena estuary.

Canada's First Nations look to millennia-old knowledge for sustainable ways to support their communities. This inspired the use of a weir to monitor Koeye River sockeye, in the territory of the Heiltsuk Nation. Working with Qqs Projects Society and the Hakai Institute, we built a cedar weir each of the last five years in anticipation of the sockeye return. Using this ancient technique, we provided the first rigorous estimate of adult sockeye abundance in the Koeye River, which is essential to Heiltsuk ceremonial, social, and food fisheries.

We were there to monitor the sockeye population, but the project also provided proof that hand-built weirs could be a valuable tool for sustainable subsistence harvest. The commercial salmon fishery on the British Columbia coast has been in decline for decades. It is a small fraction of the regional economy. In remote coastal communities, however, salmon are staple of diets and culture, and subsistence fishing is still a pillar of the economy.

We will continue to run the weir in Koeye and we hope to expand the program to other rivers. We are particularly interested in monitoring a salmon run closer to Bella Bella, where the project could be run by volunteers. It's part of a larger conversation about a sustainable future for people and wild salmon. Traditional knowledge and technology will undoubtedly play a role in achieving that goal on the British Columbia coast and beyond. 🐟

WHEN A RIVER FEELS LIKE HOME

WORDS & PHOTO

Richard Harrington

My great grandfather homesteaded in Oregon about 150 years ago. The family ranches line the road as you approach Wallowa.

My mother was born in Joseph, Oregon, not far from the old homestead, but I grew up moving around the Pacific Northwest. We came back frequently to the Wallowa Valley, to visit grandparents, aunts, and uncles, and to spend time playing on the lake. That place was the center for me and it has always felt like home.

My uncle started me fishing there, in small streams and then in the Imnaha and Grande Ronde rivers. Sometimes we'd pick berries

in the hills, too, and we always stopped for milkshakes or pie at Boggan's. I intended for it to be my homewater.

Life doesn't always follow the plans we make as kids. I left the Pacific Northwest for western New York and lived there for decades. Now that I've moved home, I spend as much time exploring new water as I do on the Grande Ronde. They're the rivers I wanted to explore as a kid and I have to make up for lost time. But the Grande Ronde still feels like home. 🐟

A RUN DISRUPTED

Unrestrained Logging and the Fate of South Umpqua Springers

WORDS

Brett Tallman

ABOVE

The South Umpqua River in spring.

Photo: Jake Crawford

RIGHT

A spring chinook leaping Three Falls in a South Umpqua River tributary.

Photo: Courtesy of Bill Bakke

People have been meeting at South Umpqua Falls for the last 4,000 years. They have always gone because of the salmon. Spring chinook used to go over the falls two dozen at a time, throwing big rooster tails as they went. There were so many salmon then that fish on the edges of the pool below were often forced out of the water and onto the bank. The delightful problem turned into a game for kids from the tribe. Laughing and yelling, they'd race to the beached springers and toss them back into the pool.

It was an important game. Spring chinook loom large in fish tribes' spiritual life and have always been a favorite food. They are bigger than other salmon, and, because they haven't devoted energy to reproductive organ production, they have more fat on them.

Biologists estimate the historical springer run on the South Umpqua River at 5,000 fish. NFS River Steward Stan Petrowski thinks that's a conservative estimate. Elders from the the Cow Creek Band of the Umpqua Tribe of Indians say

it may have been four or five times that number. Petrowski trusts the estimates of those with traditional knowledge of the run.

The average contemporary run is 170 fish. In the last 35 years, the largest run was 300. The smallest was 20. This year the count was 28.

"A viable genetic population for that run is at least 500 fish," Petrowski said. "Even in the best years, we're still hammering away on a genetic bottleneck."

The bulk of the springer run enters freshwater in March and April and wait out the summer in the South Umpqua's deepest pools. Being confined may be a curse for vulnerable fish, but it is a blessing for those responsible for monitoring them. Every summer, the U.S. Forest Service is able to take a census of the total population. Volunteers snorkel through 29 index pools and record their findings.

Most of the index pools are on the mainstem upper South Umpqua. Jackson Creek, the main

tributary of the South Umpqua, once supported a run, but no one has seen springers in its pools in several years. The deep pools are still there, but the fish are gone.

Last year, while assessing a pool for use as a water source during the Stauch Creek Fire, the Forest Service discovered a pair of springers on Elk Creek. This year, when Petrowski checked the deep pool at the south end of the creek, another pair had moved in for the summer.

"Their predispositions are written in their DNA," Petrowski said. "It's not about a species or an ESU, it's about a run. This run is unique to this watershed and it needs to be protected."

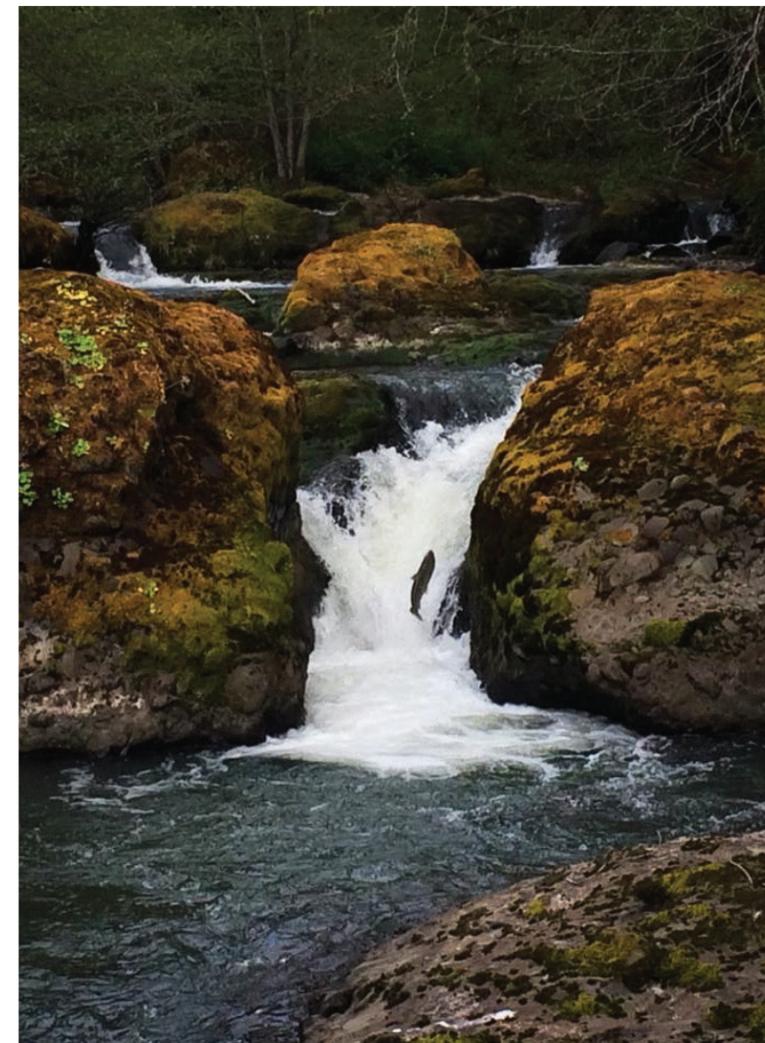
Like so many streams around the Pacific Northwest, the main cause of the disruption of this run is unrestrained logging in the seventies and eighties. According to Petrowski, billions of board feet were taken out of Umpqua National Forest.

"I talked to the old timers who live up here," he said. "These guys were all loggers and every single one of them told me that, when they started clearcutting, perennial streams became intermittent."

Wherever forests are clearcut, anecdotal evidence is produced about the practice's negative impact on fish runs. It wasn't until 2016, however, that the cause-and-effect relationship was quantified in a scientific paper popularly referred to as the "Perry-Jones Paper." In both environmental and forestry circles, it has people talking.

The study was conducted on two forests: one clearcut and replanted with monoculture Douglas fir, the other left in old growth. Over 60 years, hydrologists recorded flows for each watershed.

In the first decade after the first forest was clearcut, flows peaked in the watershed. During the rainy season, without transpiration taking place in the surrounding hills, too much water came down the system. The clearcut forest was



replanted, but, even as the monoculture Doug fir began to mature, the extreme hydrological swings in the streams below failed to stabilize.

"The result," Petrowski said, "is chronic low flows in summer and chronic high flows in winter — a century-long fish-killing state."

In spite of the numbers, Petrowski is cautiously optimistic. He still visits South Umpqua Falls each fall. This year the pool below, which once literally overflowed with springers, held only a few fish.

"But," Petrowski said, "one fish had to be 35 or 40 pounds — a third again bigger than the rest. It was huge! And it happened to be spawning in an area we had done some restoration work." 

T.D. Perry and J.A. Jones's research paper — popularly referred to as the "Perry-Jones Paper" — is actually titled "Summer streamflow deficits from regenerating Douglas fir forest in the Pacific Northwest." It was published in *Ecology* in 2016.



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BELOW Headed upstream,
a sockeye eyes the camera.

Photo: Conrad Gowell



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