

# Forest & River News

GRASSROOTS CONSERVATION & RESTORATION IN THE REDWOOD REGION

TREES FOUNDATION

WINTER 2020/21

## Pathways to Fire Resilience

**The Cereus Fund Bolsters Grassroots Perseverance  
in the Redwood Region**

**Reckoning with Fire in the Klamath  
Mountains and the West**

**Time to Forge a New Relationship with Fire  
in the Eel River Watershed**

**Fire Strategies Teamwork in California's Northwest**





## Editor's Note

Dear Reader,

By the time you read this, we will have survived a historic election day with record numbers voting to decide the future of our nation. Just as this has been a high-stakes presidential election, we believe the stakes are perhaps equally high when it comes to deciding how we respond to more and more record-breaking megafires.

For this issue of *Forest & River News*, we asked our conservation, restoration, and land stewardship partners to write about wildfire resilience. The result is this robust collection of passionate stories and discussions on the urgent need, and actions taken, to transform bad forest management policies, restore indigenous prescribed burn practices, and collaborate more effectively to create fire-adapted communities across the Northwest.

In this issue, you will also read about our donor-advised Cereus Fund, and the positive impacts being made by the numerous grassroots environmental projects that it supports. Trees Foundation sincerely thanks the Cereus Fund, and all our donors!

We encourage you to not only take time to absorb the knowledge and informed perspectives contained within, but to amplify their reach. If there's a story you'd like to share with others, find it online at [treesfoundation.org/forest-river-news](https://treesfoundation.org/forest-river-news). You can also send us an email at [trees@treesfoundation.org](mailto:trees@treesfoundation.org) to share your thoughts, ask questions, and request more copies. Your participation is vital to growing the environmental coalition needed today. Please spread the word, donate, and get involved. **Join us in growing our audience and supporting the grassroots efforts that are forging a more resilient redwoods region!**

Thank you,

Jeri Fergus, Mona Provisor, Kerry Reynolds  
Trees Foundation Staff

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**Correction:** In our Summer 2020 issue, captions for the photo on page 12 and page 13 (lower right) were erroneously switched. The photo on page 12 is of Lost River beaver dam analog structures and is courtesy of SFI. The photo on the lower right of page 13 is of Baker Creek in 2012 and was taken by Grant Johnson. We regret the error.

The views, thoughts, and opinions expressed in this publication are those of the authors and do not necessarily reflect the position of Trees Foundation.

# Reckoning with Fire in the Klamath Mountains and the West

By Will Harling,  
*MidKlamath Watershed Council*

“Indian know, and bye-un-bye White Man say he know too, but Indian say, WHITE MAN YOU KNOW TOO LATE.”—Klamath River Jack, May 27, 1916, in correspondence with U.S. Forest Service Ranger Jim Casey

Sometimes it feels too late. Like the boulder has rolled so far down the mountain we cannot push it up again. We have been walking in the wrong direction for a long time, since the Spaniards and then my European ancestors used state and federal laws to

ban the natural and cultural process of fire. In 1911, playing off the Great Fires of 1910, the first Chief of the Forest Service, Gifford Pinchot, used this disaster to both establish the National Forest system from under the lumber barons' feet, and to outlaw fire use. In places like Florida where Pinchot's Dixie Crusaders went to convince the South that fire was bad, they were soon sent packing. Everyone there already knew 10 years without fire in the productive Florida rough, and you had a ticking time bomb ready to explode.

Here in the West, it took longer for fuels to reach that explosive state. It didn't hurt

the fledgling Forest Service in their efforts to stamp out all fires that we happened to be in one of the wettest centuries in the last 5,000 years. But in the 1970s we began to switch from cooler wetter years on average to warmer and drier years. My first memories are of a night burnout during the '77 Hog Fire behind the cabin at the bottom of McNeil Creek in Forks of Salmon where I was born. That year, 55,000 acres burned at higher severities than any locals could remember. Ten years later in the Siege of '87, we had scientists coming here from around the world to study the closest thing they could find to the potential effects of a nuclear



The Slater Fire burns through the town of Happy Camp, CA, on the night of September 8, 2020. Ignited by arcing powerlines near Slater Butte in a 50mph east wind, the fire burned over 90,000 acres in a 24 hour period, and consumed more than 200 homes along Indian Creek.

ALL PHOTOS THIS ARTICLE BY WILL HARLING





**May Fournier and Jake Shuler (Six Rivers Wildland Fire Use Module) bring fire down to homes along the South Fork of the Salmon River under a heavy inversion during the Red Salmon Complex. Starting on June 27, 2020, this fire is still not fully contained after burning over 140,000 acres in the Six River, Klamath, and Shasta Trinity National Forests.**

winter. In the aftermath of the '87 fires, winter rains washed on average about six feet of granitic topsoil off Yellow Jacket Ridge into the North Fork Salmon River.

My family had moved over to the North Fork Salmon River in 1979, after we were evicted from the McNeal cabin and mining claim. We were one of the lucky few evicted families that found a place to stay on the river. An old miner named Jerry Kramer carved out a tiny piece of his patented land on Pollock's Gulch, and my brother Tim and I fished the section of river below our place religiously until the '87 fires. When the pools filled in with silt, the river heated up and the salmon runs dwindled. It has never been the same. Since that time, I have been working to understand how to bring back our salmon. And while our instream restoration work—like our recent helicopter wood-loading project on Horse Creek with logs killed in the 2016 Gap Fire—is a monumental step towards restoring a productive stretch of that creek, I am certain that only restoring

the process of fire in the Klamath Mountains will turn the tide from salmon extinction to recovery.



**Even during the peak of wildfire season, the Red Salmon Complex burned predominantly with low to moderate severity, providing lasting benefits to ecosystems and communities.**

## Impacts to the Klamath Basin in 2020: Indian Creek

Nearly every year for the last decade, we have had at least one major salmon stream in the Klamath Basin heavily impacted by wildfires. This year it was Indian Creek in the Slater Fire. Not only did nearly all this key watershed for coho and Chinook salmon and steelhead burn in one 24-hour period, it burned at high intensity, killing most of the forest canopy on a massive scale. This fire burned over 90,000 acres in one day, including nearly 200 homes along Indian Creek. Pushed by a 40-mph east wind with as low as 3% relative humidity, the Slater Fire became a horizontal airborne river of fire impervious to slope or any barriers except recent major wildfires. If not for the 2017 Oak Fire and 2018 Eclipse Fire footprints, the Slater Fire may have reached Crescent City, in addition to Cave Junction, in its initial run that ended up being 30 miles long and 9 miles wide.

Most of the Indian Creek watershed had not burned in over a century, and it had



suffered the brunt of early industrial logging in the Klamath Mountains. Following the 1987 wildfire that last burned Thompson Ridge, there had been large-scale helicopter logging with minimal slash cleanup. It was in this carbureted mixture of brush and slash that the Slater Fire erupted when live power lines along the ridge ignited from a fallen snag. Six years earlier, the Western Klamath Restoration Partnership had presented the Klamath National Forest with a plan to restore fire process on roughly 30,000 acres in the Indian Creek watershed and the wildland–urban interface on the north side of Happy Camp. The Klamath National Forest rejected this project for one they had designed without collaboration in the Elk Creek watershed to the south. While lawsuits are being prepared against Pacific Power for not de-energizing its power lines before the predicted wind event, it is unlikely the Forest Service will be held accountable for ignoring traditional knowledge and a growing body of Western science for the past five decades, and continuing to promote fire exclusion as their primary fire-management policy.

**For every family that doesn't have a home to go back to this winter in Happy Camp, and so many other small towns up and down the West Coast, for all the life that was lost in a fire people could barely outrun in their cars, for all the damage to come when the Indian Creek watershed unravels in winter rains, it is time for us to finally reckon with the truth of fire in the Klamath Mountains and in the West.**

Our only choice is to live with frequent fire on this landscape. Let that sink in. Imagine what would need to change for every forest and grassland around us to burn every 1 to 15 years. It is happening now whether we like it or not. Nearly everywhere fire has been excluded for more than 15 years is burning in rapid succession despite the largest firefighting

## A Future with Fire

By Will Harling

In ten years, the fire ceremonies on Offield Mountain will be restored,  
And people will see that we made the wild in fire,  
In ten years, an interconnected series of well planned fuelbreaks,  
Will allow us to share the inherent risk of managed wildfire and prescribed fire,  
Everyone will know there is no solution that does not include fire on the land,  
In ten years, Californians will think about fire like Floridians,  
Prescribed fire will still be more fun but about as stressful as mowing the lawn,  
We will realize as a society that we can't bomb fire off the landscape,  
That we can suppress it from doing what it has always done,  
Clear away the skeletons to make room for new life,  
Ten years from now, we will manage landscapes for processes not species,  
And what seems like conflicts and tradeoffs will be revealed as the balance,  
The balance of life on the land,  
Ten years from now, or perhaps a hundred, we will learn to live with fire,  
Because the lessons will keep coming,  
Eventually every one of us will have lost a piece of what we love,  
And will choose the uncertainty of embracing fire, even while it burns us,  
To the fear of living with a fiery grim reaper in the canyon below,  
In ten years, or perhaps a hundred,  
We will have a shared vision of the fire and the forest we are managing towards,  
Based on thousands of years of fire knowledge,  
Based on the best fire science our human brains can muster,  
Women will be in leadership roles in the fire world,  
Because we will understand that as givers of life,  
They have a keener sense of fire in balance,  
In ten years, creeks that have been dry for decades will flow again,  
Salmon will turn gravels that have long been out of reach,  
The fruits of the land will be sweeter, the deer and elk fatter,  
We will remember what it means to be stewards of place,  
To give back what is owed to the land that feeds us.

force the world has ever seen trying to suppress them. So what do we do?

### The Somes Bar Integrated Fire Management Project

About 20 miles as the crow flies from Happy Camp down the Klamath River, the Six Rivers National Forest engaged the Western Klamath Restoration Partnership in implementing the *Somes Bar Integrated Fire Management Project*. This 5,500-acre project utilizes strategic linear manual and mechanical treatments around midslope properties on the western edge of the Marble Mountains

to allow for the safe reintroduction of prescribed fire to all 5,500 acres in an area that hasn't seen fire in over a century. To date, more than 1,000 acres of manual thinning have been completed and 400 acres of logging. Protecting these at-risk private inholdings will allow for fire managers to safely manage wildfires for resource objectives on an adjacent 100,000+ acres. This project is unique in that it incorporates traditional knowledge from the Karuk Tribe along with the best available Western science. We fully analyzed the no-action alternative and



have maintained high-level collaboration through implementation. Projects like this show how we can bring fire back in a good way on our terms, and save homes, legacy forests, and some of the largest and most at-risk carbon sinks in California.

Still, some days it feels like we are wrestling a 900-pound gorilla with one hand tied behind our back. While wildfires by default are managed with no environmental compliance, require no permits, and fire managers enjoy no liability or funding constraints, to bring fire back on our terms requires all this and more. For the Somes Project, we had to generate a 300-page environmental assessment, secure grant funding for implementation, work with multiple permitting agencies to secure permits, and stand down while excellent burn windows passed us by due to regional fire politics and risk aversion within the Forest Service. Tribal fire managers with federal qualifications are still not allowed to lead even pile burns, though local FS district offices are short-staffed.

Key to this reckoning are state and federal fire managers, in particular CAL FIRE and the Forest Service, sharing responsibility for fire on California landscapes with a much bigger group of partners. Implementing prescribed fire will require modifications to both state and federal resource code laws, as well as to the fire culture within these organizations. Currently all incentives for state and federal fire managers support continued fire-suppression policies. Why would Forest Service Fire Management Officers—regularly lauded as heroes for putting wildfires out with no liability for their actions—choose to engage in prescribed fire where there is more personal liability, more preparation and messy collaboration, less money, and much less hero worship? Even while CAL FIRE and USFS Region 5 increase annual prescribed fire targets, the incentives for reaching these targets don't compare to the inherent risks. Creating a collaborative framework for managing fire, including shared liability, can help minimize individual risk and create

shared ownership to support large-scale reintroduction of fire.

### **Societal Change toward More Frequent Fire**

First Nations across the West must be engaged and empowered to become co-managers of fire in their ancestral territories and reservations. **Locally, tribes bring thousands of years of fire knowledge to the table, as the keepers of the only proven method for safely managing fire for community protection, ecological diversity, and abundance.** That state and federal laws still prohibit cultural practitioners from managing family gathering areas with fire is testament to ongoing systemic racism. Dedicated state and federal funding needs to be allocated specifically for tribes to develop fire-management programs, and laws need to be rewritten to protect cultural burning and cultural burners.

In addition to tribes, organizations including Fire Safe Councils, Prescribed Fire Councils, Prescribed Burn Associations, and other affected parties



**The Red Salmon Complex backs down through the Hotelling Creek drainage on the South Fork of the Salmon River.**





**Firing Boss Joe Jerry (Karuk 1 Handcrew), leads a tribal firing team on the Tishawnik prescribed burn in Orleans, CA, on June 22, 2020.**

(municipalities, agriculture, timber, etc.) must be engaged in landscape-scale fire-management planning. Shared ownership of fire at the landscape scale requires robust collaboration to create a shared vision for fire management BEFORE the next big wildfire. Prioritizing where and how fuels work can be accomplished, planning the appropriate management response for wildfires in certain places and seasons, and developing local capacity in the collaborative framework of a partnership or network can expedite community fire adaptation.

### **National Prescribes Fire Act of 2020**

Congressman Ron Wyden's recently introduced bill, the National Prescribed Fire Act of 2020, goes a long ways towards creating the funding to manifest a shift to more frequent fire on the landscape. This bill, if enacted, would increase the pace and scale of controlled burns through cooperative agreements among states, tribes, counties, fire districts, non-governmental agencies such as the Nature Conservancy, and private entities. The

bill allocates \$300 million each to the U.S. Forest Service and Department of Interior to implement controlled burns on county, state, and private lands.

Societal change, however, rarely comes from the halls of Congress. Our fire

reckoning begins with every one of us taking time to develop a deeper understanding of fire where we live, and taking active steps to fit our lives into the fire regimes that shape where we live. Start with your home and move out from there. Don't stop at your property line. Connect with the organizations that are managing fire on your landscape. Learn from them. Build bridges between disparate groups that all hold a piece of the fire puzzle—from homeowner associations to fire departments, from tribes to county, state, and federal agencies. For those of you who haven't had fire at your doorstep, this may sound like crazy talk. Rest assured it is coming. Even the coastal redwood forests were once frequent-fire forests, and they have long gone without. We have run out of time to be proactive. The boulder rolled off the mountain decades ago. But if we all put our backs to it, we can push it up the mountain again, push our world back into balance a little sooner, and protect a piece of what we love before it's too late.

🌲 For more information: [mkwc.org](http://mkwc.org)



**The Red Salmon Complex burns through heavy fuels left from the Siege of '87 wildfire on the South Fork of the Salmon River.**





## LIVING WITH FIRE

# Of Fire and Myth: Will Harling, Bigfoot, and the Power of Place

*This story originally appeared on the Fire Adapted Communities Learning Network blog, at [fireadaptednetwork.org](http://fireadaptednetwork.org). To have stories like this delivered to your inbox weekly, visit [bit.ly/FACNetSubscribe](http://bit.ly/FACNetSubscribe).*

By Lenya Quinn-Davidson

I grew up in the heart of Bigfoot Country. Trinity County, California: a place where stories of Bigfoot encounters are common, even in my own family. A place where outsiders flock to beckon Bigfoot, and where unexplainable events naturally become evidence of Bigfoot's mystique and prowess. And although I've long rolled my eyes at out-of-area Bigfoot hunters and (somewhat rudely) discounted my mom's Bigfoot stories, make no mistake—I do believe in Bigfoot.

It turns out some of my favorite fire practitioners share my interest, like Jim Agee, one of the fathers of contemporary fire ecology, who wrote about Bigfoot in his 2007 book *Steward's Fork: A Sustainable Future for the Klamath Mountains*. One chapter, "Modern Myths and Monsters," details some of the local Bigfoot culture, from the unusually large footprints that locals often find in the woods to the famously disputed 1967 video footage of Bigfoot, to which we in the fire community owe more than we realize.

One night just a few days pre-COVID, my friend Will Harling and I stayed up late drinking cocktails and talking about our strikingly similar origin stories: the remote communities where we grew up, our back-to-the-lander parents, our home births, our early connections to fire and place. And like true Klamath Mountain

kids, these stories inevitably led us back to Bigfoot.

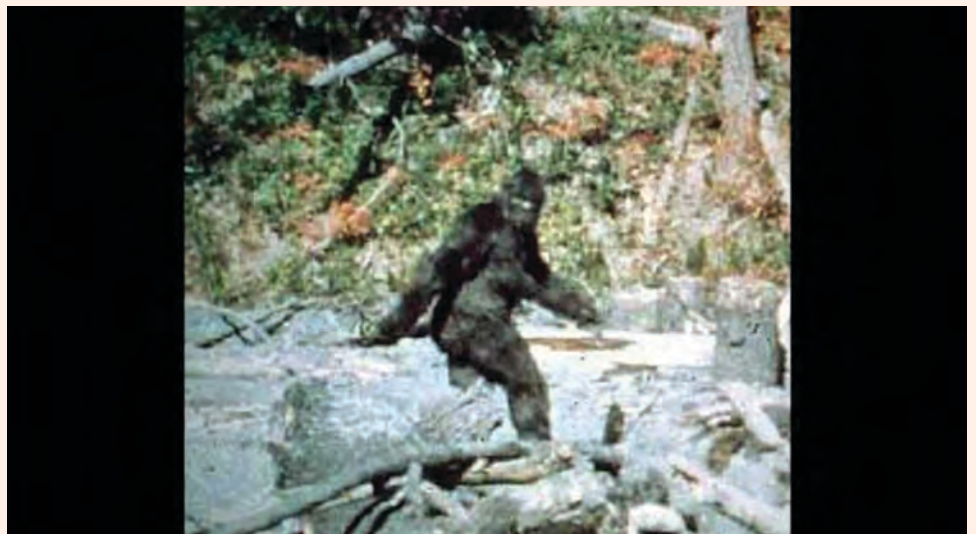
As Will once wrote, "I owe my existence to myth—no, to a lie, for if it had not been for Patterson staging that Bigfoot footage on Bluff Creek in 1967, my pops would have never left Kansas City with my uncle to come hunt that mythical beast in the wild mountains of the Middle Klamath and Salmon Rivers." As it turned out, Will's dad did not find Bigfoot, but he did find Will's mom, and the rest is history. Like other unexplainable Klamath Mountain phenomena, Will Harling is a direct product of Bigfoot's prowess—and yet another reason to believe.

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Now you may not know Will personally, but you might have heard of him. He's one of those guys whose reputation precedes him—usually in good ways—but also the kind of person who can only truly be known after seeing him in his element.

I met Will in 2007 during a graduate seminar field trip to Orleans, the tiny town on the Klamath River where Will is Co-Director of a local non-profit, the Mid Klamath Watershed Council (MKWC) [www.mkwc.org](http://www.mkwc.org). Even at that time (and more so now), Will and his community were on the cutting edge of fire adaptation work, conducting community burns on private properties, tackling complex issues on the public lands that surround Orleans, and centering their efforts on local tribal culture and wisdom. To say young Will made an impression on our seminar group that day would be an understatement—especially for me, as these were the early days of my budding love affair with prescribed fire.

In the years since that first meeting, Will and I have overlapped often. We, and others, launched the Northern California Prescribed Fire Council in 2008, and we hosted the first **Prescribed Fire Training Exchanges (TREX)** in California in 2012 and



Frame 352 of the footage captured on Bluff Creek by Patterson and Gimlin in 1967, alleged to depict a female Bigfoot.



2013 [www.conservationgateway.org/ConservationPractices/FireLandscapes/HabitatProtectionandRestoration/Training/TrainingExchanges/Pages/fire-training-exchanges.aspx](http://www.conservationgateway.org/ConservationPractices/FireLandscapes/HabitatProtectionandRestoration/Training/TrainingExchanges/Pages/fire-training-exchanges.aspx). We've burned together, hosted meetings and trainings together, and had countless fun times together, along with our ever-growing crew of northern California fire enthusiasts. But it was that night in March, over talk of Bigfoot, that I felt most kin to Will—and, already steeped in curiosity about the impactful fire folks in my life, I decided I wanted to write about Will's philosophy and approach.

If you ask Will what drives him in his work, he'll tell you the reasons might be selfish: he's working to restore bounty to his Salmon River home—he wants deer



Will on a Klamath TRES burn in 2018. PHOTO BY SHILO SPRINGSTEAD

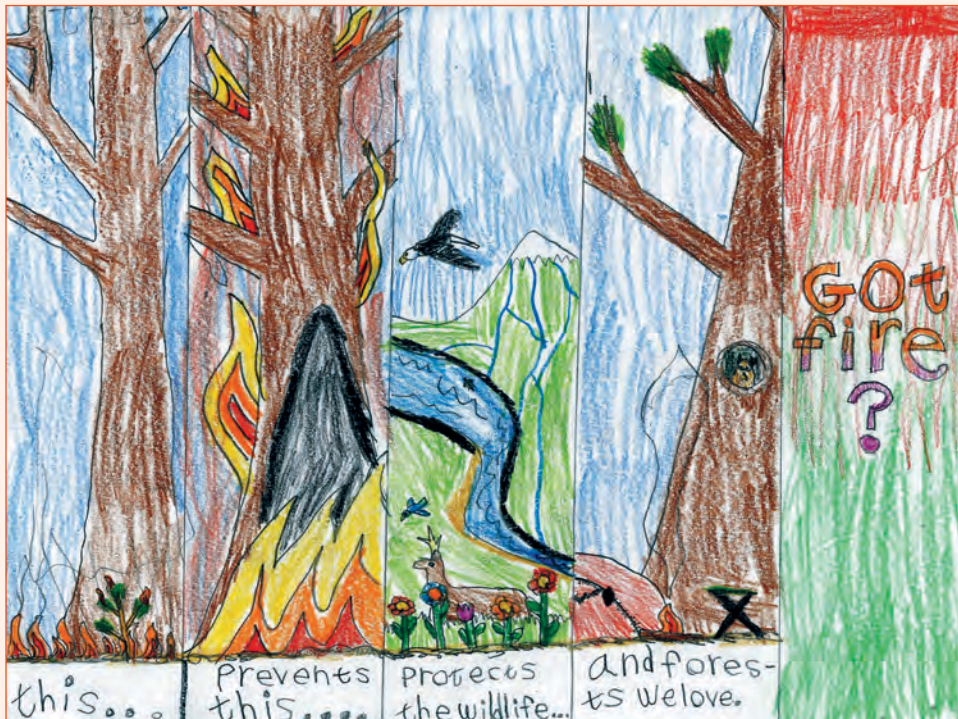
to hunt and cool, clean streams to fish. But if you ask me, I would tell you the opposite. Will isn't motivated by what he can get from the place—his work is of the place, because Will is a natural extension of his landscape. Whereas many of us work on fire in the abstract (academic, administrative, or otherwise), fire for Will

is about livelihood—vitality—and he feels that the “wisdom of science is often lost because it's not connected to place.”

In Will's eyes, his life has been a 40-year experiment about place—about observation, commitment, and reciprocity. Much like the Karuk people of the mid Klamath, Will believes that the only economy is the economy of place, and that we don't own the land—we own a responsibility to it.

As a rural kid who never moved back home after I left, I know that what Will says is true: “In this life, there are so many roads leading us away from our place.” And then there's fire, which can bring us back—back to the patterns of our place, back to the people of our place, and forward to a vision for our place. As Will wrote earlier this year:

“Ten years from now, or perhaps a hundred, we will learn to live with fire, Because the lessons will keep coming, Eventually every one of us will have lost a piece of what we love, We will choose the uncertainty of embracing fire, even while it burns us...  
...In ten years, creeks that have been dry for decades will flow again,



Artwork created in 2012 by Owen Wilder Harling (age 8 at that time) after he heard his father, Will Harling, explain to someone what they wanted to convey in a 2012 documentary titled “Catching Fire: Prescribed Burning in Northern CA.”



Salmon will turn gravels that have long  
been out of reach,

The fruits of the land will be sweeter,  
the deer and elk fatter,

We will remember what it means  
to be stewards of place,

To give back what is owed to the land  
that feeds us.”

(To read his full poem, see page 5)

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A few years ago, my local public radio station hosted a show about Bigfoot. Guests included wildlife biologists who had been on the hunt for Bigfoot for years, setting up game cameras and organizing tracking expeditions out in Will's vicinity, a couple hours east of where I live. I listened for about 45 minutes, then I decided I had to call in. The conversation was getting under my skin. When I called, I noted my Bigfoot credentials—my Hayfork origins, my family folklore—before asking them what I really wanted to know: “When you are looking for Bigfoot, what are you actually looking for?”

You see, I believe in Bigfoot because I love the humility in it. I love the idea that there are things about the natural



**Will after a successful hunt near his home in the Klamath Mountains.**

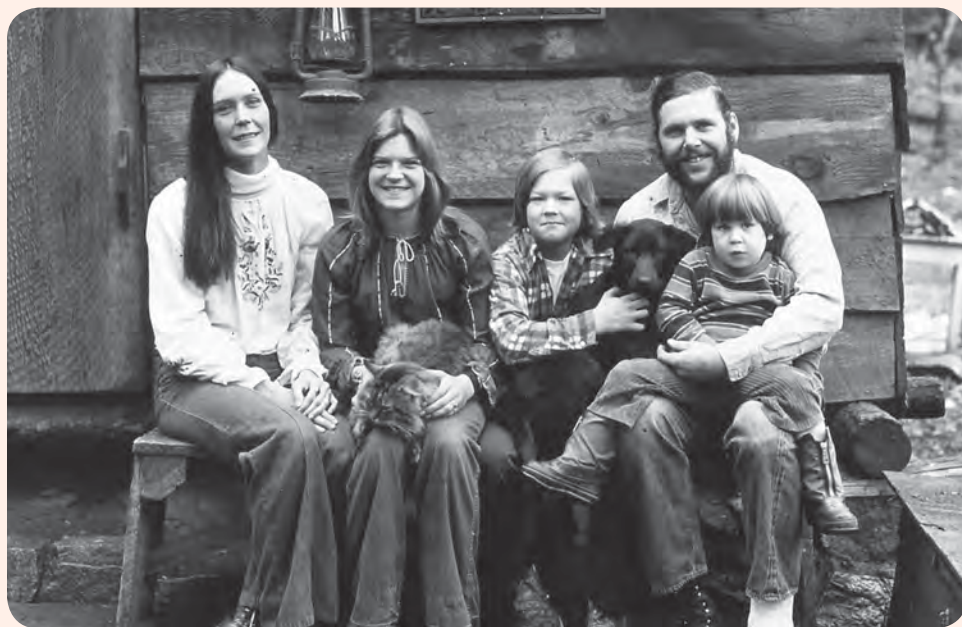
PHOTO BY ADRIENNE STOREY

world that humans don't know—things we haven't seen, that we can't document, but around which we can still develop story and connection. My interest in this local myth is less about a physical creature, and more about the power of the unknown. At the deepest level, I think people believe in Bigfoot because

they want to believe in this place, and I can't help but feel that the game cameras are an insult to that humility.

When I think about Will's influence on fire in California, belief is also a core theme. Will is effective because he never takes no for an answer. Like most of my favorite fire practitioners, he is what I call a “yes person”—someone who always finds a way to make things happen, no matter how many obstacles or naysayers lie in his path. You'd be surprised how rare a trait this is! It takes creativity and fortitude, but it also requires belief. Belief in the work, in fire as a process, in the people and partnerships, in the place. And, of course, in Bigfoot, because without Bigfoot we wouldn't have Will!

*Trees Foundation Board Member Lenya Quinn-Davidson is an Area Fire Advisor with University of California Cooperative Extension, in Eureka and the Director of the Northern California Prescribed Fire Council. She works on a wide range of issues, including research, outreach, and policy related to prescribed fire and fire management more generally. Feel free to contact her at [lquinn-davidson@ucam.edu](mailto:lquinn-davidson@ucam.edu).*



**Will (in his dad's lap on right) and family.** PHOTO BY JEFF BUCHIN



November 2020



Dear Friend,

Hasn't this year been crazy? Let's take a moment to reflect on how much turbulence our communities have endured: the Covid-19 pandemic, a prolonged quarantine, rising political division, and yet another record-breaking wildfire season.

**Through all the changes and challenges of 2020, one thing that remains constant is that Trees Foundation asks just once a year for your financial support. That time is now.**

Your generous response to our letter last year kept us growing and adapting in 2020. We launched a new website and grew our social media audiences; expanded the number of grassroots organizations that we fiscally sponsor; and provided Graphic Design and GIS mapping support to partner groups. We continued production and distribution of Forest & River News—a trusted venue for grassroots activists advocating on behalf of forest protection, watershed restoration, fire resiliency, and a more inclusive environmental community on the Redwood Coast.

We pride ourselves on what we accomplish on a lean budget with low overhead. Yet, we also recognize that there was a time, in the mid-90s, when we grew to a nine-person staff in order to adequately support a large grassroots coalition that ultimately saved the ancient redwood ecosystem now known as The Headwaters Forest Reserve.

Once again, we are planning for the possibility of expanding our staff to provide needed support to a growing grassroots environmental coalition, this time in response to the threat of increasingly colossal megafires. Grassroots organizations are mobilizing throughout the North Coast to increase the fire-resiliency of forests by fixing bad forest management policies, and by restoring Indigenous prescribed burn practices. Your donation will help us to support their success.

If you are able, please consider increasing your gift this year. **Your contribution allows us to support the dedicated, resilient, and adaptive grassroots environmental community of the Redwood Coast.**

Please donate online at [TreesFoundation.org/Give](https://www.treesfoundation.org/Give) or mail your gift to Trees Foundation, 439 Melville Road, Garberville, CA 95542.

Thank you,

*Jeri Fergus Mona Provisor Kerry Reynolds*

Jeri Fergus, Mona Provisor, and Kerry Reynolds  
Trees Foundation Staff



# Roadside Fuels Reduction for Neighborhood Safety

By Ali Freedlund,  
*Mattole Restoration Council*

Picture this: A lovely country lane where multiple residents rumble from their driveways en route to the post office or store. On their way they pass a wall of thick, impenetrable brush and a hillside dense with fuels, until they carefully cross a narrow, one-lane bridge. They just catch their breath when they enter a long line of particularly frightening roadside fuels known as “The Eucalyptus Forest” (to be said in a loud wavering voice). This forest not only edges the road but sends long-reaching branches over the road and sometimes over PG&E lines on the other side. Now, imagine having the additional knowledge that Eucalyptus branches often drop from the air randomly. What a fright, right? Well, that is how residents expressed themselves at meetings of the Lower Mattole Fire Safe Council (LMFSC), several times.

Treating “The Eucalyptus Forest” (that loud voice again) and the other roadside edges described became a high priority not only among locals but with the Humboldt County Fire Safe Council (HCFSC). This route is the only ingress and egress for many in the neighborhood. Thus, the Mattole Restoration Council (MRC) contracted with HCFSC to reduce fuels along this County road segment. Funding for this project was provided by the California Department of Forestry and Fire Protection, as part of the California Climate Investments Program.

But this funding source was not going to deal with those hazardous branches. So, MRC applied to Pacific Gas and Electric Company’s (PG&E) Vegetation Management Program specifically to contract with a company to bring a bucket truck and extend the capabilities of our ground crew. We were awarded funding and the project began, first with Family



**The beginning of “The Eucalyptus Forest” branch-removal project.**

Tree Resource, Inc., and their bucket truck crew. As a flagger supervisor on the job, I was thrilled to see so many branches lowered safely to the ground. And the best part was that MRC’s Fuels and Fire crew were able not only to chip a lot of the material, but to make firewood to give away to our elders.

To fill in the backstory, the Mattole Restoration Council has collaborated with the Lower Mattole Fire Safe Council (LMFSC) since its formation in 2002 on ensuring our community’s fire preparedness through planning and projects that reduce the impacts from wildfire. LMFSC is roughly composed of two communities: Honeydew and Petrolia, with their surrounding areas. Meetings include community members, volunteer fire fighters, CAL FIRE, and representatives of our Neighborhood Emergency Service Teams. Until this year, LMFSC has regularly held two meetings a year to discuss current and future projects. Because of the



**The jumble left behind by Family Tree for crew to unscramble.**

ALL PHOTOS THIS ARTICLE BY ALI FREEDLUND, MRC





MRC's Fuels and Fire crew at work making firewood for the elderly.

restrictions from COVID-19, our regular June meeting was postponed, but fuels-reduction projects went ahead as they are considered essential.

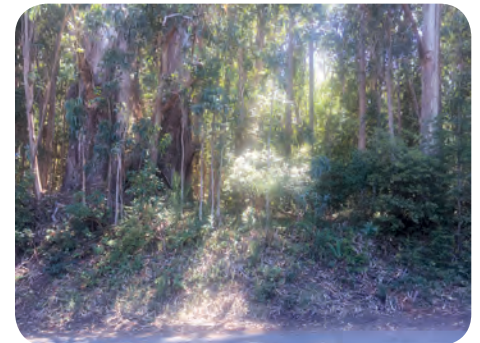
After the bucket truck work, the MRC Fuels and Fire crew set about cleaning up the piles of material that had been pushed to the edge of the road. It was hectic. Fortunately, the crew had help from a volunteer neighbor-with-an-excavator to separate the larger material from the smaller stuff that needed to be prepped for chipping. After the chipping was done, firewood was made and delivered to 22 households. Then the second part of the project with County funding was implemented: remove fuels for an additional 30 feet into the forest (landowner specification) with sawyers, have swampers bring branch material to the roadside for chipping, chip the stuff, deliver dumploads of chips to residents who want it, bring logs down for firewood, rake and wrap up. Lastly, the road segment on the other side of the bridge (that dense wall of brush) was treated. Because of the need to stop and start work due to smoky conditions from distant wildfires and/or Red-Flag Warning days, the entire project took two months.

Suffice to say, this roadside fuels-treatment project is atypical for Humboldt County. It is believed that "The Eucalyptus Forest" (loud voice again) was planted late in the

19<sup>th</sup> century and the smaller ingrowth was regularly used as a firewood source for decades. I even heard it was a public park at one time. But all that changed with the changing of ownerships. Until about 30 years ago, "The Eucalyptus Forest" was thinned of fuels more regularly. Therefore, many of the fuels removed on this project were very small 'pinner' trees that had packed into any available space. They will grow back, as Eucalyptus is wont to do, but for now, residents in the neighborhood can feel safer traveling the road, whether to go to the General Store or to evacuate in an emergency.

This article highlights just one of the Eucalyptus areas treated along County roads in Petrolia this year. Two other segments were treated with the bucket truck, and one was not. Petrolia also lays claim to the largest Blue Gum Eucalyptus tree in the country just off the road on the way to Petrolia from Ferndale at the roadside cemetery. Native to Australia, Eucalyptus trees are beautiful as singular specimens but they invade quickly, are hard to get rid of, are dangerous when limbs fall, and are a HUGE fire hazard. But they do make good firewood.

For more information:  
[www.matttole.org](http://www.matttole.org)



"The Eucalyptus Forest" before the project.



"The Eucalyptus Forest" after the project.



# Revisiting the Site of the 2015 Horse Fire in the King Range National Conservation Area

By Cheryl Lisin, with Rob DiPerna  
*Friends of Lost Coast*

The forest is thick at the Saddle Mountain Trailhead in the King Range National Conservation Area. Much of the approximately one mile of trail from here to the site of the 2015 Horse Fire passes through overly dense stands of Douglas-fir and tanoak, interspersed with canyon live oak, madrone, and a small stand of sugar pine. The density and composition of these forest stands make me wonder if it was past logging, contemporary fire exclusion, or a historic fire that created these conditions.

At the site of the Horse Fire on the Buck Creek Trail, which burned approximately 146 acres on this southwest-facing ridge in the King Range in August 2015, the view opens up, with charred tree remains framing ocean vistas. There is a large madrone, charred at its base but still standing with fresh, new, green leaves, proving the tree's survival and persistence.

The terrain here is rugged, rocky, steep, and difficult to access for all but the hardest of hikers. The Buck Creek Trail features one of the steepest grades in the coastal mountain range, following an old logging skid road route from Saddle Mountain down to the seaside, descending 3,300 feet in four and a half miles.

There was green to be seen everywhere—from regenerating Douglas-fir and stands of sugar pine, to manzanita and madrone, to the many shrub and sub-shrub species—the landscape is bursting back to life in this open, higher montane chaparral ecosystem of the King Range.

I visited the Horse Fire site shortly after the fire in October of 2015 to see what



**Deerbroom lotus and rabbitbrush provide fall color, five years after the King Range Horse Fire.**

ALL PHOTOS THIS ARTICLE BY ROB DIPERNA

the plant life there was doing. Already madrone, manzanita, whitethorn, and poison oak were sprouting from their stumps, and grasses were germinating everywhere. The ambience was eerie on that day five years ago, an overcast, cool, and foggy day that was punctuated by the charred forest and the stumps left behind from fire suppression and fire-fighting activities.

Revisiting this site five years later, I see that the shrubs and trees that had just sprouted when I last saw them have all grown to be six to ten feet tall! Flowering sub-shrubs have filled in much of the open areas, and rabbitbrush and yerba santa abound. I bet it was spectacular when these were in full bloom. The plants now are covered in a plethora of spent flower heads going to seed.



It must have been a good year for manzanita berries as well; the various types of scat found along the trail were chock full of them. Birds and insects were plentiful in these burned areas, too, and tiny lizards could be seen darting and scrambling around on the rocks and in the underbrush.

Yet, even in mid-October, the south- and west-facing steep mountain slopes where the 2015 Horse Fire burned were warm, dry, and exposed. Despite having the largest waterbody on Earth just three thousand feet below, the air was also dry, lacking humidity, and the solar radiation was at times direct and intense.

The many Douglas-fir seedlings sometimes formed a dense groundcover. Spindly sprouting tanoak can also be seen recapturing ground it once covered. The density and swiftness of the Douglas-fir and tanoak regeneration leads me to wonder if in 50 years this forest will resemble the dense thicket of forest I walked through to get here. My concern was heightened further by the discovery of an illegal campsite and fire ring

nestled on a switchback in an unburned area dominated by young Douglas-fir and tanoak.

On the hike out, I once again passed through the dense thicket of Douglas-fir and tanoak forest present on the return to the Saddle Mountain Trailhead. I wondered: what can be done to prevent this same exact cycle of events from happening all over again?

The entirety of the area burned in the 2015 Horse Fire is within designated wilderness, in the rugged, steep, difficult-to-access mountains of the King Range National Conservation Area. The wilderness designation, along with the difficult terrain and limitations on staffing and budget, pose challenges to the BLM's ability to proactively manage the area to prevent the forest from regenerating in the exact same way it had before the 2015 Horse Fire.

All it would take is one campfire at an illegal campsite like the one I found to be left burning or to escape to start the cycle of events all over again. Although



**An illegal campfire in the King Range**

the cause of the Horse Fire was never definitively determined, it is believed that an illegal campfire set it into motion. Staffing and funding limitations on our public land management agencies mean that adequate permit enforcement and law enforcement are lacking; it is simply impossible for the small, dedicated staff to be everywhere at once.

A summer lightning strike could also set the cycle back into motion. The warming climate has led to numerous summer days with temperatures over 100 degrees inland and over 70 degrees on the coast locally, and this is now happening well into October. Little to no rain and warm, dry days, combined with overly dense and unnaturally composed forest stand structure, have extended the specter of fire season further into the fall.

Thinking back on that overcast, foggy, and eerie day in the recently charred remains of forest on the Horse Fire five years ago, I wonder what the future might bring for the green, lively, regenerating landscape of the present.



**Snags frame scenic ocean vistas, five years after the Horse Fire.**

🌲 For more information: [lostcoast.org](http://lostcoast.org)





North Fork Eel River watershed with poor forest health conditions, 6/21/18.

# Time to Forge a New Relationship with Fire in the Eel River Watershed

By Eel River Recovery Project

The rapid onset of climate change is partly responsible for the one million acre plus August Complex Fire that has burned vast areas of the east side of the Eel River watershed in 2020, but there are also legacy problems adding to increased fuel loads and the severity of the fire. While there has been a lot of damage to public and private lands, thank goodness no lives were lost. It is important to remember that some benefits will result from the fire. What is clear is that our relationship with fire must change.

The August Complex stretches from the headwaters of the Black Butte River in the

south, through the Yolla Bolla Wilderness in the upper Middle Fork Eel, across the North Fork and into the headwaters of the Van Duzen in the Lassics Wilderness. This whole expanse is the “snow zone” of the Eel River watershed and, unfortunately, there has only rarely been a robust snowpack over the last two decades. Add to that prolonged record droughts, such as 2013-2015, and you have a set up for a hot fire and potential major changes to the forests of the snow zone.

Both the upper Black Butte and Middle Fork watersheds have vast swaths of mixed conifer forests that have co-evolved with snow, and they are stressed

and may have burned hot. Logging on high elevation public and private land has led to elevated fire risk and this may have also exacerbated fire intensity locally in these sub-basins. Since the snow is not likely to return soon, it raises the question of what succession will be naturally and what trees species we should select for restoration of higher elevation burned areas.

The North Fork Eel River watershed was set up to burn hot because of the build-up of fuels over the 160 years, since the cessation on Indian burning. Archaeologist Thomas Keter and the brothers John and Tracy Elgin of the Wailaki and Wintu Tribes documented the problem of dead and dying oaks being over-topped by Douglas-fir trees and warned of the extraordinary fire risk. The good news here is that the August Fire may be the mechanism for white oak to once again rise to dominance. Recent University of California Berkeley studies of white oak showed them to be able to subsist with very little summer moisture because of an adaptation that allows internal recirculation of water. They predicted that white oak would re-expand in range with climate change. While most of us envisioned this happening over centuries, the August Fire shows change is happening rapidly.



Dr. Mike Jones of the ERRP Tenmile Creek team greets forest health client Patricia Kovner, 8/25/20. ALL PHOTOS THIS ARTICLE BY PAT HIGGINS



If the August Fire leads to succession back towards white oak in the North Fork watershed, this will help improve stream base flows. Keter also documented that Douglas-firs were encroaching on meadows and springs, which had a depressing effect on the forage base for grazing animals and stream flow. If firs were cleared from these areas by the fire, it should improve wildlife habitat and North Fork flows. Another silver lining of fire is that it may contribute large wood to streams that improves fish habitat complexity, as ground fires girdle trees at the base and they fall in.



**Tom Keter in North Fork Eel watershed explaining forest health problems, 6/21/18.**

Glen Martin in his excellent article “Keepers of the Oaks” in *Discover Magazine*, 1996, noted that California Indians maintained grasslands and oak woodlands with fire, harvesting their seeds and acorns for food, as well as game that thrived on new vegetation after fires. Martin summarized the aggregate effect of this regime, “Applied regularly over a vast area for centuries, fire became a force as profound as the weather in its impact on regional ecology”. He quotes UCLA Ethnobotanist Kat Anderson regarding the present condition of California wildlands: “It’s like a feral garden, one that has gone to weeds through neglect.” Tribal elder Ernie Merrifield, who is of Wylaki descent, asserts that “We must resume

stewardship of the land or the Creator will take back the gifts of food and medicine provided to us since time immemorial.”

As we move forward in re-shaping the land to reduce fire risk and improve ecological productivity, we will have to practice adaptive management because, as the climate changes, so do the plants suited to different locales. An example of this, as recently reported in *The New York Times*, are arborists who tend trees for cities and towns in New England. They are giving up on maintaining ash trees there because of a shift in climate, and planting Mid-Atlantic species in hope of maintaining species diversity. Grasslands in the Eel River basin are being overrun

by star thistle, and fire can be used to restore native grass species, but only if we commit to management on a regular basis. Similarly, we must control brush and forest undergrowth routinely, or we will face the same problem with extreme fire risk 30-40 years from now.

Landowners throughout the Eel River watershed need to get forest health plans and then we need to acquire resources for implementation at a watershed scale. Forest health must also be improved on United States Forest Service lands, and Native Americans need to be involved to assist with restoration of their ancestral territories. We need to involve youth, and create career tracks in forest health through articulated programs between high schools, community colleges, and universities so they can become scientists and/or forest health practitioners. Funding will be available and this is the time to plug communities and the youth into stewardship of the land. Benefits will be: less catastrophic fire risk, improved biodiversity, economic opportunity, improved watershed hydrology that allows restoration of flow, and carbon sequestration to help buffer global warming.

🌲 For more information:  
[www.eelriverrecovery.org](http://www.eelriverrecovery.org)



**Looking north in the Black Butte River watershed with signs of past logging, 10/7/18.**



# Cereus Fund Reports

A theme of adaptation and perseverance runs through the following pages highlighting projects supported by the Cereus Fund of Trees Foundation in 2020. With planned field trips and gatherings cancelled due to COVID-19, many grassroots environmental organizations supported by the Cereus Fund found other ways to further healthy land stewardship, ecosystem restoration, and environmental advocacy throughout the redwood region this year.

Established in 1998, the Cereus Fund is a part of Trees Foundation's Donor Advised Program which allows individuals to donate and direct funding to projects of their choice, which Trees Foundation administers on their behalf. To learn more about these projects, or to start a Donor Advised Fund of your own, please visit [www.treesfoundation.org](http://www.treesfoundation.org).

On behalf of Trees Foundation and our many partner organizations, we once again extend our heartfelt gratitude for the generous support of the Cereus Fund.



## Bay Area Coalition for Headwaters

The work of the Bay Area Coalition for Headwaters has certainly been a departure from normal this year. But we have been so very inspired by the actions unfolding on multiple fronts even in the face of pandemic, fires, economic crisis, isolation, violent racism, blossoming uprisings in the streets, and surreal politics. People have been sitting in trees, protesting poisonous air drifting their way, and seizing the double-edged opportunity of the largest wildfire in the state's history to drive home the issues of climate chaos in a more compelling way.

We feel privileged to lend a small measure of support, in the way of media outreach, public outreach, and organizational outreach in bouncing these stories out into the world—stories of forest defense, poisonous pellet plant emissions, logging in coastal wetlands, and native species in our National Parks. They are stories of connecting the dots.

Although events we would have brought grassroots media workshops to were cancelled, we engaged more one-on-one to help campaigns get messaging out. We found a greater and sometimes new audience receiving the information we put out in press releases, and direct

outreach. Forest defenders recognizing their “essential” jobs, and other actions for the earth— even in a time of a stay-at-home lifestyle shift— provided huge inspiration to ordinary people and the media alike, thirsting for stories other than the pandemic and politics. People welcomed confirmation that it's not necessary to give up the important work for the earth, even in these times. The feedback that looped back around to us illustrated that.

New talking points we've worked into our outreach narrative—the links between industrial forestry and lack of resilience, between human-caused climate change and the west's wildfires; links between a “manifest destiny” mindset carried out in every corner of the planet, and pandemics and disease vectors. Changing those narratives has been part of our work during this time. The amazing network born of the North American Forest and Climate Movement Convergence (that BACH worked on and participated in) one year ago is also a hugely valuable megaphone.

So we persist—in our niche as a media consultant, advocate, and strategy collaborator for campaigns, as we look to use misfortune to create change. What else can we do?

## Friends of the Lost Coast

The Cereus Fund of Trees Foundation has supported Friends of the Lost Coast's invasive plant removal and native plant restoration programs since 2016. Thanks to this support, these programs have been growing.

COVID-19 limited our ability to convene public gatherings in 2020. Friends of the Lost Coast and our partners still made great strides forward in controlling pampas grass and other non-native plant species in Shelter Cove, California.

We removed invasive plants at beachfront sites in the King Range National Conservation Area including Black Sands Beach, Abalone Point, and at the Shelter Cove Lighthouse Beach and replanted these sites with native plants grown in our native plant nursery.

Our annual Earth Day celebration in Shelter Cove was cancelled this year, however we still managed to hold our annual Earth Day Poster Contest in cooperation with our partners. Our planned family day events at the Lost Coast Education Center and Native Plant Garden were cancelled for this year. Friends of the Lost Coast hopes to hold these Family Activity Days next year.





Happy volunteers pulling invasive iceplant at the Black Sands Beach Overlook Parking Lot in Shelter Cove. PHOTO BY SANDRA MILES

The Shelter Cove Invasive Plant Project (SCIPP) is a primary example of how Friends of the Lost Coast continues to build and broaden our partnerships in removing invasive plants, restoring native plants, and educating and engaging communities surrounding for the benefit of our public lands.

SCIPP is a joint partnership focused on removing pampas grass and other invasive plants in Shelter Cove. Friends of the Lost Coast and our partners, Bureau of Land Management, Shelter Cove Resort Improvement District, and Shelter Cove Arts and Recreation Foundation, conduct education and outreach targeting landowners and others in Shelter Cove encouraging the community to engage in the removal of pampas grass and other invasive plant species.

Thanks to the Cereus Fund of Trees Foundation, our efforts to educate and engage local communities culminated in a highly successful pampas grass seed-head bounty program outcome in 2020. The program offers local households and residents twenty-five cents for each seed-head of pampas grass collected and brought in for tally.

After holding two well-attended public meetings in Shelter Cove, eight households participated in our pampas

grass bounty program, resulting in the collection of 9,521 seed-heads!

Thanks to contributions from the Cereus Fund of Trees Foundation, our work, and our organization continues to grow and thrive despite the many challenges presented in 2020.

## Friends of the Van Duzen

By Sal Steinberg

Because of the pandemic, many changes took place in the world. Schools, zoos, and parks were forced to close. There were

three main emphases for my Nurturing Nature project, funded by the Cereus Fund of Trees Foundation. I was able to accomplish the primary goal of placing 18 temperature probes in the Van Duzen Watershed. Working with Pat Higgins of the Eel River Recovery Project, we once again traveled to the Van Duzen River below the Van Duzen Elementary School, witnessing 200 Rainbow trout. Under the Dinsmore bridge, we found a 50-60 year old western pond turtle. Photos can be found on the Eel River Recovery Project Facebook page. Check it out! Data that is collected is shared with the California Water Quality Control Board and has been collected for the past decade.

Locally, Friends of the Van Duzen was able to work with young children at several locations. For the third year in a row, first grader Clyde and I placed and recovered a probe at his home at Shakefork Farm in Carlotta. We recruited three of his friends—Leela, Santino, and Malachi—to explore the Van Duzen Watershed and retrieve probes at Swimmers Delight, Hely Creek, and the main stem of the Van Duzen River. Photos will be posted at [www.fovd.org](http://www.fovd.org)



The Kids in the Classroom director, Sal Steinberg, retrieving a temperature probe that was stored under a tree for three months at Hely Creek, with Leela, Sal, Malachi, Santino, and Clyde.

PHOTO BY ANDREA HARGADON



My students became explorers and young scientists taking temperature, pH, and turbidity measurements. They learned to use a metal detector to help look for the probes. Additionally, while studying nature, we included botany and made beautiful leaf prints. The kids were great!!!!

Over the past decade I have taken thousands of pictures documenting “Kids in the Woods” and other environmental projects. This year with the Trees Foundation’s Cereus Fund, I am looking into updating my cameras, and researching a new iPad and an Olympia underwater camera.

Special thanks to the Cereus Fund of Trees Foundation for their continual support of the Friends of the Van Duzen, the Van Duzen Watershed, and the community!

## Humboldt Baykeeper

Humboldt Baykeeper launched the King Tides Photo Initiative to increase awareness of sea level rise. King Tides are extreme high tides that occur when the gravitational forces of the sun and moon magnify one another. They tend to be more dramatic in winter, when storms cause increased wind and waves. King Tides provide a glimpse into the future, highlighting areas most at risk, where we most need to plan for flooding and erosion.

Last winter, we coordinated volunteers who photographed strategic points around the Humboldt Bay. This winter, the highest tides are predicted on Nov. 15-16, Dec. 13-15, and Jan. 11-12. More than 100 volunteers have contributed to our photo collection, which helps residents, planners, and government officials gain insight into how rising sea levels will impact coastal areas.

Sea level in the Humboldt Bay area is expected to rise much faster than in the rest of the state: one foot by 2030, two feet



The old railroad dike is all that stands between Highway 101 and Humboldt Bay. Just south of Arcata, a large gap has formed where the King Tides erode the dike with each passing year.

PHOTO BY J. KALT, JAN. 11, 2020

by 2050, and three feet by 2060. That’s because the land is sinking due to tectonic activity at the same rate that the sea is rising. As a result, we are experiencing twice the relative rate of sea level rise as the rest of California: 4.73 mm per year. While that might not seem like much, sea level today is 18” higher than it was a century ago, when most of the earthen dikes were built to cut off tidal action.

Many former tidelands were converted to farmland or filled and developed. Lumber mills built in these areas left contaminated soil and groundwater that continue to threaten the bay. As sea level rises, larger areas are more vulnerable to flooding and erosion during major storms, as well as saltwater intrusion into groundwater.

Government agencies have been slow to plan for sea level rise, despite the risks. By 2030, the section of Highway 101 between Arcata and Eureka is predicted to flood monthly. By 2040, Arcata’s Wastewater Treatment Plant and Wildlife Sanctuary will likely flood monthly, and the neighborhoods of King Salmon and Fields

Landing could be completely inundated during King Tides. PG&E’s nuclear waste storage facility at King Salmon is buried near the edge of a coastal bluff that is in the path of storm waves coming through the bay entrance. Without proactive planning, we’ll inevitably find ourselves reacting to emergencies that put public safety and property at risk.

## Mattole Restoration Council

With funding from the Cereus Fund of Trees Foundation, the Forest Practices Program (FPP) of the Mattole Restoration Council was able to continue its watchdog efforts of our industry-owned timberlands in 2020. Though we have three industrial timber managers in the Mattole River watershed, Humboldt Redwood Company (HRC) has again received most of our attention. Early in 2020, FPP organized a group of interested parties to attend a tour hosted by HRC. Twelve of us joined two HRC drivers/managers and loaded into vans at Scotia for a full day tour. As a note, no participants were allowed if they had



been recently arrested or thought to have provided materials to any recent protests on HRC land due to an ongoing lawsuit. Suffice to say, this area of the Mattole watershed has been a focal point of active protests and treesits by forest defenders since the late 1990s because of the rich, older forest stands that shelter a myriad of native botanical, aquatic, and terrestrial life.

If you have read these Cereus Fund grant reports previously, you might remember my frustration that HRC's Mattole-area manager, John Andersen, had not delivered on his promise to take people out to the recently harvested areas of the Mattole. This trip was the delivery and he was willing to go anywhere we suggested, which included: units where herbicide was used; units where cable yarding was done; the unit that was not harvested due to the discovery of a Northern Spotted Owl, and a newly-constructed road through ridgeline meadows, tan oaks, and Douglas-fir. We also visited the High Conservation Value Forest (HCVF) for a tour wrap-up. HRC staff explained how they designated the 200-acre HCVF to ensure conservation of habitats for at

least as long as HRC was part of Forest Stewardship Council's certification.

Everyone on the tour seemed engaged and open to learning the forest practices of Humboldt Redwood Company. Several of us revisited the 'takeaways' at a casual potluck about a month later. There were varying opinions; most felt the new road was egregious and that designating more older stands as HCVF in the area was necessary. Ironically, in July, FPP was solicited for our comments on a document entitled, "High Conservation Value Assessment Mendocino-Humboldt Redwood Companies." We fiercely advocated for more HCVF stands in the Mattole to be designated. Our request was denied. They felt the present HCVF designation in the Mattole was sufficient.

We are very grateful to the Cereus Fund of Trees Foundation for supporting these watchdog efforts.

## Mid Klamath Watershed Council

Funding from the Trees Foundation's Cereus Fund for 2020 was intended to support the Mid Klamath Watershed

Council's (MKWC) Klamath-Siskiyou Outdoor School (KSOS). KSOS is an overnight summer experience designed for local mid-Klamath youth, and a staple program in our community that has been offered every year for over 10 years.

As was the fate of many plans in 2020, MKWC cancelled KSOS due to the COVID-19 pandemic. Ultimately, bringing a large group together for an overnight trip was too risky this year for our rural community, and we tabled our plans for a future summer.

After receiving approval to use the Cereus Fund grant for other projects, our staff started brainstorming. How can we support hands-on, meaningful environmental learning experiences for youth, all while following COVID-19 safety measures and limiting the amount of screen time required? We came up with a few ideas, and Trees Foundation's Cereus Fund directly supported the planning and launch of two new projects.

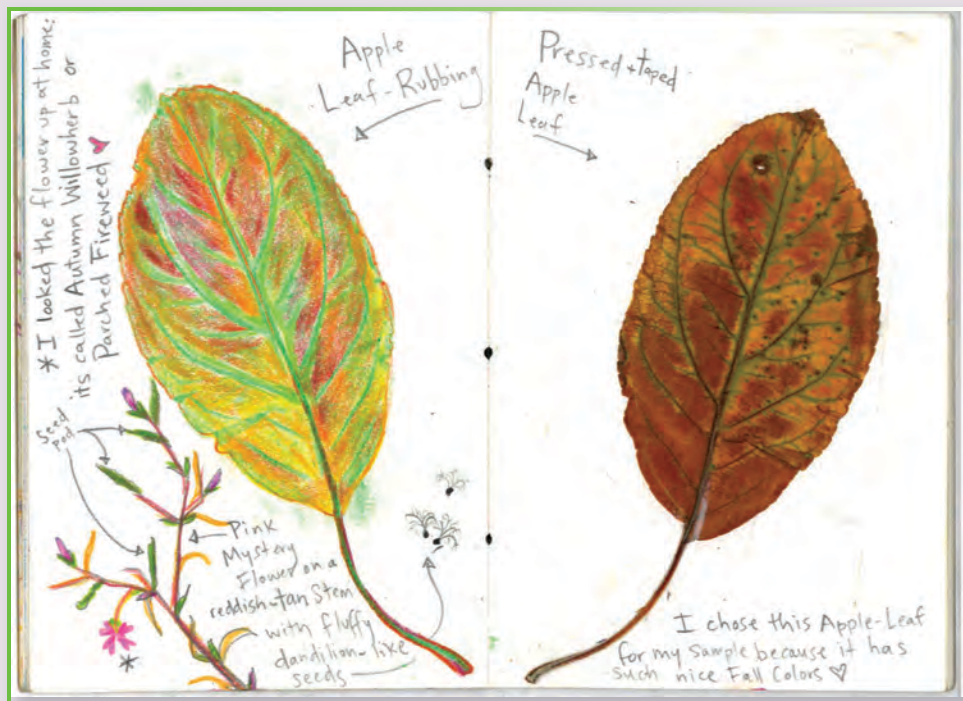
First, MKWC organized a multi-school, multi-grade art contest. The theme of the art contest is "Natural Resilience: Where in our natural surroundings do you see examples of resilience? How can we help the environment or individual species be more resilient? Where in your life have you or your community embodied resilience to get through challenging times?" The intent of this art contest is to encourage local youth to seek inspiration from the natural environment as we navigate these stressful times. Local artist jurors will judge submissions and pick winners from each age category in early November.

Second, MKWC staff are working with local schools to distribute curriculum to students. Our "Adopt-A-Site Project," where students pick one location to visit once a week over a 10-week period, includes over 100 students from four different schools. Each week, students complete a different activity at their site,



Humboldt Redwood Company's Area Manager, Ben Hawk, points to some herbicided stands on the next ridge. PHOTO BY THOMAS B. DUNKLIN





Excerpt from Mid Klamath Watershed Council's Adopt-A-Site nature journaling curriculum.

which they document with their field journal (provided by MKWC). Activities include: insect observations, trash pick-up, invasive plant removal, bird watching, and soundscape drawings. The goals of this project are to encourage outdoor observations and increase connectivity to the natural world and other students participating in the project.

Though it was a challenging year, we are excited about the new projects created this year through the flexibility of the Cereus Fund of Trees Foundation. Stay tuned for art contest winners, to be announced on [www.mkwc.org](http://www.mkwc.org) this winter.

## Sanctuary Forest

The Cereus Fund of Trees Foundation has generously supported Sanctuary Forest's Collaborative Stewardship Education Project over the years, and while COVID-19 threw a curveball in everyone's plans for 2020, Sanctuary Forest persevered with our ongoing mission to protect and restore land in the Mattole River watershed in cooperation with our diverse community.

The Mattole River and Range Partnership (Sanctuary Forest, Mattole Restoration Council, and Mattole Salmon Group) continued holding regular phone meetings to discuss current and future restoration projects aimed at recovering fish populations while reducing the threat of catastrophic wildfire. With record-low stream flows and wildfires that surrounded our communities, it has become critically important to

implement projects that directly address these threats.

To this end, Sanctuary Forest completed the Baker Creek Terrace Pond Project this year, a pilot project consisting of off-channel ponds intended to store rainwater during the winter, then slowly release the water into the stream. The goal is to ensure enough water is available to maintain pool habitat for salmon through the dry season. This project was developed with a team of local restorationists, engineers, and scientists. It is just one example of the innovative strategies generated by a collaborative effort to restore our rivers. With extended dry periods and winter rainfall totaling only about half of what is considered normal last year, streams are critically dry. Forward thinking projects to address water scarcity are necessary today as we face these extreme drought conditions. The Cereus Fund of Trees Foundation and other donor funds are joined by public funding agencies that invest into our communities for these vital projects that create jobs and improve the watershed.

We are continuously learning from nature and from each other— from the design phase to years after implementing a project— and we continue to share lessons learned from the Mattole River



Sanctuary Forest board & staff masked up for a socially distanced outdoor Stewardship Committee meeting.



watershed in order to develop solutions to water scarcity locally, regionally, and statewide. Sanctuary Forest graciously thanks the Cereus Fund of Trees Foundation for continuing to support our efforts to work with our watershed and regional partners. We know we can't do this alone.

## Salmon River Restoration Council

This has been a year unlike any other. It has largely been about figuring out how to adapt, how to reach people in new ways, and how to get important work done while still protecting the health of our employees and community. The Salmon River Restoration Council (SRRC) was built around the belief that actively engaging our community, from youth to elders, in experiential learning and hands-on restoration is how we will sustain this watershed into the future. When suddenly people can no longer join hands to get that work done, an integral part of community restoration is missing—the community part. But it quickly became clear that the restoration part still had to go on, or else we risked leaving fish barrier removal projects unfinished, sliding backwards on years of work controlling noxious weeds, and losing critical data in our efforts to restore spring-run Chinook. So we rolled up our sleeves and spent the spring figuring out how to keep our crews safely in the field, sadly without our normal contingent of community volunteers. Instead, we encouraged volunteers to get outdoors on their own to pick up trash, dig noxious weeds, and fire safe their properties.

As early summer came on, our biggest outreach event of the year was rapidly approaching—the annual Spring Chinook Dive and a concurrent Spring-run Chinook Symposium that we were putting on with Salmonid Restoration Federation. After weeks of agonizing over whether we'd be able to hold an



**When fire threatened our community this fall, SRRC's staff and vintage fire truck joined volunteers to help with community protection. Our Community Liaison Program works to facilitate the communication of critical fire information between the community and fire management teams.**

PHOTO FROM SRRC

in-person event, we finally decided to start planning a virtual symposium. You can't count spring-run Chinook sitting behind a computer though, so we were going to have to find another option for the Spring-run Chinook Dive. In the end, the symposium was a big success, with 10 presenters and over 130 attendees focused on many important aspects of spring-run Chinook conservation. The Dive, although unable to include volunteers, was safely completed with the help of our cooperator's self-contained fisheries crews. Sadly, we found the second lowest run of spring-run Chinook on record, with only 106 of the last wild spring-run Chinook in the Klamath returning to the Salmon River.

We reached out to the public during these socially distanced times with our monthly e-newsletter, Salmon River Currents, which this year included topics such as snow pack conditions, spring-run Chinook conservation, and living with wildfire. We also worked on a newsletter entitled "Climate Change: Forging a More Resilient Future," which will be published at the end of October. It focuses on how climate change is impacting our

watershed and what SRRC is doing to increase its resiliency. From floodplain restoration, to prescribed fire, to native seed collection and planting, to mountain meadow assessments, we are doing our best to develop projects that restore as much natural function to the ecosystem as possible.

Support from the Cereus Fund of Trees Foundation goes a long way to making this important work possible. It provides the foundation for accomplishing the on-the-ground community restoration work that has and will continue to be one of our overall goals.

## Southern Humboldt Organic & Regenerative Education

Southern Humboldt Organic and Regenerative Education (SHORE) was founded in 2018 to inspire and empower local residents with educational programs on living and gardening in harmonious coexistence with our region's native plants, fish, and wildlife.

When quarantine restrictions began in March of 2020, SHORE had just secured an office space in downtown



Garberville that was to serve as a hub for regular SHORE classes and meetings. We were also in the final two weeks of preparing for 2020 Vision Southern Humboldt, our hallmark event of the year, which was to be held at the Mateel Community Center. It was to include a broad range of workshops and discussions on community resiliency, disaster preparedness, sustainability, and more. We continue to hold a vision of resurrecting the event in 2021.

With our signature event cancelled, the Trees Foundation's Cereus Fund was truly a lifeline for SHORE to continue programming and advocacy. Starting in June, we strengthened our capacity to organize programs with full consideration of inclusivity and racial justice by participating in several trainings. SHORE founder Kerry Reynolds took an online anti-racism course taught by Reverend Deborah Johnson of Inner Light Ministries; and joined a team of Humboldt County activists in adapting an in-person workshop titled Whiteness Within - Challenging White Supremacy Culture into a two-day virtual workshop. She promoted and helped facilitate four Whiteness Within workshops, one of which was fully sponsored by SHORE. Kerry also took online classes from June through August that qualify her for a certificate in Advocacy and Water Protection in Native California from Humboldt State University's Native American Studies Department.

In August, SHORE hosted its first online workshop on huglekultur gardening, led by gardening instructors Kelly Karaba and Wendy Kornberg. The workshop can be viewed on SHORE's Facebook page, [www.facebook.com/sohumshore](https://www.facebook.com/sohumshore) and to date has received over 150 views. Huglekultur gardening is the use of effective regenerative garden beds that are built by mounding soil over logs, branches, leaves, and other

natural biomass that is widely available on local homesteads. The gradual decay of wood is a consistent source of long-term nutrients for the plants, and a large bed can provide a constant supply of nutrients for 20 years or more. Advantages to this method of gardening include carbon sequestration, affordability, and excellent water retention.

SHORE would like to thank the Cereus Fund of Trees Foundation for making all of these projects possible this year.

## Womens Forest Sanctuary

In 2020, the stewards of The Sacred Grove composed a sign to express our shared value of protecting the land. We were grateful that Will Bell, a former Executive Director of Sanctuary Forest, with the assistance of Jeffrey Ruffner, elegantly crafted the sign: "The Sacred Grove-Protected Nature Preserve-Women's Forest Sanctuary."

Youth and staff of Youth Spirit Artworks in Berkeley led our annual outing to Redwood Regional Park in Oakland. Youth were eager to alleviate stressors which included Shelter in Place and racial injustice. Within the redwoods the youth addressed "What is healing?": the need to be seen and understood within the larger community. Support emerged among them to let go the struggle to be understood and to validate one's own self and each other. Inti Gonzalez reflected, "I was glad the focus was on a healing, relaxing experience. It was therapeutic to share what we feel and think about our lives and social justice." Omari Scott drew himself and a friend among redwoods, "This is a nice environment to be in and to remember."



Stewards of The Sacred Grove

During our summer visit to the grove we celebrated avid supporter Cathy Lentz, and held a Ceremony to express our thankfulness for donors and ongoing partnership with nature. As we sat with the Grandmother Trees, we experienced healing connections to the earth, ourselves, one another and collective wisdom.

We shared in a message to donors the importance of mycelia: the underground fungal biomass that serves as a communication and transport system between organisms. We embrace being embedded in a network that is fluidly interactive, that challenges concepts of separateness and individuality, and hope that our realization of interrelationships serves a future where all life thrives.

Also, during the past year we were in conversation with Hawk Rosales, Director of the Intertribal Sinkyone Wilderness Council, and furthered our understanding of the grove's connection to Native peoples and their culture. In light of historic violent destruction of nature and Indigenous peoples we seek to restore sacred bonds of relationship and reciprocity with nature and local Native people.

We are grateful for the Cereus Fund's support of our efforts in 2020. With attention to inclusivity and reverence, we join with all in harnessing collective wisdom and energy to birth a new world.





## PLANT NOTES

# Knobcone Pine

### *Pinus attenuata*

In the fall of every year, the cones of most species of pine trees release their seeds. The seeds then germinate with the coming rains, thus perpetuating the species. Knobcone pines are different. Known as closed cone pines, knobcones require heat, usually from fire, in order to open up and release their seeds. That is because the cones are effectively glued shut with resin, a phenomenon called serotiny. When the heat of fire melts the resin, the ¼-inch black seeds are released. Since knobcone pines tend to grow in fire-prone areas, they have evolved this adaptation over millennia, allowing the species to persist even if all the mature trees perish in a fire. Areas where knobcone pines were burned are soon covered in a blanket of seedlings. After a fire the seeds are released en masse, thriving because there is reduced competition from other plants. It is interesting to note that in the absence of fire, knobcone cones can eventually open after 20 or so years.

Knobcone pine trees don't usually get very tall, maxing out at about 30 feet, and they are often scruffy-looking due to their adaptation to living on poor, gravelly

**Knobcone pine cones grow in tight whorls around the branches and stay on the tree for many years; the bump on this branch is a cone that has been grown over and engulfed in wood.**

PHOTOS THIS ARTICLE  
BY CHERYL LISIN



soils in hot, dry areas. The needles are a faded olive-green color and are borne in bundles of three. The cones are distinctive, as they grow clustered tightly around the branches in whorls rather than at the branch tips, as in other pine species. The cones are asymmetrical and since the scales are tightly shut, they appear knobby. Cones stay on the tree for years—so long, in fact, that the wood of the branches sometimes grows around them, leaving odd bulges in the branches.

The trees' range is most dense in the coastal mountains of Southern Oregon and Northern California, with populations more sparsely scattered along California's central coastal mountains, around Mt. Shasta, the

west slopes of the Sierra Nevada, the San Bernardino Mountains, and just north of Ensenada in Baja, California.

A great place to see knobcone pines is on the Lost Coast Trail in the King Range National Conservation Area. On the ridgeline, just south of the spur trail to the peak of Chemise Mountain, the soil becomes rocky and the vegetation changes from dense forest to chaparral. Here, the trail passes through a stand of knobcones, where the pictures for this article were taken.

*Cheryl Lisin is a native plant enthusiast, landscape designer, and President of Friends of the Lost Coast (formerly Lost Coast Interpretive Association), whose mission is to inspire passion for nature in the Lost Coast region. She is currently working on a native plant garden at the King Range BLM office for the education and enjoyment of all. You can contact her at [Cheryl@lostcoast.org](mailto:Cheryl@lostcoast.org).*



**Knobcone pines along the Lost Coast Trail in the King Range.**



# Enhancing Flows in Redwood Creek

## Marshall Ranch Flow Enhancement Off-stream Pond Project in Redwood Creek, South Fork Eel River: History and Status Report

By Salmonid Restoration Federation

Since 2013, Salmonid Restoration Federation (SRF) has been conducting low-flow monitoring in Redwood Creek, a critical tributary to the South Fork Eel River. With funding from the Wildlife Conservation Board and the California Department of Fish and Wildlife, SRF and Stillwater Sciences have been exploring the feasibility of various streamflow enhancement opportunities in Redwood Creek. Stillwater Sciences conducted a feasibility study in a segment of the watershed that helped to identify priority projects that could improve summer flows. Stillwater Sciences also prepared conceptual designs for off-channel rainwater catchment ponds that could improve water security for individual parcels, but would require wide and coordinated participation in order to measurably improve flows. After much research and reconnaissance, the SRF and Stillwater project team

determined that the greatest opportunity to improve streamflows is to work cooperatively with the Marshall Ranch, the largest private parcel in the watershed, stewarded by the Marshall family since the 1800s and now fully protected under a conservation easement.

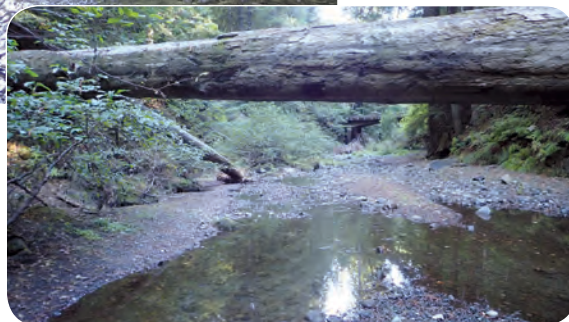
**The proposed Marshall Ranch Flow Enhancement Project is being designed to significantly improve Redwood Creek dry-season conditions. A 15.3-million-gallon off-channel pond is proposed to store winter runoff and release approximately 50 gpm of cool clean water into 5.5 miles of Redwood Creek during the five-month dry season.** The proposed pond project would be the equivalent of 250 individual 50,000-gallon tanks with the added value of the water being dedicated to instream flows. This water input is expected to have a significant and measurable benefit to salmonids and other aquatic habitat in Redwood Creek. A fire-suppression

component is also being designed into the project. The pond will be accessible for helicopters to dip their buckets,

and a fire hydrant gravity-fed from the pond will be available for access by fire engines during emergencies. Additionally, a 7.5-KW solar array grid intertie system and associated infrastructure will allow for offsetting annual power use and ensure that the project itself, including valves, sensors, internet connection, etc., will be operational in a power outage.

Selection of the off-channel pond site has been guided by office- and field-based assessments of a significant portion of the Redwood Creek watershed. Based on these assessments, the proposed pond location is uniquely suited for the project due to the following factors: 1) the project area is comprised of a broad area with gentle topography, 2) the site is not within the Redwood Creek floodplain or within the potential Redwood Creek channel migration corridor, 3) there are no watercourses, wetlands, trees, or other sensitive plant species within the proposed pond footprint so environmental impacts are minimal, 4) the pond site is located at an elevation with enough pressure head to deliver the entire pond volume to Redwood Creek by gravity, and 5) the Marshall Ranch LLC (landowner) is fully supportive of the project.

Due to the size of the project and nearby downslope neighbors, a detailed analysis of site conditions, pond design features, and potential failure mechanisms is required. To support the project design process, further in-depth analyses of the site and its surroundings were conducted to ensure that the pond would be stable for the long term. The site is a unique geomorphic feature within the Redwood



**These Redwood Creek comparison photos show flows at the beginning and end of the dry season taken from the same vantage point.**

PHOTOS BY KATRINA NYSTROM



Creek watershed since it is a Pleistocene fluvial terrace (between 10,000 to 2 million years old). The geotechnical evaluation for the project confirmed this finding with boreholes consisting of hard shale bedrock overlaid by sandy gravel deposits (old sediment from when Redwood Creek was flowing on the terrace approximately 80 ft higher in elevation than the current creek level). On top of the pre-historic creek deposits, 10 to 20 feet of alluvial fan material has been slowly deposited over the last >10,000 years from the up-gradient hillslope and small swale. These multiple lines of scientific evidence supporting terrace stability provided the basis for the pond design prepared in September 2019 and accompanied initial CEQA application documents.

During the CEQA public comment period in Fall 2019, concern was raised by downslope landowners that the proposed pond and associated grading and infrastructure may not meet the desired level of long-term safety, especially during the rare case of a large rainfall event coupled with a large-magnitude earthquake. Based on these concerns, additional analyses have been conducted including further assessment of potential pond failure mechanisms and seismic slope stability analyses under worst-case current and proposed conditions. Based on these analyses, several significant design revisions were made to greatly reduce risk of failure including:

- ◆ **Lowering the pond elevation by eight feet** will significantly reduce the weight on the existing terrace below current conditions. In the current design, the vast majority of pond volume will be created by excavating a large trough in the terrace.
- ◆ **Relocation of the pond spillways** and changing the initial culvert spillway (in the previous design phase) to a rock-lined spillway will increase longevity and reduce long-term maintenance costs.



**SRF hosted a public tour at the project site on the Marshall Ranch so community members and stakeholders could learn more about the proposed flow enhancement project.** PHOTO BY ADONA WHITE

- ◆ **Installation of a pond liner, French drain, and subsurface restrictive barrier** to reduce seepage concerns.
- ◆ **Grade control structures** in the central gully.
- ◆ **Installation of a backup energy system** to provide capability to operate and monitor project even during a power outage.

The proposed design modifications are expected to lower the risk of slope instability that could impact the downslope landowners compared to current conditions. This is a result of the proposed project significantly lowering the water table within the upper terrace and stabilizing the central gully. According to the lead Stillwater Sciences engineer, Joel Monschke, “The pond is set back a significant distance from the slope break and is primarily constructed through excavation into the terrace. There is no plausible mechanism for massive pond failure.” This finding is supported by geologists from Stillwater Sciences and validated by engineering geologists and a geotechnical engineer from SHN who have supported the design process. Additionally, the project engineer has requested that GeoSystems Engineering faculty at UC Berkeley specializing in earthquake engineering review the designs to assess if the proposed design

could withstand an 8.0 earthquake during saturated conditions.

Proposed design modifications have been reviewed by technical advisors from the California Department of Fish and Wildlife, North Coast Regional Water Quality Control Board, NOAA Fisheries, and the State Water Board. Revised project documents were submitted to Humboldt County Planning Department in September 2020. The County will officially notify nearby neighbors of a 30-day public comment period this fall, and all project documents will be available on the State Clearinghouse website. After that 30-day comment period, there will be a public hearing scheduled for any interested parties to attend via Zoom. SRF will do its due diligence to notify downstream landowners and the Redwood Creek community about the public comment timeline and the significance of this project.

🌲 To learn more, please visit [www.calsalmon.org/programs/marshall-ranch-flow-enhancement](http://www.calsalmon.org/programs/marshall-ranch-flow-enhancement) where you can find the 90% Designs, the Basis of Design, project team qualifications, and Frequently Asked Questions. Additionally, under Resources and Updates, you can find taped presentations and recent radio interviews about this innovative project.





## Diggin' In

# The Richard Gienger Report

Sort of tangled up in blues, threats, and complexities here. It's not just some huge-impact fires in California, but all along the West Coast—with flames, floods, severe storms, melting icecaps elsewhere and ongoing COVID-19 with manic and destructive attitudes and actions. A “rethink and redo” moment needs to spur us on multiple levels or else.

Ah, where to start? Which fire? The one that burned into Vacaville? Or California's historically largest: the August Complex Fire that originated from lightning strikes, 37 fires that merged and grew to over a million acres in five counties, burning Ruth, crossing Highway 36, burning homes around Kettenpom, threatening to cross the Main Eel River. Folks frantically preparing go-bags from the North Fork Eel, Mad, and Van Duzen Rivers to the Pacific Ocean. Wind-driven fire fear, so real. Smoke so bad in places along the West Coast, you needed a flashlight to guide you on sidewalks in the middle of the day (Willits). Evacuation orders and warnings given. CalFire, Forest Service, local fire personnel, and crews from all over the country were engaged week after week. [Listen to KMUD interview by Lauren Schmidt of retired logger & fire hero at Kettenpom: <https://soundcloud.com/kmudnews/kmud-local-news-09-30-20> (19:05 to 25:19)]

Where to end? The fire(s) that might erupt in the next two days in the Northern California Red Flag Warning zones and Public Safety Power Shutoffs? [Editor's Note: written on Oct. 21, 2020]

A very local threat was the Diamond Fire toward the end of summer on the Gibson Ridge between the Mattole River and Sproul Creek when a feller-buncher



The North August Complex Fire near Ruth Lake, taken from the Salmon Creek watershed in 2020.

PHOTO BY GREG CONDON

rolled and caught fire. Luckily four local volunteer fire companies were on it almost at once, and CalFire aircraft hit the area with retardant as well. The operator was thankfully unhurt when one track dropped into a steep cutbank of a road hidden by thick brush. A week or so later the Board of Forestry passed new rules allowing tethered logging yarding systems to be used in steep and riparian areas. This feller-buncher was not tethered to a secure anchor, but if it was tethered and the operator was surprised again by hazardous terrain, the tethering would not prevent rolling. This was pointed out to the Board, but the new rules passed unanimously. Some of the arguments during rule creation were that there are diminishing numbers of fallers with skill-sets that can handle cutting trees on steep slopes, and tethered mechanized falling and yarding systems are safer. Not so sure about fire risk.

Green Diamond Resource Company (GDRco) is commencing to manage the approx. 9,000 acres of former Barnum land with sets of 30-acre clear-cuts returned to for re-cutting every 45–50 years, progressively carried out by yearly THPs that will cover most of the whole ownership over time. Thank goodness there are stronger protections for most riparian areas now than there were before Charles Hurwitz of PL/Maxxam broke the industry taboo against no-cut buffers during the Headwaters deal in 1999. The subsequent Anadromous Salmonid Protection rules set up 30' no-cut buffers on Class I and some Class II streams with other varying protective measures for all watercourses.

Sorry to drift from the fire theme, couldn't help it. It's so sad that the Green Diamond and Sierra-Pacific style of “efficient” commercial timber operations creates



diminished quality of timber products with smaller and immature trees. At the same time, they say they are storing carbon faster in furniture and houses, while the overall capacity of the forests to remove CO2 from the atmosphere and sequester carbon is reduced. When push comes to shove in the coming decades, those no-cut buffers and other protections could come under assault. It's not hard to imagine perceived emergencies trumping long-term resource conservation ethics.

Speaking of which (and you thought the timber wars were over): forest management – climate change – forest management – climate change . . . It was serious and amusing to watch California's Secretary of the Natural Resources Agency, Wade Crowfoot, take on Trump when Trump came to California recently. Governor Newsom got in some solid points too. Trump said, "It'll start getting cooler—you just watch." Search YouTube for "wade crowfoot & donald trump".

The catastrophic fires in California in 2017 and 2018 triggered Governor Brown to convert the Forest Mortality Task Force (focused mainly on drought and massive tree death in the southern Sierras) into the Forest Management Task Force covering the statewide situation. Governor Newsom expanded that effort and added proclamations that among other things prioritized and carried out 35 emergency firebreaks. The Forest Management Task Force (FMTF)—with effectively over 200 "moving parts"—working and focused, stepping up the scale and pace of thinning and prescribed fire, important immediate and continuing measures but without long-term standards and practices. An "unholy" state and federal alliance, with a recent MOU and proposed legislation, is in the process of facilitating massive actions with inadequate thought and wisdom. All this, along with historical industry & governmental systemic & systematic stifling of cultural & forest reforms, creates a situation whereby those controlling forest practices in California

believe that the EMERGENCY gives them the "social license" to do as they please with no time wasted over forest management arguments with the public.

Ironically, the COVID-19 crisis has created stepped-up electronic and virtual communication unhampered by expensive and polluting travel. There are multiple webinars every week, and sometimes every day, on topics vital to the actions alluded to above. Things get really complicated and detailed fast, combined with critical divisive political turmoil magnification. Everyone wants "healthy and fire resilient" forests ASAP without setting adequate standards, or addressing human relationships on a spatial and temporal scale that is realistic.

There are multiple documents being produced by multiple Working Groups and sub-committees. There are regional Working Groups also. Some of the drafts relate to roads (CalTrans-lead), non-industrial landowners, public lands,



**This is wrong! Fish and river killing dams, like this on the Klamath river, need to go.** PHOTO BY THE KARUK TRIBE





Looking northwesterly across pond site, and Redwood Creek watershed. PHOTO BY RICHARD GEINGER

and Climate Resilient Future Forests (CRFF). One of the recommendations of the CRFF sub-group draft is to have the state require education for prospective foresters and current foresters in the design and implementation of climate-adapted forests—those healthy and resilient ones, which of course will require a larger proportion of larger and older trees. At a subsequent meeting this confused the Sierra Pacific lobbyist and got a full-balk from the small forest landowner. Officials with a forester over-sight organization thought this was already covered with currently available curriculum. One might make that argument, but job opportunities for truly “healthy and resilient” forests are slim. Jackson Demonstration State Forest (JDSF) has a pretty small staff....

### How to Help or Learn More:

- ◆ Support the forest models JDSF, RFFI/URF, and others that actually seek to provide quality forests—and recover ecosystems—enabling direct human and long-term benefit while recovering quality forested watersheds. Search: Jackson Demonstration State Forest California for the story of how a completely cut and burned forest in 1946 grew to be the foremost example today of the high-quality forest intended under the 1973 Forest Practice Act. Please stay connected at Forests Forever

for information to help you act for forest protection and recovery. Stay up to date with Redwood Forest Foundation & Usal Redwood Forest

- ◆ Insist on the state setting a course that will take generations of commitment to return healthy, high-quality forests to California—and not settle for 5 years of “stepped-up pace and scale” of thinning and prescribed fire. Attaining larger and older trees is integral to fighting climate change and as necessary as human communities’ need to reform settlement patterns and impacts. Go to Why Forests Matter. For California’s emergency moving parts, processes, documents, and recordings go to [fntf.fire.ca.gov](http://fntf.fire.ca.gov)
- ◆ A Richard Wilson – Sharon Duggan article about taking forest stewardship out of CalFire and placing it independently in the Department of Conservation is getting well deserved attention and giving a realistic basis to bring thoughtful long-term stewardship to California’s forests without being lost in the huge, world-renowned, emergency and fire response mission that CalFire has evolved into, dwarfing the amount of qualified personnel, focus, and funding currently directed toward long-term quality forest stewardship within CalFire. Search: why it is time for a calfire divorce. Complete title in 2020 issue of Golden Gate University Environmental Law Journal: “Why

it is time for a ‘CalFire Divorce’. The case for establishing an independent forest & resource agency to secure healthy forests in California.” Richard Wilson was the Director of the California Department of Forestry (now CalFire) during the 1990s, one of the positions he has taken on during his famed career. Lawyer Sharon Duggan is renowned for the EPIC v. Johnson (Sally Bell Grove) case, one of the multiple accomplishments in her illustrious legal career protecting habitats and endangered species.

- ◆ If you want some solid Oregon-based context for what amounts to past and continuing “Timber Wars,” from fighting for old growth to protecting Northern Spotted Owls to real human dilemmas to the Northwest Forest Plan to the fires of 2020 right into this September—see the excellent 7-episode podcasts. Each one is over 30 minutes and filled with primary sources. Dynamic and real conflict, semi-resolution, spectrums of hope and tribulation leaving one thinking about what changes must come about for sane and lasting positive long-term forest relationships—and respect for natural law on Earth. Search: timber wars opb or timber wars oregon public broadcasting.
- ◆ Join the effort to protect and conserve 18,000 acres of the Rainbow Ridge area of the Mattole Valley. This is envisioned into the future as being



accomplished by a set of partners that will honor indigenous stewardship and carry out actions for recovery. Bound up in this struggle (you get a two-for-one issue) is recovering the original intent and standards of certification by the Forest Stewardship Council (FSC). The Lost Coast League and allies are engaged in a Byzantine appeal process that is failing to bring corrective measures to herbicide use and High Conservation Value Forest designation (both even judged by FSC to be substantive grievances). Some important links: [vimeo.com/376767281](https://vimeo.com/376767281) and [www.youtube.com/watch?v=73K1CpjhDE](https://www.youtube.com/watch?v=73K1CpjhDE).

Also go to the KMUD archives (for September 23<sup>rd</sup> and October 14<sup>th</sup>—both from 5:30-6 pm) for two half-hour programs with Michael Evenson, Hank Brenard of the Bear River Band, Nate Madsen, and other guests discussing the vital issues and connections.

- ◆ Support recovery and health of the land and people of the Klamath River—including support for removing the dams—and take note of a host of other issues with Indigenous perspectives. Get more information from Save California

Salmon. A Federal Energy Regulatory Commission ruling that Warren Buffet's Pacific Corporation must stay on as a partner during the removal of the four fish-killing dams on the Klamath could jeopardize removal that was scheduled to begin in 2020. A big day of action happened October 23<sup>rd</sup>.

- ◆ Support “water protectors” and bringing back the salmon that were removed from the McCloud River and taken to New Zealand. Search in your browser for Caleen Sisk and McCloud River Salmon. You will get a wealth of information about Chief Caleen Sisk and the Winnemem Wintu and their battle to get their salmon back from New Zealand, where they were taken before the runs were wiped out by Shasta Dam.
- ◆ Support dam removal on the Eel River at Friends of the Eel River. Keep on top of the “two-basin solution”: complex, much intrigue, in-factions and out-factions, nasty history, and human and salmon future in the lurch.

Lots more information I just can't fit in this time, like some intense history from the “Lost Coast” and some perspectives and details of the engineered and elaborate flow-augmentation project

## To Get Involved

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707-223-6474

 **Save California Salmon**  
[www.californiasalmon.org](http://www.californiasalmon.org)

 **EPIC**  
[wildcalifornia.org](http://wildcalifornia.org)

 **Forests Forever**  
[www.forestsforever.org](http://www.forestsforever.org)


 **Friends of the Eel River**  
[eelriver.org](http://eelriver.org)

 **Institute for Sustainable Forestry**  
[www.instituteforsustainableforestry.org](http://www.instituteforsustainableforestry.org)

 **Lost Coast League**  
[www.lostcoastleague.org](http://www.lostcoastleague.org)

 **Redwood Forest Foundation, Inc.**  
[www.rffi.org](http://www.rffi.org)

 **Salmonid Restoration Federation,**  
[calsalmon.org](http://calsalmon.org)

 **Sanctuary Forest**  
[sanctuaryforest.org](http://sanctuaryforest.org)

 **Why Forests Matter**  
[whyforestsmatter.org](http://whyforestsmatter.org)

planned for Redwood Creek at Briceland, with both multiple potential benefits and serious hazards. Additional third party and public review are scheduled. Getting in touch with the Salmonid Restoration Federation, and examine the wealth of information they have about the project, including a report by long-time dedicated restorationist Bill Eastwood ([bille@asis.com](mailto:bille@asis.com)) will help you get a grip on the project.

Please help out where and when you can. Check out the work and other information on Sanctuary Forest, the Institute for Sustainable Forestry (ISF), and EPIC.

*Since arriving in the Mattole Valley of Humboldt County in 1971, Richard Gienger has immersed himself in homesteading, forest activism, and watershed restoration. Richard's column covers a range of issues including fisheries and watershed restoration and forestry, plus describes opportunities for the public to make positive contributions in the administrative and legislative arenas as well as in their own backyards.*



**Tribal members continue to press for the immediate removal of four destructive dams on Oct. 23, 2020 at the State Capitol, Sacramento. Part of actions that included virtual rallies, and physical rallies in more than 10 locations in North America. PHOTO BY DAN BACHER**



# The Judges and the Frog

*An account of the Dusky Gopher Frog's Defense, and Fight for His Life, before the U.S. Supreme Court ,October 1 2018 and the consequent U.S. Fish and Wildlife Service's and the National Marine Fisheries Service's revision of the Definition of Habitat*

By Ellen Taylor

On a seepage slope, amid  
Sly pitcher plants, a longleaf log  
Once tortoise-tenanted, now hid  
A worried dusky gopher frog.

She'd lived 300 million years  
And, fixed on the ever-fluid hub  
Of evolution's pioneers  
Survived the fateful Chicxulub:

Slipped through the Thermal Maximum  
Of fifty million years ago  
Finessed the Pleistocene, and come  
To this old Log through fire and snow.

Now, in wiregrass beyond  
She watched an excavator crawl  
Across her last ephemeral pond:  
Savannah turned to Shopping Mall.

Ephemeral ponds (They disappear)  
Were crucial for her pollywogs:

Fish swim in ponds that last all year  
And fishes eat the sons of frogs.

Her longleaf pines, her dappled shade!  
Long gone. The orchid bogs were dead.  
The woodpecker with red cockade  
Clung to existence by a thread.

A loader's blade interred with gravel  
Habitats long interlinked.  
Afar she heard a Judge's gavel  
Warn she might soon be extinct.

A dusky frog, in crisis, makes  
A magic cape. Now it annealed  
Peptides, proof to plagues and quakes  
More steadfast than a missile shield.

Mississippi left behind  
She bounded northward. Time was short.  
Arguments flashed through her mind  
To move the august Supreme Court.

"Oyez! Oyez!" came the cry  
So, with her bosom tight aclench  
And stately hop, and purposed eye  
The Dusky Frog approached the Bench.

And now, the Judges heard and saw  
A frog instruct, as Age would Youth  
Upon the sloth of human law  
In pursuit of Cosmic Truth.

we cavort  
As interlocutors of change.

And though you've left the ephemeral pond  
Determinative as a child  
We have a taxonomic bond!  
You, Judges, are, in fact, still wild.

But, violate the Web of Life  
Its patterns numinous and wise  
To undo with judicial knife  
A Being, portends your own demise.

The Judges brightened, pleased to meet  
This as yet unknown relative  
Weyerhaeuser from his seat  
Groped for the right appellative.

The frog acknowledged the Attorney:  
"I am Life on Earth!" she cried  
Your friend on Existence's journey ,  
Trailing our elusive Guide.

Mr. Bishop, your acclaim  
Precedes you through biota circles  
Hooded omens greet your name  
From bees to owls, to whales and turtles."

Mr. Bishop bowed. The frog  
With mild amphibian savoir faire  
Began. "Your Honors, dialog  
Cannot delay another year.

My Mississippi bogs are gone..  
My need for habitat is critical:  
Lethal are the lot and lawn.  
Raise your solemn hand juridical!

My songs now praise the Bayou State,  
Magnolia and manatee,  
Our graves those woodlands permeate:  
My name was once St. Tammany!

There let me live, on liliated knoll!  
Ephemeral ponds will me delight  
Until your species can control  
Its suicidal appetite!"



"Your Honors!" eight imposing  
brows  
Inclined to view the appellee  
(Recall that ancient  
law allows  
For interspecies comity.)

"Kinship brings me  
to this court!  
Our genome links us:  
we're not strange,  
While through the eons



Weyerhaeuser took a breath  
But Justice Gorsuch cried, "This case  
Is not about frog life or death  
Or if on Earth she has a place.

It's use of agency discretion  
We're discussing at this hour,  
Does it require our intercession  
Here to limit federal power?"

Chief Justice Roberts glowed with pleasure  
Keen to argue Law and Fact.  
"My friend," he said, "Here we must measure  
The Endangered Species Act".

He raised a finger pedagogic:  
"Adjectives compact and pare  
Their nouns. A brown bear, says our logic  
Must, quite clearly, be a bear.

Therefore, habitat, to be critical  
To itself must correspond.  
In my perception analytical  
Here you only have a pond."

Weyerhaeuser smiled at last.  
"Our tree farm there is ours to log.  
The realty value's growing fast  
And we'll change nothing for a frog."

As does her species when chagrined  
Frog hid her eyes. Although abstract  
These words were like an evil wind  
Athwart the Endangered Species Act.

With elan then, of her order,  
(Ranidae of these are chief),  
She leaped the Press, and Court Recorder  
Landing on Judge Robert's brief.

She fixed each Judge with space-black eyes.  
There, in their depths,  
they glimpsed savannahs  
Bursting with beasts of every size  
And midst them, raising wild hosannas



Photo from [www.washingtonpost.com](http://www.washingtonpost.com) "They're Great Little Animals":  
The dusky gopher frog goes before the supreme court", 09/29/2018

PHOTO BY EMILY KASK, THE WASHINGTON POST

In laughing camaraderie  
Through a world of ambient wonder  
Danced their Forebears, fierce and free  
Exulting in the fire and thunder.

"Justices!" Her voice resounded  
Through the Court, saluting each  
"Human Chaos is unbounded  
Heretical overreach!

Careless of Life's Mystery  
For venal ends you laws deploy  
A birthmark on your history:  
You do not know what you destroy!

Market is your Woodland god  
Gain your goddess of the Sea  
Your specious baseline, plumbed,  
though broad  
With superficiality!

With habitat we kingdoms lose.  
Your Species Act requires redress  
"At any cost!" No chance to choose  
You humans must clean up your mess!"

From the Bench escaped a grunt,  
An indeterminate expression  
Laying bare the urge to punt  
To Justice Roberts's grammar lesson.

(The frog, absorbing this, was prescient:  
In definition reemployed  
The Agencies were acquiescent:  
Excluded habitat destroyed.)

Paused, the frog peered round the Hall  
And saw to her unbounded glee  
Raul Grijalva by the wall  
The Tribes, Earthjustice, CBD,

The desert tortoise, EPIC, whales,  
A condor on the chandelier  
And salmon streams, with flashing tails  
And music marvelous to hear.

She gravely leaped through shining air  
Saluted Court with courteous mien.  
They heard her last, low words: "Take care  
Surviving the Anthropocene!"





# The Dusky-footed Woodrat

My goodness!! What chonky little rats we have here in Mendocino. The Dusky-footed woodrat, to be precise, is our most common Mendo rat that lives in the oak woodlands among other places here in our county. They are called “dusky footed” because they have little grey marks that look like soot on their feet, chest, and sometimes adorning their little faces. They build humongous woody mansions that can be up to 5 feet tall with a base of over 3 feet. You will find them in the forests and up in the trees. Their dwellings are extremely organized and tidy. They actually have little separate rooms. One room could be for mushrooms, one for acorns, one is a bathroom, a bedroom, and of course the treasure room, and so on. You may be surprised by the objects you will find in a woodrat home. They like shiny things of all sorts. These houses tend to be amazingly clean, using bay and cedar, which is a natural fumigant and anti-fungal to keep them and their families as healthy as possible. It is the females (does) who build and are the master crafterats here. The eldest female passes the shelter down to her daughter and so on. They also have satellite houses—second-home owners, if you can believe it! They are very clever little rodents. They are also called “Pack-rats” or “Trader-rats,” because they carry things around and if they see something better, they will trade it out for the newfound object. Another name for them is “Bushy-tailed woodrat.” They are mostly solitary but enjoy their neighbors and live together in small villages. The females choose who to mate with, usually favoring the same male companion every year.

So that’s the introduction to our awesome little rodent friend, Dusky-footed WR. They are super cute and one of the main staples in the wildlife pantry. They’re a



DRAWING FROM SCIENCE SOURCE

favorite of foxes, bobcats, coyotes, raptors, and even cougars have been known to have a rat snack or two. They are an integral part of our ecosystem.

Okay, all that said, let’s talk about what a pain they can be and the best possible exclusion tactics. Here are the basics:

- ◆ Clean around the house.  
Don’t leave any trash.
- ◆ Thin the trees and bushes near your site, as rats are attracted by thick weaving and ungroomed plants.
- ◆ Make sure there are no holes in your walls
- ◆ Use exclusion fencing with small gauges
- ◆ Go ahead and put fencing around your stalks if they are nibbling to get water
- ◆ Peppermint, grow peppermint everywhere, they hate it.
- ◆ Destroy their homes

**Great News!** California just became the first state in the nation to effectively ban rodenticides! On Sept. 29, California Governor Newsom signed AB 1788 into law. This hard-fought bill imposes a moratorium on the use of second-generation anticoagulant rodenticides, thereby saving the lives of thousands of bobcats, coyotes, mountain lions, foxes, raptors, and other non-target species who would have suffered and died, victims to secondary exposure from these deadly rat poisons. Whatever you do, **NEVER USE POISON!** For more, visit [mendowildblog.com](http://mendowildblog.com).

Now, if you need to trap, go ahead and use a live trap. Once you’ve trapped your rat, carry it over a mile away as they have excellent homing skills. It may not survive, but at least it will make a tasty snack or dinner for a furry or feathered somebody out there.

Okay, so you tried that, they’re not buying the live trap and there are a lot of them. If you need to kill some rats, then you’re going to need to buy a snap trap (please don’t use the glue, so mean). Once you’ve dispatched the little guys, make sure you feed them to wildlife. It will be a perfect find for some lucky somebody out there. Always make sure you are thinking of the whole picture for wildlife. I know how you feel sometimes: these rats can take down a lot of your plants, they can destroy your home, mess with your chicken coop, and eat your greens! I get that you feel so mad sometimes you don’t care how they die, just gettun gone! Well, my friends, it’s totally up to us to give a rat’s ass, pardon the pun. We must make our decisions with care. So, bottom line here: **DO NOT EVER USE POISON. DO NOT EVER USE POISON. DO NOT EVER USE POISON.** I know the other ways are more laborious and time-consuming, but they are a more sustainable solution and will make your soul proud of you. You don’t want to be the one that poisoned the rat and killed the eagle! What about that human that poisoned that rat that killed your neighbor’s cat? Also, remember, look for their houses, you can take them down and make it inhospitable for them, and they will have to invest in some other piece of real estate.

*Traci Pellar has been an advocate for wildlife education and habitat conservation for more than 30 years. She currently serves on the Willits Environmental Center Board of Directors and is the co-founder of the Mendocino Wildlife Association. Stay wild baby!!*

## Fire Strategies Teamwork in California's Northwest

Environmental Protection  
Information Center

The time to adapt and live with wildfire is here. Many communities across the west are working toward that goal. The climate crisis is thrusting change upon urban and rural towns alike. As the flames and smoke become more familiar, our relationship with fire must progress. Here in the Pacific Northwest corner of California, strategic fire planning is underway.

EPIC participates in both the Smith River Collaborative and the Western Klamath Restoration Partnership (WKRP). The goals of the National Cohesive Wildland Fire Management Strategy, in part, guide both of these efforts. Completed in 2014, the national strategy aims for three goals: resilient landscapes; fire adapted communities; and safe and effective wildfire response.

Based on 20 years of collaborative work, the Western Klamath Restoration Partnership (WKRP) formed in 2013—a watershed and fire management effort between the Karuk Tribe, Six Rivers National Forest, local watershed and fire-safe councils, and others. The mission is to establish and maintain resilient ecosystems, communities,



**The WKRP partnership reviews and discusses the effects from prescribed fire in the field.**  
PHOTO BY EPIC

and economies guided by cultural and contemporary knowledge through a truly collaborative process that effectuates the revitalization of continual human relationships with our dynamic landscape.

Working together towards shared values and zones of agreement, the partnership created a strategic fire plan for 1.2 million acres. This includes the entire Salmon River watershed, a portion of the Middle Klamath River, and parts of the Siskiyou, Marble

Mountain, and Trinity Alps wilderness areas. It spans two national forests, the Klamath and Six Rivers, and much of the Karuk Tribe's ancestral territory.

Historically, the Klamath Mountains experienced fire every 3 to 10 years. That includes cultural burning by Indigenous tribes practiced since time immemorial. Northern California is fortunate that fire is still a vital part of the living culture here today, as shown by the Karuk, Yurok, and Hoopa Valley Tribes and the



**The Western Klamath Restoration Partnership held workshops multiple times a year for over four years to complete the Plan for Restoring Fire Adapted Landscapes.** PHOTO BY EPIC




Tolowa Dee-ni' Nation. Use of controlled fire is spreading more widely today as understanding and cooperation grow. Traditional burning practices are helping to guide the strategies of our future.

Fire rejuvenates and balances forest ecosystems. The ecological benefits are immeasurable. The partnership aims to mitigate the current fire deficit by implementing their *Plan for Restoring Fire Adapted Landscapes*, which prioritizes areas most needed for treatment over 1.2 million acres. The most critical places are around towns, neighborhoods, and along strategic ridge tops and roads.

Implementation of the first demonstration project just began this year. The Somes Bar Integrated Fire Management project consists of nearly 50 miles of shaded fuel breaks and hand lines and 5,500 acres of manual, mechanical, and prescribed fire treatments, concentrated around small communities (for more on this project, see page 3). This and all future efforts will not only accelerate the development of fire-adapted communities and resilient forests, they will: integrate Traditional Ecological Knowledge; bring together food security, food sovereignty, and forest food and fiber resources; build local restoration stewardship and work force capacity; increase cultural and community vitality; include maintenance to uphold effectiveness; advocate fisheries restoration; maintain and restore viable native plant and animal populations; build capacity for practitioner-based research and monitoring programs; and include inter-generational education programs and activities.

Wildfires are sparking a national shift in law, policy, and opinion. Social change in coping with the climate and biodiversity crisis is beginning to

ignite. With the mission to revitalize our human relationship with fire and our landscape, WKRP is establishing the way to increase the pace and scale of place-based restoration. Recognized as a national model, the partnership is helping to facilitate changes in fire and land management for communities across the west that are living with fire.

 For more information:  
[wildcalifornia.org](http://wildcalifornia.org)

## Fire Prevention & Preparedness

### Sanctuary Forest

*By Anna Rogers*

This year we experienced what it's like to live in the shadow of a gigafire—a fire that burns over a million acres. What began as many small lightning-sparked wildfires rapidly grew into the massive August Complex fire—now the largest fire in modern California history. And it was right in our backyard.

Sanctuary Forest owns just over 800 acres of land in the headwaters of the Mattole River watershed. At the southernmost edge of the Pacific Northwest coastal temperate forest zone, the Mattole River watershed shows clear signs of climate change at work. Longer dry seasons and winters with below-average rainfall have left this watershed marked by a regular occurrence of disconnected and dried-up pools and salmon populations at the brink of extinction. In addition, past logging practices combined with fire prevention—as opposed to indigenous cultural burning practices—have resulted in a continuous forest structure with excessive fuels primed to burn with great intensity. The key to surviving and guiding

our forests and watersheds through this emerging hot, gigafire era seems to be a multi-faceted approach of action: fuels reduction and forest restoration, groundwater recharge, improved public infrastructure and ecological awareness, and a revival of cultural burning.

Sanctuary Forest is dedicated to stewarding the lands we own to protect natural and cultural resources. In 2016 a forest-thinning project took place at our 40-acre Whitethorn Grove property intended to reduce fuel loads, create a more fire-resilient landscape, and accelerate the return to old-growth conditions. In early 2020, Sanctuary Forest completed our first Beaver Dam Analog Project in Lost River, a tributary of the Mattole River. This project imitates the practices of beavers by creating small check-dams in the creek in order to slow and spread the water, reconnecting the stream to historical floodplains and increasing groundwater storage. In a September 2020 article published by National Geographic, a study showed that in addition to well-known ecological benefits like filtering pollutants, contributing to carbon sequestration, and improving fish habitat, beaver ponds and the resulting wetlands can actually slow and even stop the spread of wildfire. (<https://www.nationalgeographic.com/animals/2020/09/beavers-firefighters-wildfires-california-oregon/>)

Prescribed burning is an important tool that, when used properly, can significantly reduce the dangers of a wildfire during the dry season while simultaneously improving forest health and resilience. Sanctuary Forest conducted a public workshop in 2019, titled “Burning Around Your Home,” that visited the site of a prescribed burn implemented in 2018 near Shelter Cove. The hike focused




**A prescribed burn in action: this is the site of the burn that SFI visited on our hike. The burn was completed with the help of Humboldt County Prescribed Burn Association, Briceland, Telegraph Ridge, Honeydew and Shelter Cove Volunteer Fire Depts., CalFire, Prometheus Fire Consulting, UCCE, NCAQMD, and many others.** PHOTO BY MATT COCKING

on key components of prescribed fire planning, ecological benefits of fire, using prescribed fire to enhance defensible space, and fire as a part of grassland restoration. Participants had a chance to view the plant and animal responses to the prescribed burn, and to speak with the landowners and prescribed burn professionals. Sanctuary Forest is excited to get involved with the Southern Humboldt Chapter of the Humboldt County Prescribed Burn Association (HCPBA), and we look forward to learning how we can spread more awareness of the benefits of prescribed fire within our community.

Forest management efforts can help minimize the impacts of fires; however, we should be ready for fires when they inevitably occur here. Sanctuary Forest is helping to prepare our community in many ways with the aforementioned restoration efforts, and members have also recently become engaged in an

emergency water storage project on our Whitethorn Junction property. Over 350,000 gallons of water storage will be available for fire protection and drought resiliency purposes. Walker Wise, SFI Water Program Coordinator, states that the project will “be centrally located and have good access for multiple fire trucks,” and the project “should be operational by spring of 2022.” Some of this water would also be available to our Storage & Forbearance Program participants in the event of a water emergency.

With the trend of longer, hotter fire seasons expected to continue, large wildfires will increasingly involve our communities. Sanctuary Forest remains committed to collaborative preparation for when those fires arrive and to working across our watershed toward a more resilient landscape.

 For more information:  
[sanctuaryforest.org](http://sanctuaryforest.org).

## Turtle Island Restoration Network Purchases 4-Acre Property on San Geronimo Creek for Salmon Protection

**Salmon Protection And Watershed Network**

*By Todd Steiner*

Turtle Island Restoration Network recently acquired a four-acre property on the most important un-dammed headwater tributary of Lagunitas Creek, which hosts the largest spawning population of critically endangered Central California Coast coho salmon.

The purchase will allow the Marin County organization to promote the long-term survival of coho salmon and their nests, known as redds, and to improve water quality for the safety of residents.

“With one of the highest densities of redds found anywhere in the 101-square-mile watershed, this property has high ecological value for salmonids,” said Director of Watershed Conservation Preston Brown. “The permanent protection of this property will help give coho salmon a fighting chance at survival in the watershed and help maintain the rural character of the San Geronimo Valley.”

Measuring nearly .3 miles, the property in Forest Knolls includes both sides of two coho-bearing streams: nearly 1,000 feet of San Geronimo Creek, approximately 100 feet of coho-bearing Arroyo Creek, and the confluence of these two streams. Prior to being purchased for conservation, critical salmon habitat was destroyed by illegal structures and part of the riparian zone was being used to store



# Conservation Partner Organizations at Work

vehicles, heavy equipment, gasoline, and other toxics right on the creek bank.

“This property has one of the largest stretches of creekfront habitat of any residential property in the San Geronimo Valley,” said Preston Brown.

“There are many opportunities for clean-up, reclamation, enhancement, and restoration necessary for the continued survival of coho salmon.”

In addition to removing and restoring the polluting storage area, the acquisition provides for permanently protecting intact riparian habitat and restoring destroyed habitat by removing unpermitted structures such as garages, buildings, concrete pavers, retaining walls, and fences and replacing with riparian habitat. The restoration will also include removing the flash-board seasonal dam buttresses, an old well and pump

house; cleaning up and removing car parts and other metal debris in coho spawning reaches; stabilizing banks; creating floodplain and placing large woody debris in the creek; and retiring all riparian and other water rights.

“We will take down unpermitted structures, remove invasive plants, and restore the damaged creekside riparian habitat by planting redwood trees to sequester carbon and fight climate change,” said Native Plant Nursery Manager Audrey Fusco.

Since the listing of Central California Coast coho salmon under the Endangered Species Act in 1996, their population has continued to dramatically decline, and the fish are now considered close to extinction. Marin County’s population of coho salmon is one of the strongest remaining in California and critical to the recovery of

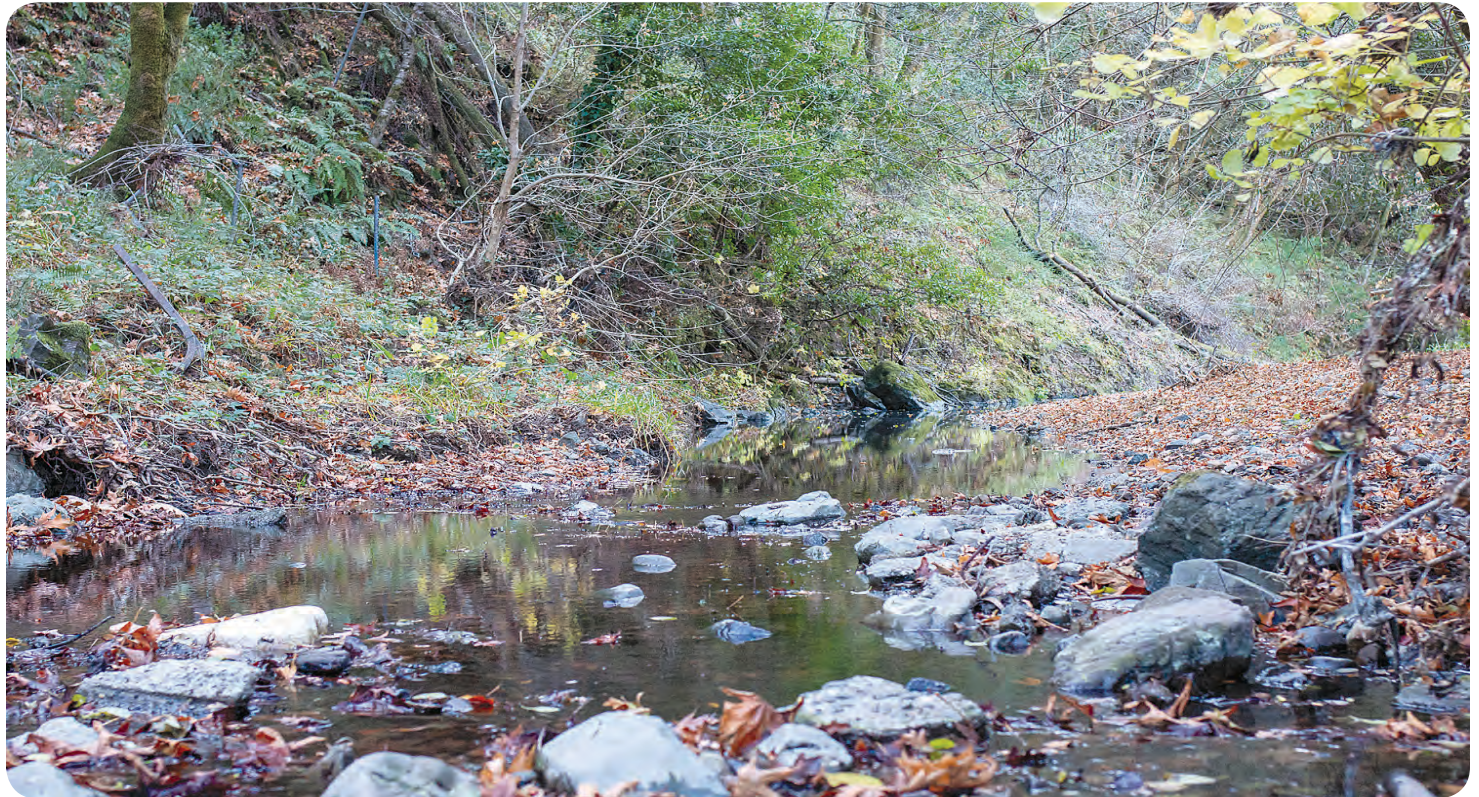
the species throughout Central California, but it remains severely threatened from past and current development.

SPAWN continues to pursue litigation against Marin County to ensure strong regulations and adequate enforcement of creekside coho habitat.

The house on the newly purchased property is being used to expand SPAWN’s residential internship program for recent college graduates, and as affordable housing for staff.

To learn more about SPAWN’s residential internship program, visit [seaturtles.org/about-us/internships/](https://seaturtles.org/about-us/internships/)

🌲 For more information: [seaturtles.org/our-work/our-programs/salmon/](https://seaturtles.org/our-work/our-programs/salmon/)



**A portion of San Geronimo Creek purchased for protection and restoration by SPAWN.** PHOTO BY SPAWNUSA.ORG



# Luna: A Love Story of Protection, Wounding, Healing

## The Women's Forest Sanctuary

By Susan Werner

"Our mind is good at getting us to think small. But I have found that we will do for love that which we don't think possible. So the question to ask ourselves is 'What do I love?'" Julia Butterfly Hill

As part of our community efforts to protect California's legendary Redwood Coast, members of The Women's Forest Sanctuary had the honor of an escorted visit to meet Luna, a 1000-year redwood in Humboldt in July of 2019. Julia Butterfly Hill, with the support of Earth First!, began living on a platform in Luna's branches in 1997. Julia brought attention to the plight of ancient redwood forests and the urgency of protecting them. The forest protection movement's perseverance paved the way to a settlement that spared Luna's life. Julia's feet touched the ground again in 1999.

A year later, a chainsaw attack left a 3-foot gash halfway around Luna's trunk. People of different backgrounds and views connected and offered structural and biological responses: steel brackets, guy-wires and herbal remedies. Predictions of die-back have been replaced by Luna's green new growth. Prayers for and attention to Luna continue worldwide.

### How I Met Luna: Wounded and Healing

As our group drew near to Luna, I moved to the front, sensing her presence. Eager to meet her, my steps quickened and my heart beat rapidly. Suddenly I heard someone shout and I felt jangled and feared I was astray. I turned my back to



Pictured at the base of Luna from left to right: Sanctuary Forest Board Members Stuart Moskowitz and Janice Parakilas, and Women Forest Sanctuary members Susan Werner and Robin. PHOTO BY SUSAN PARSONS

Luna. Instantly I recognized that my inner knowing had guided me directly to her. Turning again, my gaze met Luna intently. I fell onto the ground before Luna and wept. The redwood duff absorbed my tears. As pain held in my body softened, I felt filled with warmth. Inconsolable sorrow and disconnection dissolved. I stood aligned and strengthened in communion.

### Learnings from Luna and her Legacy

Luna's protection highlights the value of community participation and support. Luna's wounding provided an opportunity for an outpouring of love, and remedies that promoted healing. Luna's resilience

exemplifies our capacity for healing personal and collective wounding. May we each take part in healing separation and restoring life-giving connection. Blessings for all that is made possible through human and natural world communities working together.

Information about Luna is available through Sanctuary Forest, which monitors the Luna preserve.

We thank Luna's caretaker, Stuart Moskowitz, for escorting our visit to Luna.

For more information:  
[www.womensforestsanctuary.org](http://www.womensforestsanctuary.org)  
and [sanctuaryforest.org](http://sanctuaryforest.org)



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# Klamath River Day of Action

On October 23, 2020, tens of thousands engaged on social media supporting the call for Klamath dam removals, using hashtag #UnDamtheKlamath. That same day, over ten COVID-safe rallies were held in cities and towns demanding that Warren Buffet, the owner of PacifiCorp and the Klamath River dams, keep his promise to remove the dams. The day of action was sponsored by members of the Karuk, Yurok, Klamath, and Hoopa Valley Tribes, fishermen, Klamath River users, and non-government organizations from throughout the nation.


"PacifiCorp committed to taking down the Klamath River dams by 2020. They collected the money to remove the dams and received state permits for dam removal, but now claim the deal is not good enough," said Regina Chichizola from Save California Salmon. "Buffett is the fourth richest man in the world. One of Berkshire Hathaway's top shareholders is the Bill and Melinda Gates Foundation. Gates is the second richest man in

**Protesting for the  
immediate removal of four  
destructive dams on Oct.  
23, 2020 at the State  
Capitol, Sacramento**  
PHOTO BY VIRGINIA HENDRICK



the world. The nonprofit charged with removing the dams has already developed the most comprehensive liability protection packages for any dam removal project in history. We will not allow them to act like upstanding members of their own communities, while they destroy ours."

**Help keep the pressure on Warren Buffet and PacifiCorp to remove the Klamath dams as promised.**

 Visit [californiasalmon.org](http://californiasalmon.org) to get involved, and sign the petition at <https://tinyurl.com/undamtheklamath>.

To support the printing and distribution of this news magazine, please send your tax-deductible contributions to Trees Foundation, 439 Melville Road, Garberville, CA 95542