

Trees Foundation | Fall 2024

Forest and River News

Grassroots Conservation & Restoration
in the Redwood Region

Success!
Salmon are Returning!

**Celebrating Culture
& Community**

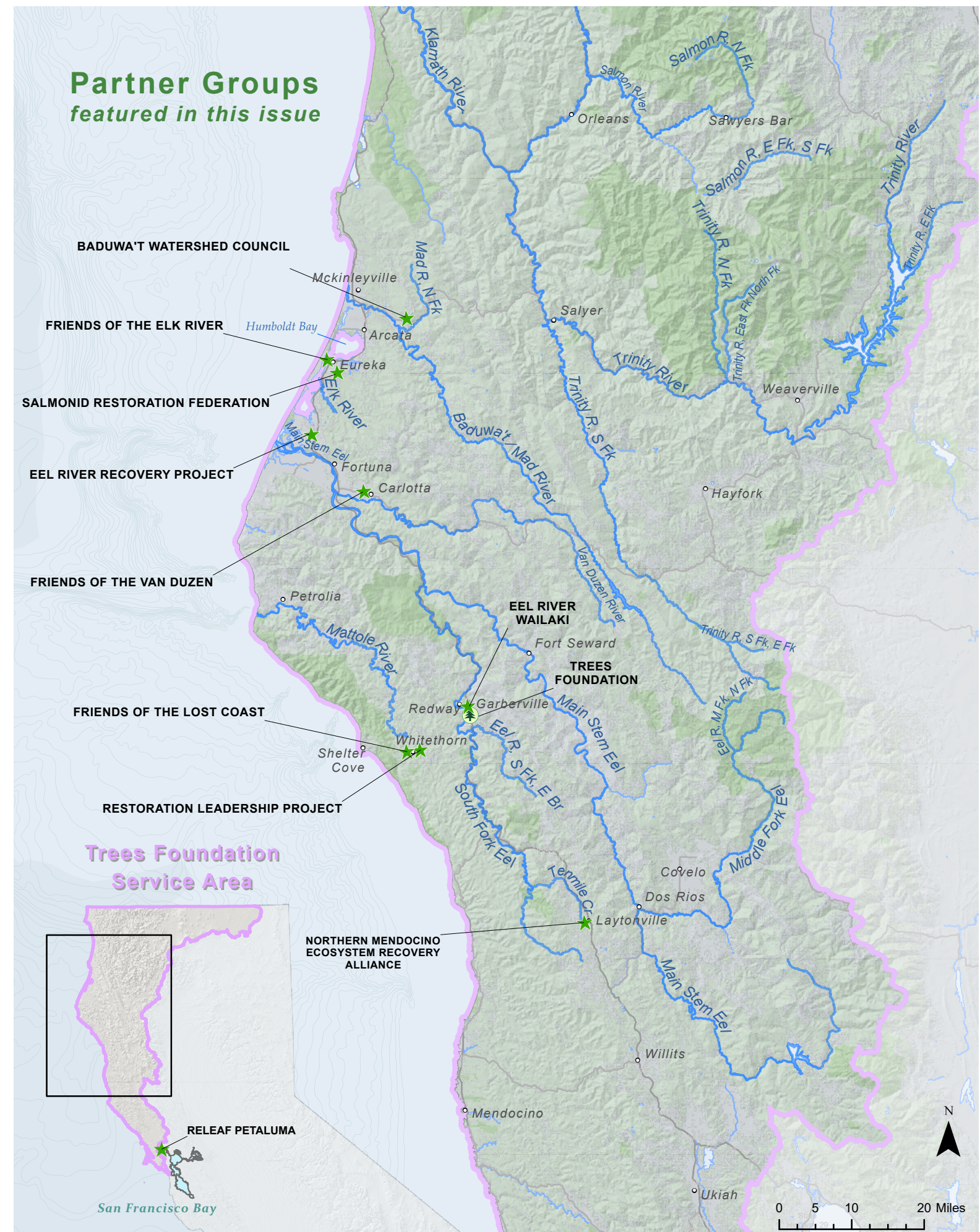




**For the Community,
Trees Staff and Board**

Table of Contents

Success! Salmon Returning	4
SRF Marshall Ranch Update	
Salmonid Restoration Federation	
Cereus Fund Project Report	6
Salmon Run at Loleta Elementary	
Friends of the Van Duzen	
Celebrating Culture & Community	10
ERW's First Big Time Event	
Eel River Wailaki	
Community Collaboration	12
Forest Health and Watershed Restoration	
NMERA & ERRP	
Baduwa't (Mad) River Fish Count	16
Baduwa't Watershed Council	
Welcome to Our New Partner Group	19
Pathways of Purpose	
Green Reads- Poetry	20
Eel River Recovery Project Report	22
Plant Notes	28
Living with Fire	31
Diggin' In: The Richard Gienger Report	34
Conservation Partners at Work	42



MAP CREATED FOR RELEAF PETALUMA BY TREES FOUNDATION GIS SPECIALIST CULLEN CRAMER

Success! Salmon returning

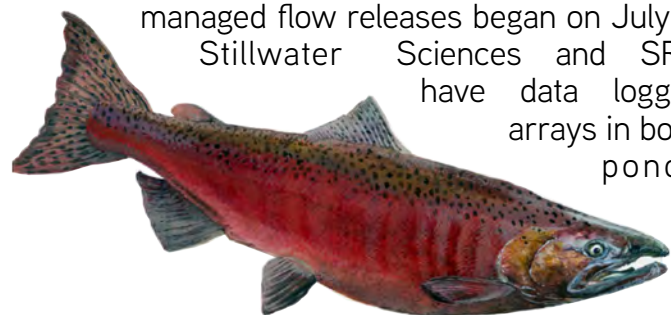
SRF Marshall Ranch Update

Flow Augmentation Season Underway

In the summer of 2023, Salmonid Restoration Federation (SRF) constructed two large off-channel ponds at the historic Marshall Ranch in Redwood Creek, a tributary of the South Fork Eel River. The Marshall Ranch is the largest contiguous private holding in Redwood Creek and is fully protected under a conservation easement. This working ranch has been in the Marshall family's ownership since the 1800s and is protected in perpetuity. Utilizing conservation "envelopes" for restoration opportunities such as this flow-enhancement project that includes the ten million gallons of winter water storage between two off-channel ponds and over 100,000 gallons stored in water tanks plumbed for fire-fighting emergencies. The purpose of this project is to release cool water into Redwood Creek during the five-month dry season to benefit threatened salmonids and other aquatic species. The flow releases will benefit the mainstem of the creek from the Marshall Ranch in Briceland, all the way to the confluence with the South Fork Eel River in Redway.

Both ponds filled in late January 2024 and managed flow releases began on July 1.

Stillwater Sciences and SRF have data logger arrays in both ponds



to measure water level, temperature, and dissolved oxygen. SRF is also measuring the water temperature at the release point, upstream and downstream of the release point, and turbidity. Our target flow goals are to contribute 30 gallons per minute of cool water to Redwood Creek that is suitable for coho salmon. Water is being released from the West pond (the lower pond adjacent to Redwood Creek) and sent through the cooling gallery which passively cools, slows, spreads, and sinks the water on its path to the creek. The cooling gallery was an innovative way of adding ancillary restoration benefits by treating the deeply incised channel by filling it with rock, boulders, and rock armor to slow water and minimize sediment transport. The cooling gallery has effectively reduced water temperature from 76 degrees (the current temperature in the West pond) to 61 degrees at the release point which is cooler than the surface water in Redwood Creek. The temperature in the West pond is much higher than we had hoped because the pond did not stratify as anticipated so the cooling gallery has been a significant feature in the flow augmentation regime.

Fortunately, the East pond (upper pond) did stratify as anticipated and the water at the bottom of the pond has consistently stayed below 60 degrees. One difference with how the water behaved is that the West pond did

not have a gravel liner over the black geotechnical fabric so temperatures were warmer. For the East Pond, we used native material on site to cover the liner in order to maximize its lifespan. Although it made sense to utilize surplus native material, there were fine sediments, and the project team thought it was best to see how the native gravel mix worked before also lining the West pond.

Assessment and Adjustments

Throughout the winter, the West pond appeared to have superior water quality and the East pond had suspended sediment and some areas where gravel slipped during the first heavy rain. Ultimately the greater depth and even the suspended sediment of the East pond may have contributed to the cooler water temperatures.

This summer, at the end of the flow augmentation season, we will cover the liner in the West pond with screened native material and clean gravel which should mitigate the water temperature issue. Fortunately, the cooling gallery has served to reduce both water temperature and turbidity and the released water is both cooler and less turbid than current Redwood Creek surface water conditions.

Other construction elements this summer include installing the super valves and instrumentation that will allow us to program



releases and access real-time data remotely; the construction of the 90,000-gallon steel tank; and fencing at the end of the construction season.

Snorkel surveys were also conducted on July 25 downstream of the flow augmentation site.

This year, we observed a significant increase in both pool size and salmonid abundance compared to the previous two years of surveys. In the July 2023 survey, only one coho was noted at the same stream sites. In contrast, this year's survey revealed several hundred juvenile coho.

In addition to the Marshall Ranch flow augmentation project, SRF has designed five Storage and Forbearance projects downstream of the Marshall Ranch to ensure that the flow releases remain instream for multiple beneficial uses.

If you are interested in learning more about this project, please visit

<https://www.calsalmon.org/programs/marshall-ranch-flow-enhancement>

Water is released from the West pond to the cooling gallery which cools, slows, and releases the water into Redwood Creek. Despite the high water temperature in the pond, the water released from the cooling gallery is approximately 60 degrees and suitable for juvenile salmonids.

Project Reports Cereus Fund



Salmon Run at Loleta Elementary

Article and Pictures by Sal Steinberg, Director Friends of the Van Duzen River

In 2024 Friends of the Van Duzen River (FOVD) worked with the 3/4th grade class at Loleta Elementary School under the guidance of teacher Kurt Rasmussen from March through June.

FOVD has two major goals: preserving the salmon run and training young scientists. Special thanks to the Trees Foundation and the Cereus grants for these opportunities. Loleta Elementary also shared matching funds for Salmon Run.

In April Eric Stockwell, one of the leading experts on the salmon world, came to Loleta Elementary School for a guest lecture. He gave a fabulous slide show presentation sharing his salmon videos and adventures in the Eel River Valley. Students loved the lesson. As part of the Salmon Run project, every student in the class wrote an acrostic poem for each of the salmon cycles.

We also brought artists into the class. FOVD is a big believer

in Ecology and Arts, a concept developed by a fellow member of FOVD, Barbara Domanchuk. In coordination with the Humboldt County Office of Education, Barbara came to Kurt's class to do Salmon Prints. To assist her in this process with 21 students, Abbie Perrott, an established artist and former employee of Loleta Elementary School who drew murals on many of the hallway walls, came to work with the students. It was a magnificent day for all the kids. The salmon prints created were beautiful!!!



Abalone Shells by the salmon fish tank



Salmon Print by Taylor and Kurt

From the book Whole World Fun Eco Activities by Christopher Corr, we utilized the sections called "Eco Facts" to share information about the wonders of the world as well as the devastation that humans have created. We feel it is essential for the next generation to learn about their local environment in order to encourage them to become stewards of the Planet Earth! We also taught the concepts of animal vulnerability and what it means to be endangered or extinct within the context of our local species. We analyzed the many dangers to the salmon and the positive impact of taking down the Klamath Dams. We hope some of the Eel River dams will follow. We discussed the impacts on fishermen and the closing of the crab season in Humboldt and the abalone season in Mendocino. Our world needs repair and teaching children these realities is necessary to illuminate the changes needed to improve our planet and our lives. In honor of these lessons, FOVD gifted each student an

abalone shell to take home. In class, we shared our impressions of the images inside the abalone and drew the designs with oil paint.

Working with the County Office of Education, Kurt's class raised steelhead eggs and released them into the Mad River in late May. Students had the opportunity to watch the salmon cycles from egg to alevin to fry and to return them to the Mad River, their natal stream. This program is one of the highlights of science education and FOVD has been active in this learning process on several occasions. (Special thanks to Jim Stemach who coordinates with the teachers establishing the fish tanks in the classroom and then



Salmon Release at Mad River Hatchery in King Range National Conservation Area

guiding the students with the release and tour at the Mad River Hatchery)

Following our fish release in May, I taught a final class with students sharing their observations, and emotions, and learning from the experience of raising and releasing the steelhead. I asked them, "How did it feel to release the salmon into the Mad River?" I was surprised when the dominant answer was that they were sad

to give up their connection to each fish. We all feel fortunate to have developed this close relationship with the salmon world.

(To see more of Eric's videography go to www.fovdl.org. Eric also contributed the cover photo, the preface, and a poem for the book *Eel River Expressions: Poems by Students from Loleta Elementary School* published in 2019)

Salmon Time: Be the Fish

I watch the salmon
So carefully
So lost in watching
Its beautiful colors
So deep into watching
Whoa!

I'm suddenly in ice cold water
Swimming so gracefully
With so many other fish
It's amazing!

Poem by *Leslie Castillo*, an 8th grader at Loleta Elementary in the 2019 book *Eel River Expressions*.



Celebrating Culture and Community

Eel River Wailaki's First Big Time Event

Eel River Wailaki (ERW), a non-profit group of Wailaki descendants, recently took a big step in our mission to teach others about our rich language, culture, and history. On May 25 and 26, we held our first-ever Big Time event, a gathering to celebrate Wailaki and other Native American cultures. Planning the event was challenging at first, but we were amazed by the support from teachers, vendors, volunteers, and sponsors who were eager to join in.

The natural beauty and spaciousness of the Southern Humboldt Community Park was ideal for our gathering, and we're thrilled to announce that we'll be returning there next summer for our second Big Time. We'll post the 2025 dates on our 'Friends of the Eel River Wailaki's' Facebook page in the coming months.

Our first day featured inspiring stories and songs from community leaders Dr. Lyla June, Desirae Harp, and Good Shield Aguilar. They shared valuable insights on Native community building, food independence, and activism. We were thrilled that these speakers stayed to take part in various workshops and even came back for Sunday's program, which included a wonderful variety of traditional dance groups from all over northern California.

Other popular activities included Ben Schill's fascinating Wailaki history and storytelling, and an educational cultural fire walk. During the walk, dozens of attendees visited an area of the

park where our Wailaki Cultural Fire crew and partners are bringing back traditional Native fire practices. They got to see firsthand how these practices are affecting the local culture and environment.

We had a great turnout, with close to 200 people on Saturday and 298 on Sunday. Considering how people came and went throughout both days, we estimate that over 500 folks joined us for our first Southern Humboldt Big Time. We were delighted by how



Eel River Wailaki Board Members and family at the first ERW Big Time event at the Southern Humboldt Community Park from left to right. Kenny Chadbourne, Shii Tuii Chadbourne, Traci Speelman, Tana Carrico, Natasha Carrico, Melissa Sutherland and Katie Speelman.

many people took advantage of the many hands-on workshops offered, including soapstone bead making, net making, and fire starting with Tamara Wilder of Pyrotechnics; flint knapping with Bruce Goulette; and plant identification with Cassandra May. Many people also took part in basket weaving with Tana and Natasha Carrico, beading demonstrations with Julie Lungi, abalone pendant crafting with Redbird, and how to make manzanita cider and pine nut bracelets with Tek Tekh.

Our ERW board members and families worked tirelessly in the kitchen, preparing nearly 600 servings of frybread, also called Indian tacos. This deep-fried white flour bread can be eaten plain, with sweet toppings, or as part of a savory taco. When asked about its importance, we explained that while not a traditional Native food, frybread became a survival food in the 1860s. It shows how our ancestors adapted during tough times of forced relocation when the U.S. government disrupted our traditional food systems and gave out white flour instead. Today, frybread connects us to our relatives and reminds us of what they went through for us.

As we reflect on our first Big Time, we're filled with gratitude for everyone who joined in and supported us. This event not only celebrated our cultural heritage but also helped build connections and understanding among all who came. We're excited to keep this going and create more meaningful experiences in the years ahead.

The Eel River Wailaki would like to thank the following organizations for all their support, we could not have done this event without them: The Southern Humboldt Community Park, The State Coastal Conservancy, Trees Foundation, Seventh Generation Indigenous Fund, North Coast Repertory Theater, Mendocino Community Foundation, Humboldt Area Foundation,



Basket weaving class Shayna and Tina Stillwell and Tammy (Chadbourne) Heryford

John and Cyndie Hull, the Hurlbutt Ranch and The Branded Buckskin. Thank you to all the Vendors, True Value, Bigfoot Burl, and Sylvandales for their donations as well. We would also like to thank Katie Speelman, Shii Tuii Chadbourne, Kerry Reynolds, Laura Cochrane (Executive Director of SHCP),Tana Carrico, Emily Ficklin-Wood, Georga Burns, Katie and Jacob McMahon and family, Melissa Meath, Cassandra May, Mazacuauhtli Xavier Burola, Bryer Whetstone, Brian Speelman, Christi Kennedy, Leevi Chadbourne, Brittnee Barber, and the Southern Humboldt 4-H group for all their help during the event.

For more information visit our Facebook page: *Friends of the Eel River Wailaki's*



Pomo Joe (with hand drum) Kenny Chadbourne, Tana Carrico, Traci Speelman, and Natasha Carrico

Opening ceremony for the second day of the Big Time, Traci Speelman sings a song of healing, which she says she “ wrote for our land, water, and people in the Wailaki language ”

Community Collaboration

A CAL FIRE forest health grant brings together a team of stewards, visionaries, and practitioners focused on improving ecological function of the Tenmile Creek Watershed

By Cheyenne Clarke

The Eel River Recovery Project (ERRP) has been at the forefront of ecological restoration and community engagement in the Tenmile Creek watershed since 2018. Focused on erosion control, water conservation, riparian restoration, and forest health, the ERRP has made extensive efforts over the past five years to connect with landowners in the Laytonville area. The recent awarding of a CAL FIRE Forest Health Grant marks a significant milestone in these ongoing efforts, bringing together a diverse team of local stewards, visionaries, and practitioners to address the pressing ecological challenges facing Northern California forests and watersheds.

In 2023 ERRP received fiscal support from the North Coast Resource Partnership (NCRP) to

hire Mark Andre of BBW Associates(Forestry Consultants) as a grant writer. His expertise, combined with the tenacity and vision of ERRP managing director Pat Higgins, led to the successful acquisition of the CAL FIRE Forest Health Grant. Along with the coalescence of local talent that worked to shape the proposal, and formed the implementation team. This success was facilitated by ERRP's long-term efforts to build relationships with landowners in the Laytonville area, ensuring a strong foundation for the project.

A cornerstone of this project is collaboration, and it is through this aspect of bringing together an extensive team and network that this grant can be successful. The shared commitment of the Eel River Recovery Project, Northern



GRANT TEAM AND LAND-OWNERS GATHER ON JUNE 1, 2024 AT THE ERRP OFFICE IN LAYTONVILLE.



FIELD TRIP ON JUNE 1 TO SEE AN IN-PROGRESS PORTION OF THE PROJECT, LED BY BEN O'NEILL OF ELK RIDGE TREE SERVICE.

Mendocino Ecosystem Restoration Alliance, Elk Ridge Tree Service, Hybrid Indigenous Stewardship, Cahto Rancheria, Mendocino County Resource Conservation District, and TorchBarr, toward this project demonstrates the power of collaboration in achieving ecological and cultural restoration.

The award of this grant is crucial for several reasons. Firstly, the land and ecological systems need the care, stewardship, and fire management of the community to remain protected from catastrophic fires, improve watershed function, and be in the right relationship with the human inhabitants. Secondly, the Laytonville area, designated as low-income, stands to benefit significantly from forest health jobs, which can provide sustainable employment opportunities and promote a regenerative economy. Lastly, the local culture is in need of ecological and cross-cultural healing, which can be further facilitated through collaboration and respect for Indigenous practices.

As a restoration-based non-profit, ERRP is committed to fostering relationships with community members interested in enhancing the ecological function of their land. Under this grant, over 20 landowners, as well as

the Laytonville Rancheria, will receive a wide array of ecological treatments to improve forest health. The project emphasizes bringing together groups of landowners to create contiguous zones of impact, thereby maximizing the benefits of their collective efforts.

Studies have shown that over-stocked forests are increasing the risk of high-intensity fires, decreasing biodiversity, and reducing stream base flows. Without active stewardship, these conditions are unlikely to improve. The cessation of the use of good fire has led to over-stocking and increased or even catastrophic fire risk. Reintroducing low-intensity fire is essential, but this must be preceded by reducing fuel loads. To achieve this, ERRP will draw on the Traditional Ecological Knowledge (TEK) of the Cahto Tribe, the professional stewardship service of Elk Ridge Tree Service, and Hybrid Indigenous Services to restore forest and landscape health on over 800 acres, including the Laytonville Rancheria. This project aims to reintroduce low-intensity fire, reduce fuel loads, and enhance the overall ecological function of the watershed, running through 2028.

Collaboration with Elk Ridge Landscapes

Elk Ridge Landscapes, a key partner in this initiative, brings a wealth of experience in forest management and fire prevention. Founded on the principles of relationality to the forest and rivers, Elk Ridge Landscapes is dedicated to workforce development and building resilience against climate catastrophes. Elk Ridge Landscapes will play a crucial role in the implementation of the project, providing unique prescriptions based on land goals and visions. Their expertise in reducing small-diameter saplings, managing ladder fuels, and maintaining shaded forest floors will be instrumental in achieving the project's objectives. Their local forest crews are committed to fostering a culture of knowledge and spirit, driving a movement for forest and community health.

elkridgescapes.com

Collaboration with Hybrid Indigenous Services

Hybrid Indigenous Services (HIS) provides culturally appropriate land stewardship services focusing on land management, habitat restoration, and community engagement. HIS uses traditional ecological knowledge and modern methods, including prescribed burns, to restore and protect natural resources across California. Their team comprises professional land stewards and trained community members passionate about land stewardship, ecological restoration, and cultural preservation. Employing tribal members across California, HIS fosters a deep connection to the land and a passion for ecological restoration.

Cultural preservation is a critical component of the project. Vernon Wilson, an experienced cultural monitor and member of the Cahto Tribe, underscores the importance of honoring



Vernon Wilson sharing with the landowner and grant team the value of cultural monitoring and cultural repair.

and protecting tribal resources. He has been serving the region through his company, Wood's Tree Service, for the past 10+ years. With water at the center, coming to terms with how we got here, and working together to fix it, Vernon is focused on building trust and restoring tribal culture.

his-services.org

The Role of the Mendocino County Resource Conservation District

The Mendocino County Resource Conservation District (MCRCD) is a non-regulatory public agency that plays a vital role in this project as the fiscal sponsor. The assistant executive director, Joe Scriven said at a recent grant meeting: "The Tenmile watershed has some of the best potential to be restored within the county because the community and the tribe are motivated to focus on a greater good." The MCRCD is a very important ally in our region supporting the restoration of watersheds like Tenmile. Implementing local expertise into large-scale ecological restoration projects is one aspect that MCRCD is supporting on this project and in the region at large.

mcrd.org

The TorchBarr Initiative

Scot Steinbring of Torchbarr is serving this project as the burn boss for all fire-related restoration. TorchBarr is a 501(c)(3) organization that promotes prescribed burning as a natural way to support the landscape. The mission is to create a brighter fire future by building capacity, implementing,

The long-term vision is to bring about a region woven together by care for water and forest sheds, with a community that gathers to implement beneficial fire practices.

and advocating smarter, safer, and more economical fire management practices. TorchBarr's strategies include classroom education, hands-on training, and coalition building. They emphasize community empowerment, encouraging landowners to participate in prescribed burns and fostering a cultural change that supports fire as a way of life. Throughout this project, there will be opportunities for the community to engage with and learn more about prescribed fire.

torchbarr.org

Long Term Vision

The Eel River Recovery Project, through the support of this CAL FIRE Forest Health Grant, is leading a collaborative effort to restore forest health, enhance community prosperity, and build resilience against climate change in the Tenmile Creek watershed. By integrating traditional knowledge, modern practices, and community engagement, this project lays the foundation for a sustainable and thriving ecosystem in Laytonville's Long Valley. The long-term vision is to bring about a region woven together by care for water and forest sheds, with a community that gathers to implement beneficial fire practices. This vision includes respect and repair with Indigenous communities, clean water, highly functioning ecological systems, and economies rooted in restoration and regeneration.

eelriverrecovery.org
errpoutreach@gmail.com
nm-era.orgContact@nm-era.org

Baduwa't (Mad) River Fish Count

By Dave Feral

Summer steelhead (*Oncorhynchus mykiss irideus*) is an anadromous fish popularly known as rainbow trout. Though we call them trout, rainbows and steelhead are Pacific salmon and *Oncorhynchus mykiss irideus* are more closely related to Chinook (*Oncorhynchus tshawytscha*) and coho (*Oncorhynchus kisutch*) salmon. Many of us in the Pacific Northwest are familiar with the steelhead population returning to their native rivers in winter ready to spawn. However, our summer steelhead population follows a very different life cycle. Summer steelhead return to the Baduwa't watershed in the spring, climb to deep pools high in the cool canyons at the heart of the Baduwa't, and hold there, without feeding for months. They endure the lowest flows and the highest summer temperatures,

spawn in December, and finally either return to the Pacific for another ocean season or die!

During the summer of 2012 Baduwa't Watershed Council (BWC) reviewed the long-term Summer Steelhead Survey database that had languished for several years with no surveys conducted between 2009 and 2012. In the fall of 2012, BWC convened a series of meetings with local resource agency leads to discuss three critical topics:

- 1) The danger of extinction of Baduwa't summer steelhead.
- 2) The need to collect enough data to sufficiently evaluate population trends of summer steelhead population.
- 3) The need to organize and re-initiate efforts to survey Baduwa't summer steelhead on an annual basis, using consistent methods.

The results of our meeting led to our local agencies and associated basin stakeholders coming together to re-boot and re-structure the summer Steelhead survey methodology, protocols and procedures. We now have a ten-year data set consistently collecting data using these newly organized methods. The results of our efforts offer a consistent view of the adult Baduwa't Basin summer Steelhead habitat preferences.



Anadromous fish such as salmon migrate up rivers from the sea to spawn

PHOTO CREDIT NOAA FISHERIES

BWC efforts with regional partners in monitoring and genetic research of summer steelhead populations lead to the discovery that run timing in summer steelhead and spring Chinook is determined by a single tiny area of the genome in each species. This has researchers and conservationists concerned the early-return gene itself could be lost in watersheds where populations of premature migrating fish are extirpated, meaning extinct in a particular location.

Protecting Summer Steelhead

On June 16, 2021, California's Fish and Game Commission voted unanimously to list summer steelhead in four North Coast watersheds in the Eel, Mad (Baduwa't), and Mattole Rivers, and Redwood Creek — as Endangered under the California Endangered Species Act.

Recent findings from NOAA fisheries point out significant local impacts of climate chaos including reduction in average annual precipitation, which is altering stream flows,

and warmer ambient temperatures. Both pose significant threats to our summer steelhead populations. These impacts reduce survival rates due to reduction in suitable spawning, rearing, and holding habitats as well as hindering passage. Summer steelhead are particularly vulnerable due to their reliance on mainstem rivers during warmer months, which increases their susceptibility to habitat degradation.

Baduwa't Watershed Council organized the 12th annual summer steelhead population survey on August 7, 8, and 9th, with our basin partners at California Fish and Wildlife, NOAA fisheries, Green Diamond Resource Company, Blue Lake Rancheria and Wiyot Tribes, U.S. Fish and Wildlife, BLM, Baduwa't Wilderness Ranch, and a host of community volunteers. The summer steelhead population survey could not be conducted without the cooperative work of our Baduwa't Basin partners and volunteers.

These efforts are costly to Baduwa't Watershed Council and for the first time in 12 years we are



PHOTO COURTESY OF DAVE FERAL

Baduwa't Watershed Council efforts with regional partners in monitoring and genetic research of summer steelhead populations lead to the discovery that run timing in summer steelhead and spring Chinook is determined by a single tiny area of the genome in each species.

asking for help with some of those expenses. Even though the summer steelhead surveys are conducted by basin volunteers, BWC still has to cover the cost of insurance, equipment, and other overhead expenses.

If you want to help us continue the fish count by making a donation to Baduwa't Watershed Council you can find us online at baduwatwatershedcouncil.org or send a check to:

BWC P.O.B. 1252 Blue Lake, CA 95525.

To learn more contact us at baduwatwatershedcouncil@gmail.com or fisheries@baduwatwatershedcouncil.org



BADUWA'T WATERSHED COUNCIL



Welcome to Our New Partner Group

In August Trees Foundation staff met virtually with our new partners from Pathways of Purpose. Susanne and Aerin have such great energy, expertise and passion for working with young people and empowering the next generation of environmentalists and land stewards with creative programs and community partnerships. We are excited to be working with them and look forward to seeing all the great things to come from the seeds they are planting.

Pathways of Purpose (POP) empowers underserved youth and communities with our asset-based, STEAM educational and vocational programs. POP will address the growing risks of climate change, and social and economic inequities with movement building towards sustainable systems. Our current offerings are:

Sowing Seeds Media Class

Juneteenth Black & Green Zone

STEAM College & Career Pathways

Entrepreneurship Support

Educational Advocacy

Organizational Consulting

Strategic Planning & DEI

We're currently hosting an environmental justice storytelling class called Sowing Seeds: Coastal Ecosystems and the Environmental Sector. This is an expansion of previous media work our co-founder Aerin Monroe did with support from Save California Salmon. That work was entitled, Sowing Seeds: Racial Justice and the Environmental Movement. You can see that work here: <https://www.pathwaysofpurpose.org/media-work>

We are co-creating this environmental documentary series with underserved youth and young adult community researchers/fellows. We're interviewing some wonderful local leaders, scientists in the environmental sector, and TEK cultural bearers- including Lonyx Landry, Dr. Uribe, Ruth Wortman, Christa Rose Ungar, Dessa Gunning and others.

If you would like to connect with our team, please email connect@pathwaysofpurpose.org



Sowing Seeds Media Class participant Ceshan Lincoln (left) and POP fellow Tatiana Madriaga (right), learn about aquaculture at Sunken Seaweed.

PHOTOGRAPH CREDIT DR. SUSANNE SARLEY.

Poem Green Reads

Happiness

A Poem By Jerry Martien

A growth on the trunk of a redwood tree. A pattern we can't see the beginning or end of, not even when we think it's over

Beside the trail, a mile or so into the woods, more than ten feet thick at its base. Blackened by a long-ago fire, it's broken off about thirty feet up. Salal and huckleberry grow in its crevices, its blasted crown. Maybe a thousand years old, Bob said

He'd come up from Berkeley at the end of the 60's. Got a job with the valley's last little mill, then worked as a log scaler here and there after these trees became part of Headwaters Reserve. Somebody had clearly meant to cut it down: square holes for spring boards where sawyers stood, deep cuts on two sides. But they didn't drop it when they took the rest of the big trees. Maybe it was all those years of rain coming in that broken top, the wood rotted, its commercial value gone. I think that's what Bob admired about it.

We'd sometimes meet there along the trail. He'd be on a bike after his knees gave out, him and his dog Fox traveling the old logging roads. Fox was a rescue. They'd seen it all

Later it was a place I would end my walk. Press my palm against the weathered bone, feel the silence of the old forest. Turn around and head home

I met him not long after we moved to Elk River. Fire trucks had gone wailing up the road a few days before and we'd wondered where they were going. He said: My wife left me. My kid's not talking to me. My house burned down. I've never been happier in my life. By then I was seeing burls everywhere. Gnarly mutant lumps, sprouts growing into trees. Two, three, half a dozen big redwoods from a single stump. Copies of the old tree, still alive. From a forest of root, message and nutrient carried through time. A story we thought was over. So much gone, so little saved.



PHOTO CREDIT SARAH BROOKS

His place was just below the reserve, an open meadow along a bend of the river. A few apple trees, a two-story garage the fire didn't get. A little apartment upstairs with a few furnishings, some library books instead of the hundreds he'd lost. We'd drink tea, share the day's bad news. BLM's most recent management idea. That place on the trail he had told them would wash out. Humboldt Redwood Company planning to log that steep slope across the river. He gave me a copy of the timber harvest plan, but I couldn't see any way to stop it. All the agencies had signed off

Years later, I still stop beside the old tree. A monument to what's gone, we said. But maybe we were wrong. One day I had to pee and stepped off trail, where the public seldom goes, and saw

it: sprouting from the fire-scarred base, a century or more after some unimaginable force broke it off, years before Bob took his own life, something had said now

A young redwood, barely a foot in diameter, rising through the alders. Under the sheltering limbs of surrounding giants, also grown from burl. Already taller than its ancient grandmother, a tree as recent as this remnant forest meant to make us feel better about all that wasn't saved

You will say,

I've never been happier in my life.

AERIAL PANORAMA
BY THOMAS B. DUNKLIN

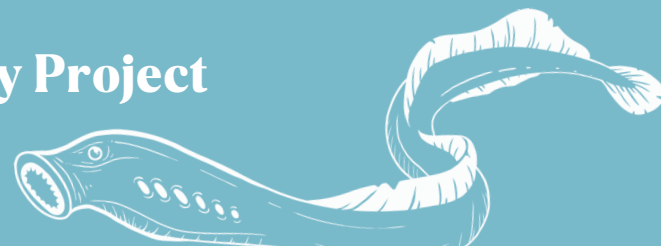


Jerry Martien is the author of three books of poetry, most recently *Infrastructure*. A Humboldt resident for more than half a century, he is a member of Friends of Elk River and frequently walks in its Headwaters Forest Reserve.





The Eel River Recovery Project Field Report



Fish Tales

Eel River Salmon and Steelhead Report

By Pat Higgins, ERRP Managing Director

Fall Chinook: The California Department of Fish and Wildlife now operates dual frequency SONAR devices, referred to as DIDSONs, to estimate the migration of adult salmon and steelhead on the main Eel at McCann and on the lower Van Duzen River. Cal Trout operates a DIDSON on the lower South Fork. Together these estimates indicate the basin-wide Chinook salmon return was somewhere between 15,000 and 20,000, which makes it the best return since DIDSON counts started in 2018. Longer-term trends that include data from the Eel River Recovery Project based on dive counts, volunteer observations, and spawning ground reconnaissance show the population has declined since 2012, particularly since the 2015 ocean warm water event known as the

Blob. The droughts of 2013-2015 and 2020-2021 also took their toll and the late onset of fall rains has become chronic.

October and early November rain once again failed to materialize in 2023, so Chinook access to major tributaries, such as the Middle Fork, Tenmile Creek and Outlet Creek was limited. While flows did allow some tributary access in late November through December, many more Chinook spawned in main Eel River channels. Luckily, there were no high flows that would wash eggs out of the gravel and sufficient high flows to allow passage of juveniles downstream to the estuary past predacious pikeminnow.

Jack salmon, which are males that come back after less than a full year in the ocean,

comprised 40% of the run this year, which means they had high ocean survival. Since salmon can return at ages up to five years, the high jack numbers may predict elevated abundance for the next three of four years, unless ocean conditions deteriorate. Survival of this year's Chinook salmon smolts should also be high, as northwest winds have fostered upwelling and likely productive conditions for survival and growth. The closed salmon sport and commercial fishing seasons in 2023 may be helping the rebound and fishing remains closed in 2024.

Coho Salmon: There are virtually no coho salmon that run up the main Eel, and the population on the Van Duzen is not known to be significant, but a substantial number of adult fish migrating up the South Fork are coho, especially from late December through January. Based on Cal Trout South Fork DIDSON counts, adult coho likely number somewhere between 2000-4000 adults. Pacific Northwest-wide coho salmon have been increasing in response to changing ocean conditions, while Chinook have declined. A positive sign for coho is the continuing high abundance of juveniles in upper South Fork Eel tributaries and their recent occurrence in Tenmile Creek tributaries. Cal Trout noted that early December 2023 DIDSON counts were high, and attributed that to a pulse of coho salmon adults moving upstream to spawn with late run Chinook. [The South Fork Eel River has the last functional population annually in the thousands in northern California and southwest Oregon and is; therefore, critical to survival of the species in the region.](#)

Steelhead Trout: Surprisingly, the South Fork Eel River winter steelhead population appears about equal to the number of adult coho (2000-3000) and main Eel DIDSON estimates ranged from 396 to 4032 from 2018-2024. Numbers are strongly influenced by flows since the river

is often too high for operation from January to April, so counts are biased low, and no Van Duzen steelhead estimates are available.

Although data are spotty, it appears that the winter steelhead population may be less than that of fall Chinook, which is surprising given the fact that steelhead are better leapers and can access tributaries where Chinook and coho can't. Anglers have complained about declining steelhead populations region-wide for several years, which may be due to the effect of drought on juvenile habitat and variable ocean productivity. Native resident rainbow trout are genetically identical to steelhead, and can help maintain the population even in years when flows are not sufficient for adult steelhead passage. High densities of young fish in South Fork and Tenmile tributaries in 2024 suggests that steelhead bounced back this year.

CDFW report that summer steelhead in the Middle Fork Eel and Van Duzen basins were 476 and 71 in 2023, which compares to long term averages of 726 and 107. Summer steelhead are at the greatest risk of extinction of any Pacific salmon species, as snow melt on which they relied is failing.

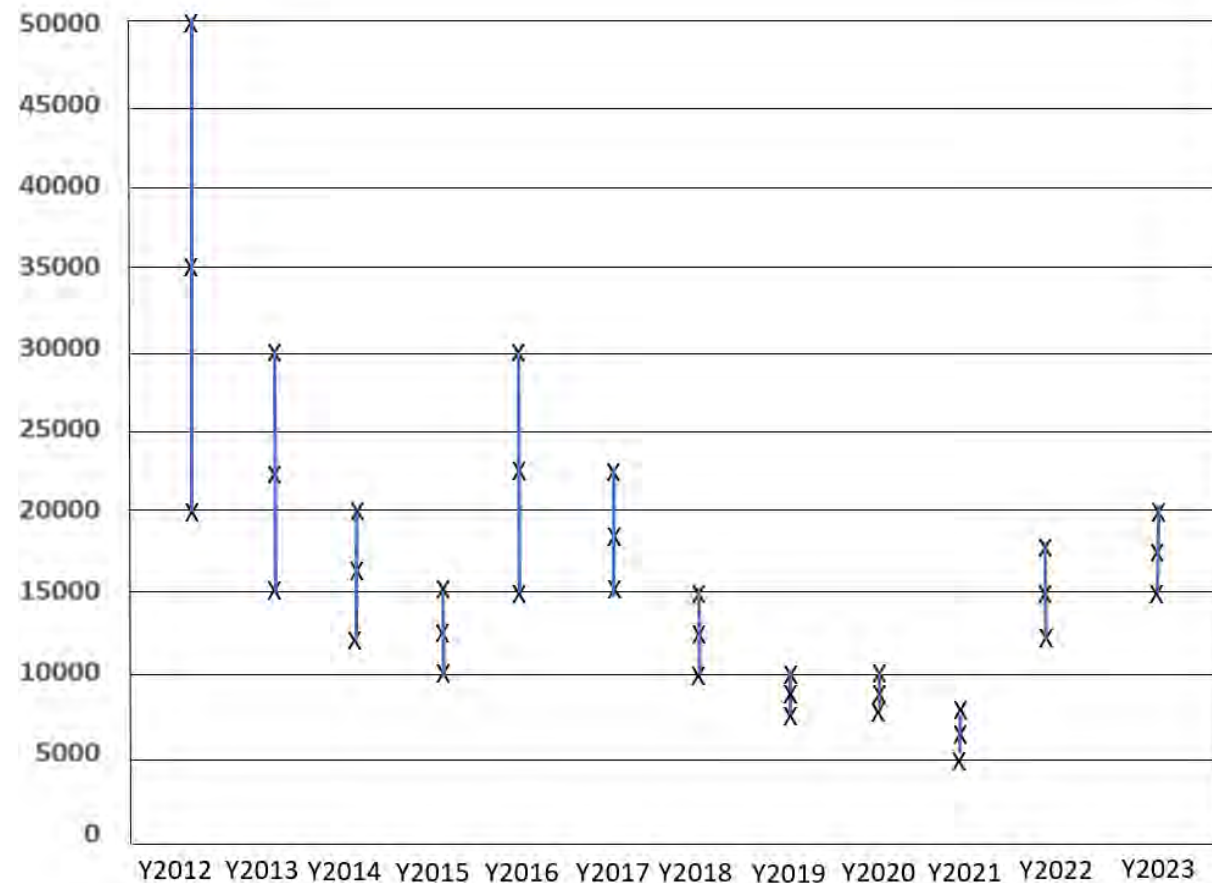


Chinook spawning at High Rock in lower main Eel. November 2013



Summer steelhead at the mouth of Woodman Creek among warmwater loving roach. June 2016

Eel River Fall Chinook 2018-2023



Native rainbow trout and/or steelhead juveniles in NF Eel River. June 2016.



School of stickleback on SF Eel below Big Bend Lodge.

2024 Pikeminnow Survey

Dive Survey Finds Pikeminnow Up Slightly in 2024

The Eel River Recovery Project (ERRP) has conducted surveys of the invasive Sacramento pikeminnow in a reach of the South Fork Eel River critical to native salmon and steelhead since 2016, and the ninth annual survey was held on June 26. The pikeminnow population was up from the 2023 total, but well below the levels during the drought of 2020-2021.

The dive usually takes two days and covers 12 miles of the South Fork Eel River from Rattlesnake Creek to Standish Hickey State Park, with Cedar Creek and the Gomde Monastery the halfway point. This year the dive was able to be carried out in one day because the number of volunteers allowed us to break up into two teams of six. Volunteers included divers from the University of California Berkeley, the BLM Americorps Watershed Stewards Program, Humboldt Polytechnic, and experienced ERRP volunteers. Post-doctoral researchers Gabe Rossi and Phil Georgakakos were each dive team captains, and they are both involved in a South Fork Eel River watershed-wide effort to suppress adult pikeminnow.

On June 26 a total of 1,665 pikeminnow over 4" were counted, which is up slightly from the 1,143 pikeminnow counted in 2023, but much

lower than the peak count of 6,369 in 2020. Divers also counted 946 juvenile steelhead and native rainbow trout, which was a substantial drop from the 2,362 found in 2023.

The UCB team revisited reaches where there were concentrations of large pikeminnow the day after the census to remove 22 fish with nets and spears, including 10 over 16" long that are the most voracious predators. The number of pikeminnow over 16" in the 2024 dive was 111, which is lower than the nine-year average of 137 and the peak count of 248 in 2020. Suppression efforts seem to be having an effect on larger pikeminnow numbers, which allows greater survival of native fishes.

The dive team camped along the South Fork Eel River at South Leggett and in the morning a pack of six otters made its way through the pool there. It is likely that the otter population has expanded to take advantage of the prey base that pikeminnow represent, but the otter population could still be sustained if the pikeminnow were suppressed because of the abundance of native fish species like suckers that they also eat.

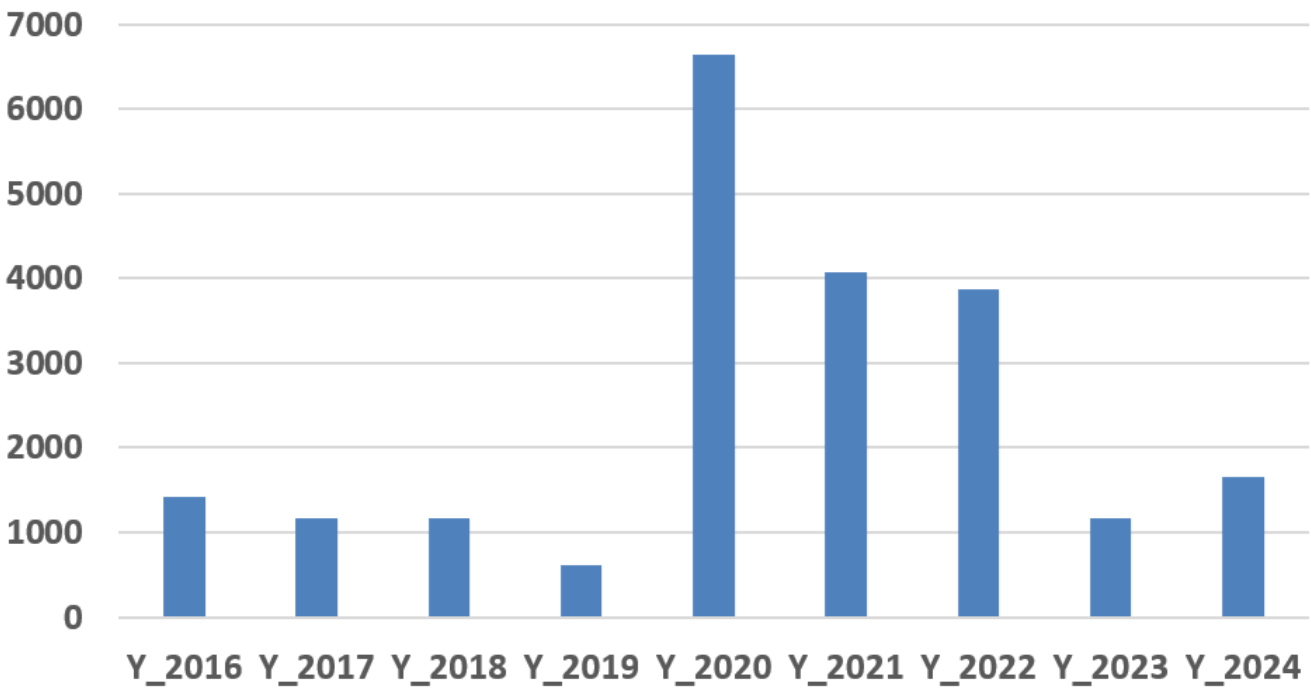
This is the second year of removal efforts led by the Wiyot Tribe in cooperation with UCB, Stillwater Sciences, and Cal Trout. The

California Department of Fish and Wildlife funds the project and provides permits for the use of spears and nets to capture adult pikeminnow. In 2023, the crews removed 636 large pikeminnow. While the number may not seem significant when looking at the pikeminnow population as a whole, data indicate that it might be about 22% of the fish over 16" in the South Fork downstream of Standish Hickey Park. To date, 246 large pikeminnow have been removed in 2024, but the team is just ramping up removal efforts now as flows drop and the fish are easier to capture.

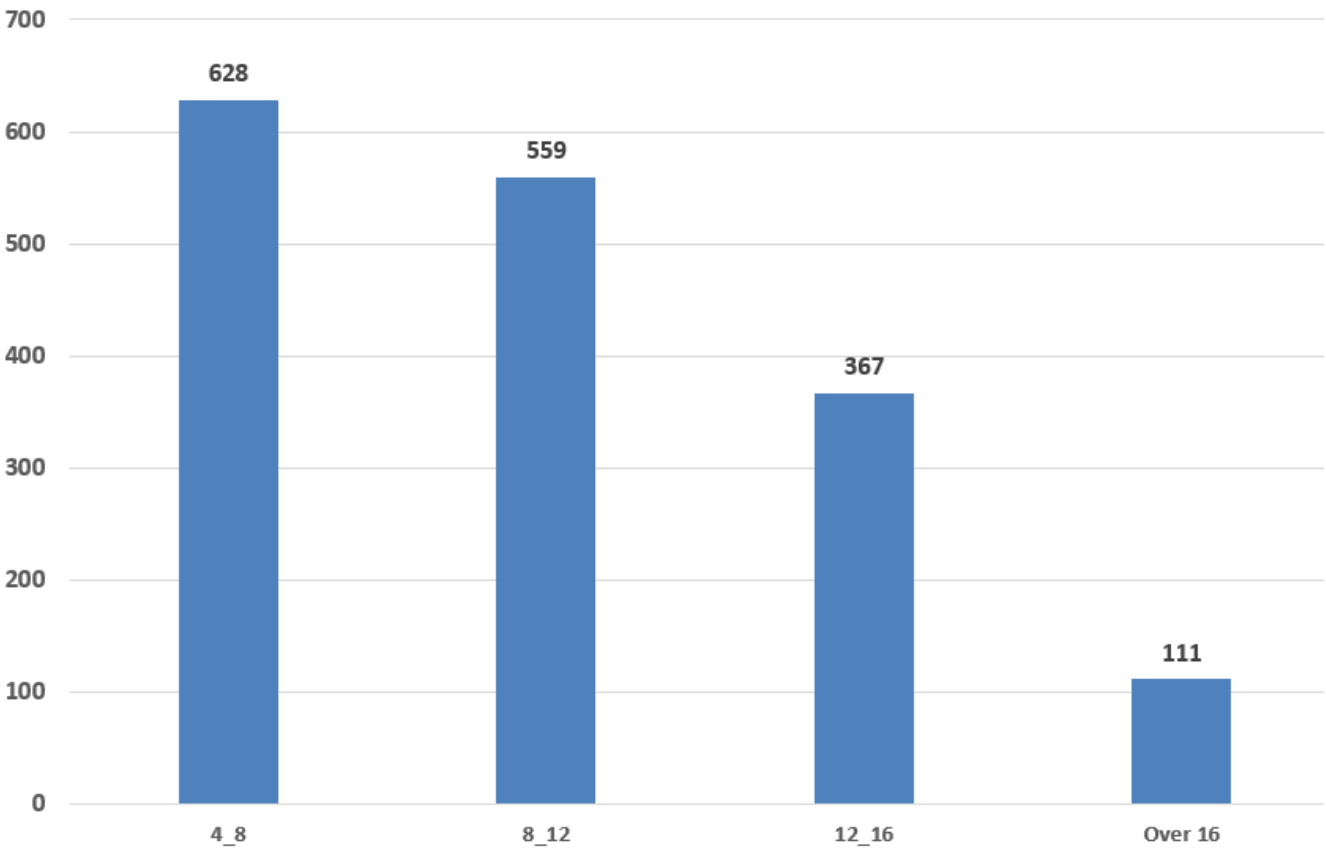


Pikeminnow between 12" and 16" milling at the front of a pool at Big Bend Lodge. June 2024.

Pikeminnow Total - SF Eel Index Reach 2016-2024



Pikeminnow Size (in inches) from June 2024 Dive



Long Term Trends

The long-term population trend suggests that wet years reduce recruitment and survival. However, because each large female pikeminnow has 15,000-40,000 eggs, the population can boom during drought years. Almost all large pikeminnow are females, and UCB has noted that many recently harvested fish are gravid and ready to spawn. This is similar to 2019 when high flows suppressed spring spawning, but adult pikeminnow were seen spawning in main river channels and tiny juvenile pikeminnow were everywhere in the Eel River. During high winter flows smaller fish could have been easily washed to the sea, but as the drought set in low flows all winter allowed high survival. An increase in the population from 614 in 2019 to over six thousand in 2020 resulted.

This indicates that suppression efforts need to be ongoing and expanded to the whole Eel River basin, as the pikeminnow can never be removed. Pikeminnow are not dominant in cold water reaches, so we can shift the balance in favor of salmon and steelhead by increasing flows and promoting the recovery of riparian zones in tributary basins. Although it is illegal to remove pikeminnow with spears, rural residents near remote reaches of the Eel River frequently do so. These are individuals who could participate in legal removal efforts. Annual removal efforts of fish greater than 16" could measurably decrease the number of these top predators and allow native fish recovery. A quote from evolutionary biologist Sir Julian Huxley applies: "Like it or not, we are in charge of evolution."



Plant Notes Mycotrophs

Most plants have green leaves. We humans usually associate the color green with plants. But did you know that some plants have no green parts at all? Mycotrophs are plants that have no green parts and don't make their own food, but get nutrients from mycorrhizal fungi

in the soil. Green plants are autotrophs and make their own food by photosynthesizing sunlight, carbon dioxide, and water into sugars. Mycotrophs 'steal' food from autotrophs by tapping into underground mycorrhizal fungi, which are themselves attached to the roots of autotrophs. In this way, mycotrophs, sometimes called myco-heterotrophs, gain nutrients from host plants. Note: there are also plants called mixotrophs, which do some photosynthesizing and some stealing to get their nutrition.

In Northwestern California, mycotrophs grow in the deep shade of the forest, where the leaf litter is thick and fungi abound. Like many perennial plants, mycotrophs go dormant in winter and push up new growth each spring. Unlike most perennials, mycotrophs have only roots underground and flower spikes above; there are no leaves or stems. Oddly, when the new flower spikes first poke out from the forest floor, they often look like mushrooms. Once they bloom, they will form



SPOTTED CORALROOT, *CORALLORRHIZA MACULATA*, IS IN THE ORCHID FAMILY. HERE YOU CAN SEE IT IN BLOOM, WITH THE SEED PODS FORMING. STRIPED CORALROOT LOOKS SIMILAR, BUT THE FLOWERS SPORT STRIPES RATHER THAN SPOTS.

fruits that contain seeds. Sometimes there is just one flowering spike and sometimes several come up together in one place. Three plant families containing mycotrophs that grow in Northwestern California are the Heath family (which also contains manzanita, madrone, and rhododendron), the Broomrape family (which contains mostly parasitic plants), and the Orchid family. A good place to see mycotrophs is on the Chemise Mountain Trail in the King Range National Conservation Area and early summer is a good time to catch them in bloom.

Here are a few examples with photos of mycotrophs that grow in Northwestern California:



SUGARSTICK, *ALLOTROPA VIRGATA*, IS IN THE HEATH FAMILY. IT LOOKS RATHER GHOSTLIKE WHEN THEY FIRST EMERGE, BUT AS THE STALKS LENGTHEN, THEY LOOK A BIT LIKE CANDY CANES, HENCE THE NAME SUGARSTICK.



CALIFORNIA GROUNDCHONE, *BOSCHNIAKIA STROBILACEA*, IS IN THE BROOMRAPE FAMILY. IT IS OFTEN OVERLOOKED BY HIKERS BECAUSE IT LOOKS SIMILAR TO A PINE CONE ON THE FOREST FLOOR.



PINEDROPS, *PTEROSPORA ANDROMEDA*, ALSO IN THE HEATH FAMILY, HAVE UPSIDE-DOWN URN-SHAPED FLOWERS THAT RESEMBLE THE FLOWERS OF MANZANITA AND MADRONE.

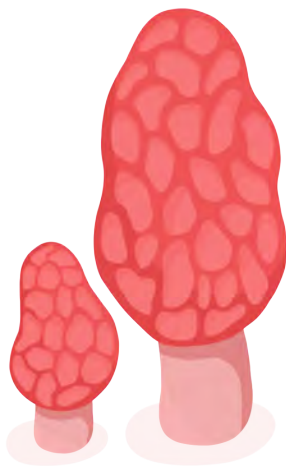


LEAFLESS WINTERGREEN, *PYROLA APHYLLA*, IS IN THE HEATH FAMILY. THE SPECIES NAME, APHYLLA, MEANS WITHOUT LEAVES.



SNOWPLANT, *SARCODES SANGUINEA*, IS A HEATH FAMILY MEMBER. IT GETS ITS NAME BECAUSE IT IS OFTEN SEEN POKING UP THROUGH THE SNOW IN THE MOUNTAINS. FLOWERS GIVE WAY TO PLUMP, ROUND FRUITS WHICH DRY TO DARK BROWN AND DISPERSE THE SEEDS.

Cheryl Lisin is a native plant enthusiast, landscape designer, and Vice President of Friends of the Lost Coast. 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.



Living with Fire Forest Health and Fire Resources Program Update

Phase Five of the Community Wildfire Protection Plan Implementation Program is coming to a close. All of our scheduled fieldwork, including Chipper Days and Defensible Space treatments, was complete by the end of August.

Trees Foundation did outreach and coordinated with residents and our contractor, Jonathan Lehman of Lost Coast Tree and Habitat, to complete 22 Defensible Space treatments on properties in Redway, Garberville, Benbow, and Salmon Creek. Some of these properties were at strategic locations in town, with more located rurally.

Before sending the crew out to complete each Defensible Space treatment, a Trees staff member visited for an initial site visit. During this visit, residents and Trees staff co-created a plan to make the property more fire-safe by reducing hazardous fuels within 100 feet of the home. Trees staff also provided a Home Risk

Assessment to residents, a tool adapted by the Humboldt County Fire Safe Council to educate residents about their risk and create a dialogue about ways to harden their homes against wildfire. Visit sohumfiresafe.org/protect-your-home for more home-hardening information.

Trees Foundation is proud to be able to help provide these greatly needed services for our community and we are looking for additional funding to continue this important work.

Support for these programs comes from the Humboldt County Department of Public Works on behalf of the Humboldt County Fire Safe Council and in partnership with the Shelter Cove Resort Improvement District, Trees Foundation, and Southern Humboldt Fire Safe Council. Funding for this program is provided by CAL FIRE's Fire Prevention Program through the California Climate Investments Program.

“With one day’s work, they transformed the place. At least for now, it’s been released from the creep of unwanted vegetation that might have burned us down. Beautiful trees remain overhead, and greenery below, but there’s less of a fuel ladder in between—no trunk-climbing ivy, drooping branches, or ten-foot-tall berry bushes. While never fire-safe (we do live in California), we are fire-safer now than we were two days ago. ”

Ray Raphael, long-time Redway resident

Shelter Cove Wildfire Resilience and Community Defense (SCWRCD) Project Coordination Team:

Tanner Speas, Project Coordinator

Michael Carter, Home Risk Assessment (HRA) and Coordination Technician

Lela Benson, Home Risk Assessment (HRA) and Coordination Technician

Allie Bauer, Home Risk Assessment (HRA) and Coordination Technician

Wildfire Defense Grant

By Michael Carter

The lack of responsible wildland management, record-breaking temperatures, and increased drought have generated a prolonged fire season and unprecedented fire behavior in northern California. Suburban communities have continued to be drawn into the wildland interface zones. However, the dynamic has changed to increase the probability of exposure to fire's complete and destructive force. The tragic reality of destruction caused by unsustainable land management has inspired us to take action. We have developed land management practices, landscape maintenance, and suburban development that mimics nature to create defensible spaces, ensure safety zones, hardened barriers, and escape routes. These are essential for our ability to thrive in this region where we seek sanctuary and call home.

The efforts of our municipal agencies have decidedly committed to serving our urgent needs. We are responsible for restoring our safe, healthy living environment. From this impetus comes -The Wildfire Resiliency & Community Defense Project.- The Shelter Cove Fire Department and the Shelter Cove Resort Improvement District have acquired grant funding from the US Forest Service and the Department of Agriculture's Farm Bill. Trees Foundation recently began to roll out the project to help empower every Shelter Cove resident to improve the safety of the entire community, right up to our front doors.

The opportunity for every property in a community the size of Shelter Cove to receive free assessment and fuels reduction assistance is unprecedented. Landowners need only apply and give permission for the work to be done and they will be able to reap the rewards of this grant-funded program. Local community members are employed by this program to answer your questions and help improve the safety of your home.

Fire, Air, Water, Earth

Fire, air, water, earth, plants, and animals. The foundation of all life hinges on an equal exchange among them. When the balance is disturbed by an excess in one area, the other elements react proportionately. Wildfire behavior has become extreme and out of balance. It's time to shift the balance. It's time to put Wildfire on a restrictive diet. The saying goes "The best time to plant a tree was ten years ago. The second best time is today." And the best time to make our community more fire-safe was before wildfire activity became excessive. Since that didn't happen, now is our optimal time for action.

Please reach out with any questions, to sign up go to the link here: <https://arcg.is/rjfv0>

Support from the U.S. Forest Service

For more information on any of these programs, email frc@treesfoundation.org



SHELTER COVE

RESORT IMPROVEMENT DISTRICT NO.1

FIRE, RESCUE, AND EMS DEPARTMENT



Wildfire Resiliency & Community Defense Project

The Shelter Cove Wildfire Resiliency and Community Defense Project is happening now! During the first phase trained technicians (who are also local volunteer firefighters with knowledge of fire behavior) will be conducting Home Risk Assessments on homes within the Shelter Cove community. These assessments are intended to be an opportunity for the resident to obtain information about how to strategize their efforts to protect their homes from wildfire. This visit will also be used to assess and coordinate FREE fuel reduction work that will be available through this grant program. That's right, the plan is to provide FREE fuel reduction work from qualified contractors to every Shelter Cove resident!



HOW TO SIGN UP:

use the online form at

<https://arcg.is/rjfv0>

or scan the QR Code below

There are many residents in Shelter Cove and although the intention is to help everyone, we are going to start with a simple online sign-up. We encourage you to get onto the schedule by filling out the Wildfire Resiliency and Community Defense Project sign-up form. You can access this by scanning the QR Code here, or using the online link: <https://arcg.is/rjfv0>

This is an exceptional project that is available to everyone, and is absolutely free. It is also remarkable in that when it is complete, every home in Shelter Cove will have received free hazardous fuel reduction assistance, and this is just the first phase. In the next phases, fuel reduction work will also be completed on the greenbelts and surrounding RID lands, making for a more wildfire-safe community!



FOR MORE INFORMATION:

This project is funded by the U.S. Forest Service, Department of Agriculture, Wildfire Defense Grant that was awarded as a result of the good planning and hard work of the Shelter Cove Fire Department and Resort Improvement District. Project coordination is being provided by the Trees Foundation for the Shelter Cove community. If you are interested in learning more you can reach out to the coordination team by contacting CoveDS@treesfoundation.org. You can also call the Trees Foundation office at (707) 923-4377 or the Shelter Cove RID office at (707) 986-7447.





Diggin' In The Richard Gienger Report

I'm starting with the normal encouragement to read my earlier Diggin'In columns for important context to give a better understanding of the complexities, and need for your involvement in the "situation today". Some of the continuing sagas needing your understanding, involvement, and support include modern management reform and co-management for Jackson Demonstration State Forest, a restart for the "Great" Redwood Trail planning and implementation, with particular focus on co-management and landback in the Eel River Canyon, the restoration and recovery efforts inherent, spectacularly on the Klamath, and elsewhere in California – with some new and continuing examples in NorCal.

"The Great Redwood Trail"

The entire proposed trail is from San Francisco Bay to Humboldt Bay, as well as other similar projects that are connected. You will have to do your own research on detailed Trail history and context. Short explanation: State Senator Mike McGuire authored a bill supporting the Rails to Trails program implementation on the RR right-of-way, 300 or so miles between the two bays. It has its own board, which is closely related to and relies on the California Coastal Conservancy for implementation. In a certain sense, there was no more permission asked for, and impacts considered, than the original grossly impactful railroad. There

was the assumption of win, win, win: turning the significant huge adverse impacts of the railroad into a scenic trail and recreational opportunity for regional, statewide, and beyond trail constituency.

Recent deadlines for comments on a Program Environmental Impact Report (PEIR) and on the April 2024 Draft Master Plan have come and gone. These apply to the Trail from the Mendocino/Sonoma County line to Humboldt Bay. Hard copies of the Draft Master Plan were not distributed to affected communities, and they were not available at schools or libraries. Much of the public and Tribal communities affected were, and are still significantly unaware of how this project will have a range of large significant adverse impacts. A major problem has been the failure to have Tribal communities in on the 'ground-floor' development of the concept and project, and meaningful participation since then. There is a large area that is controversial, especially in the Eel River Canyon from Dos Rios to Stafford.

I picked out a couple of comments I have made, and on behalf of Forests Forever:

"The scope of environmental analysis needs to be detailed and especially thorough given the historical, prehistorical, and geological/hydrological impacts on the proposed project area. Part of the establishment of scope is the thorough inclusion of the history and connection and stewardship of and



OVERLOOKING A WATERSHED OF TRIBUTARIES TO THE SOUTH FORK EEL RIVER IN NORTHWEST MENDOCINO COUNTY. A PROJECT FOR RECOVERY WORK IN THIS WATERSHED IS BEING PROPOSED BY RFFI

PHOTO CREDIT KAREN YOUNGBLOOD

by the peoples of the land and waters proposed for this project. These are the major/essential interested parties that should have the major determination of what are the acceptable scope and impacts of this proposed project. It basically needs a "restart" process that includes representatives from each of those Indigenous tribes whose ancestral lands are part of the proposed project area. Each of the potential adverse environmental effects listed in the NOP [Notice of Preparation] needs to be transparent and publicly accessible through "hard copy" and publicly available in libraries, schools, and print medium."

"One must note that government agencies have vast resources to allow regular participation in crucial environmental/social issues, while the Tribes and Indigenous representatives almost always do not. Their involvement should be at least parallel to what Fish & Wildlife, Water Quality, CalFire, and others are accustomed to."

I take it that the Project Plan Table lays out high priorities — if that is so for the Eel River Canyon Preserve and Emerald Waters Reserve, perhaps an expedited process reform could be focused there."

For more listen to Alicia Bales on KMEC: Episode 15 of her "Unmanageable" show, "Tribal Opposition to the Great Redwood Trail": <https://share.transistor.fm/s/c4677f04>

Native Health in Native Hands

nativehealthinnativehands.org

Jackson Demonstration Forest Update

The excerpt of my July letter below is a general summary of the situation. There is a new Chair of the Board of Forestry, Terry O'Brien, and Dawn Blake Board member [Hoopa Tribal member, PhD wildlife/Pileated Woodpecker, head of the Yurok Forestry Division] – and there may be a chance of some serious change. The CalFire and Industry grip is not trivial of course, but "perseverance furthers" and must be stepped up. Remember: fully support "modernization" of forest management and implementation of REAL co-management in Jackson, and as a model to be applied as appropriate throughout forests of California. The situation is crucial, forests today are not

a carbon sink, helping to slow down climate change, but are a significant carbon producer – and without significant change will continue to be so for decades.

Entitled “Past Due RESTART Obligation -- Must and Can Start Now” here is the excerpt of the letter sent to:

Board of Forestry & Fire Protection-Terry O’Brien(Chair), Elizabeth Forsburg Pardi(Vice-Chair), Rich Wade, Mike Jani, Katie Delbar, J. Lopez, Chris Chase, Ali Jahangiri, Dawn Blake – and Edith Hannigan EO & other staff

CalFire-Joe Tyler(Director), Matthew Reischman, Christine McMorro, Helen Lopez, Kevin Conway, Brandon Gunn and others

Concerns that are widely shared were certainly underlined at the Jackson Advisory Group (JAG) meeting and forest site visits/presentations this past Friday. Here’s a short excerpt of some of my thoughts and observations: “. . .briefly and partially and notably: included areas of what I would consider poorly thought out [or even “retaliatory”] burns on the Red Tail THP with high flames and adverse impacts. Unknown and/or questionable implementation of co-management principles seemed part of the field examinations. And saving the worst for last [end of the tour after 3:15] : presentation by the selected contractor to carry out management ‘modernization’ with co-management – organizational chart and schedule documents were passed out. Estelle Clifton is earnest and it can be argued has some competent folks on her team BUT the reality is a nightmare of a pragmatic, short-sighted, parochial, clamped-down process that ignores the necessity to lay out high aspirations and standards for a plan and implementation, with co-management. The reference, and emphasis, toward the end of her presentation on “business plan” should make CalFire/BoF/“Industry” quite pleased. Later, I

was asked if the JAG approved the contractor selection and process. I don’t think the JAG [or CalFire/BoF] had any notion that that was in the JAG ‘purview’ AND if they did, there was no JAG quorum for them to do anything yesterday.”

I should point out that, amazingly, you now have a Forest Biometrics Program. It should have been in place for decades This program, vital to real sustainability – and is part of the approach necessary for adequate reform in Jackson and statewide. See page 3 of the Director’s Report.

You have the power and resources to RESET/RESTART “modernization” of forest management and the inclusion of co-management in Jackson Demonstration State Forest – and by extension in the State of California – and the obligation to do so.”

Check out this report made to the Board of Forestry on 19 June 2024. Board and industry folks were wringing their hands over those facts. There are some smoke and mirrors details. Wade into it if you can, Search: Effects of Forest Management & Wood Utilization on Carbon Sequestration & Storage in California 19 June 2024, then click on headline test.

Go to Save California Salmon:
californiasalmon.org/

Go to Klamath River Renewal:
klamathrenewal.org/

Go to spectacular video of Iron Gate Dam reservoir drawdown:

<https://www.youtube.com/watch?v=Au-ZTepePv0>

A lot going on all over: The Forest Reciprocity Group, the Northern Mendocino Ecological Restoration Association, activities by multiple Fire Safe Councils, road associations, continued slate of restoration activities in

RFFI’s Usal Redwood Forest – maybe next issue we can catch up a bit.

Please help out where and when you can on all the issues before us. Check out the work of and other information for Sanctuary Forest, the Institute for Sustainable Forestry, EPIC, Forests Forever, Redwood Forest Foundation, Inc., and Save California Salmon

A long-time ongoing topic in this column has been AB 1492 [where did they come up with that number, eh?] which became law in 2012. It did a number of significant things, almost all of which benefited the timber industry: a cap on forest fire liability, longer effective period for harvest plans, no fees for review of Timber Harvest Plans [enabled by the public paid fees/taxes on all retail timber products], and the creation of a Timber Regulation and Forest Restoration Program/Fund. This Program/Fund was supposed to assist in the recovery and restoration of forests and watersheds – at least if you take intent language seriously. A main goal for industry was to “streamline” the timber harvest review and approval process. So, lo and behold, 12 years later, it still has not met the degree of demanded streamlining. Neither has it kept up on yearly reports, and funds have mainly been paying for additional state personnel -- not full and direct public and private engagement in forest and watershed restoration. In the middle of August a letter/email was sent out from the California Natural Resources Agency – asking your help and participation in attaining the degree of streamlining that industry demands. Please take the information and process seriously. The public trust realization and participation in actual forest and watershed recovery is up to YOU! Get in touch and PARTICIPATE.



Solitary Old Growth Redwood stands out in a South Fork Eel River tributary important to Salmon in Anderson Creek.

PHOTO CREDIT KAREN YOUNGBLOOD

Recommended books

Treaty Justice - The Northwest Tribes, the Boldt Decision, and the Recognition of Fishing Rights
by Charles Wilkinson

Thomas Merton in California - The Redwoods Conferences & Letters Edited and Introduced
by David M. Odorisio

A Life in History by Ray Raphael

Letter Excerpt from California Natural Resources Agency:

Quick reminder that we'll be holding the Lean 6 Sigma kickoff meeting on Monday, August 19 at CNRA Headquarters, and virtually for those who can't join us in person. This initiative aims to assess the current permitting process across multiple agencies, identify potential efficiencies, and ensure program effectiveness while maintaining environmental protections. Join us for an informative discussion on:

- The project's goals and scope
- Introduction to The NIVACK Group, our consulting partners on the project
- The Lean Six Sigma methodology we'll be employing
- Opportunities for stakeholder engagement throughout the project

This meeting will provide a platform for open dialogue and set the stage for a comprehensive evaluation of our current timber harvest permit process. Your insights and participation are crucial to the success of this endeavor.

Please direct any questions you may have to zachary.burger@nivack.com and feel free to forward this invitation to others you feel might be interested in joining us.



One of most valuable coho Salmon refugia of the South Fork Eel River is also part of Indian Creek which extends from the ridge above Bear Harbor on the Pacific and enters the South Fork across from old Piercy. This tributary showing drastic streamside landsliding and deep incision exposes a huge Old Growth Redwood root hanging 7 feet above the existing torrented streambed.

PHOTO CREDIT KAREN YOUNGBLOOD



Richard Remembers: In Memorium

As one gets older the losses of those who have inspired so many, so much, increase. There is a need to remember and honor persons whose lives gave foundation to community.

Two of those passing in our region this year are Jean Heritage and Evan Engber. I'll give a reflection on their broad and personal impact, but I encourage you to go to these two links to get fuller perspectives:

For Jean, listen to an interview of Jean by Joanne Wilson on KMUD Thursday Night Talk <https://archive.kmudfm.org>

For Evan, listen to the KMUD MMM discussion between Pat Higgins and Craig Bell <https://archive.kmudfm.org>



Jean Heritage

Jean was a remarkable person with a remarkable life that became intertwined with almost everything about the changes and revitalized new communities that became known as the Mateel: an area that includes the Mattole Valley, the Eel River (South Fork and Mainstem) in Southern Humboldt, Northern Mendocino, and some of Western Trinity Counties. Joanne's KMUD interview covers Jean's life before arriving in the very early 1970s and homesteading on James Creek, tributary to Redwood Creek that joins the South Fork Eel West of Redway. Jean's descriptions of those realities – from scratch making a home and helping others and others helping her – in a land devastated by the post-WWII logging boom.

She and Chris Ciullo formed James Creek Salvage company, and with the help of others repaired a lot of the damage and with a mobile mill made lumber from the left behind logs that littered the forest and were often piled up in creeks. There was no booming marijuana enterprise and folks depended on a whole range of activities to survive and flourish. Jean's vegetable garden as it has been described was legendary. Jean went on to devote herself to the founding and success of a number of vital community organizations. There were many, three of which are still essential today: Redwoods Rural Health Center, the Community Credit Union (now known as Vocality), and Heart of the Redwoods Hospice. To really be inspired and more fully appreciate Jean's life you must listen to the interview done in April 2024.

Even Engber

Evan was an incredible inspiration to me personally and to the whole fisheries and watersheds community. When 1982-3 flooding tore apart Streeter Creek and banks on the Black Oak Ranch, North of Laytonville, Evan plunged in to educate himself and others to enable actions to restore/recover stream function and stability. This was a core mission: prevent and reduce the massive unraveling and erosion of watersheds in the face of catastrophic events compounded by a history of thoughtless human exploitation and disruption. He reached back to ancient Chinese practices and those established in the 19th century by a German visionary scientist named Schiestel – practices now commonly understood as bioengineering.

In Northern California its common and effective application involves design, taking into account the dynamics of the stream, water, geology, and riparian relationships and judiciously taking action with rock and willows to recover function and stability of streams and rivers. These actions were applied from small streams to substantive rivers –from Streeter and 10 Mile Creeks, to rivers in Napa County, to the Russian River in Sonoma County, to the Mad River in Humboldt County, near its confluence with the Pacific – amazing work! Here’s an excerpt of a broader perspective on his life written by his youngest daughter, Natalie Rose:

“Evan Harlan Engber passed peacefully at home on June 2, 2024, after a life full of adventure, family, and love. Evan was born October 10th, 1937 in Brooklyn, NY to parents Natalie and Morris Mechanic. Evan maintained



Evan Engber instructing streamside 2013
PHOTO COURTESY OF PAT HIGGINS

a longtime love of music, particularly percussion, and could be found playing drums at every family gathering. Evan left academic life to become one of the early members of what is now the longest-running commune in the United States, the Hog Farm.

Evan’s early adventures are too numerous to name, but some of note include attending Woodstock, traveling from the US to Europe on a bus, becoming the mayor of Earth People’s Park in Vermont, assisting Navajo women in forming a weavers’ cooperative, and starting the first food cooperative in the East Bay. In 1978 Evan was working on an organic grape farm in Desert Center, CA, when he met his greatest and longest love, Irene Conaty Engber. In 1982 the Hog Farm purchased a ranch in Laytonville, CA, where Evan and Irene made their home. That same year, El Nino floods decimated the two rivers that run through the ranch, and thus began

Evan’s love of river restoration. Evan founded Bioengineering Associates, Inc., restoring streams and rivers across northern California and becoming the father of what became the gold standard in river restoration. He authored the chapter on bioengineering in the Fish and Game manual, and in 2015, the Salmonid Restoration Federation awarded him a lifetime achievement award. Evan also served on the Laytonville School Board for eight years.

As one of Evan’s long-time friends and land partners, Red Dog, wrote in a haiku, “The rivers in Heaven, they might also need some care. So, that explains it.”



Evan Engber showing one of his most successful projects with Bioengineering Associates close to the mouth of the Mad River.
PHOTO COURTESY OF PAT HIGGINS

Conservation Partner Organizations at Work

Everyone Can Do Science! Nature Activities for Kids of All Ages

Friends of Lost Coast

By Taylor Faye Benedict, Environmental Education
Coordinator for Friends of the Lost Coast.

What in the world is a watershed? Simply put, a watershed is an area of land that drains to a common lake or river. Why does it matter? Watersheds are the places we call home. They are dynamic, living webs of soil, water, and plants that are interconnected.

One of my favorite ways to introduce or conceptualize a watershed is by building a model using common household items. Creating a model watershed allows us to take a step back to see the bigger picture. From there, you can get inspired to learn more about the watershed you live in and get involved in its protection and care.

This activity can be done individually within a small container, or in a group at a large outdoor table. Feel free to try it out on different scales! First, build a landscape using whatever's on hand (Recycled plastic containers, bowls, or cups) and cover everything in a waterproof material like aluminum foil or a plastic tarp. The foil works well for this because its crinkles and folds mimic natural terrain contours. Now it's time to bring the watershed to life with water! Use a spray bottle or a watering can with a

sprinkler head to represent precipitation. Note where water is falling and gathering along your model's high and low points. All the areas of land that drain to the same place are a part of the same watershed. Tada!

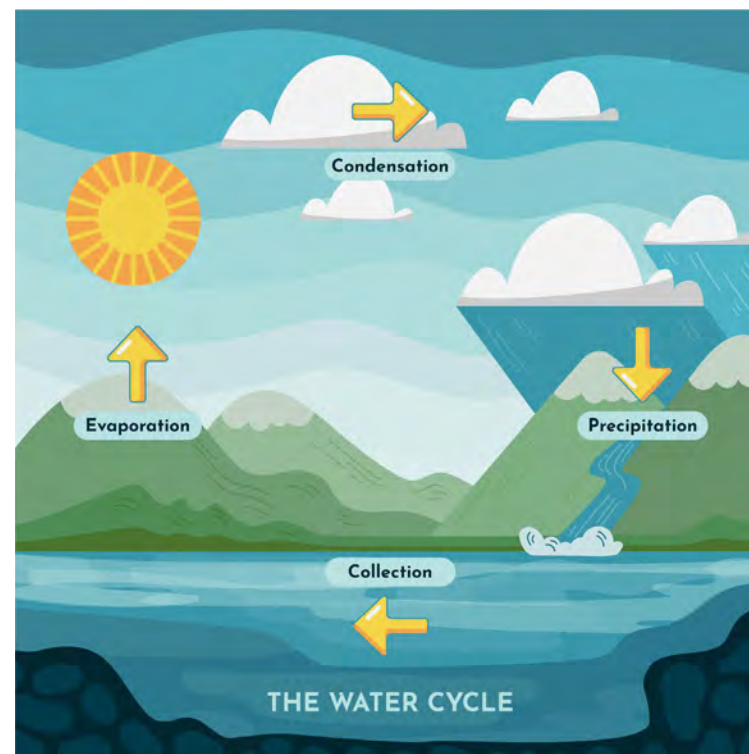


IMAGE BY FREEPIK

We depend on water for drinking, irrigation, and recreation. Fish, wildlife, and vegetation also rely on accessible water.

As the water begins to move across your map look for where:

- rivers/streams start from, these are your headwaters
- streams flow into one another to form a river, these are tributaries
- a river meets the ocean, this is an estuary
- overflow from a river/stream floods a flatter area, this is your floodplain
- water drains towards or away from your common drainage area along high points, these are mountain ridges

There are also several adaptations of this activity. One is to deposit various 'pollutants' (vegetable oil, food coloring, bits of trash, etc.) across the watershed model to see how they move and where they end up after the 'rain'. Or use a map of your area and set up a model landscape of the watershed you live in. Another alternative is to cover everything with an absorbent material like towels or scrap fabric instead of foil and compare the results to a barren landscape versus a densely vegetated landscape, which can slow down, filter, and absorb water.

Understanding where we live in relation to other bodies of water helps us understand how we affect and are affected by upstream activities. Understanding your unique watershed is the first step in protecting its water and other natural resources. I hope this activity inspires you to start a conversation about littering, pollution, and being a friend to the planet with people in your life. Want to get involved and help out? Join a local cleanup to keep trash out of waterways, plant native plants to filter and absorb water, or look for ways to get involved in citizen science!



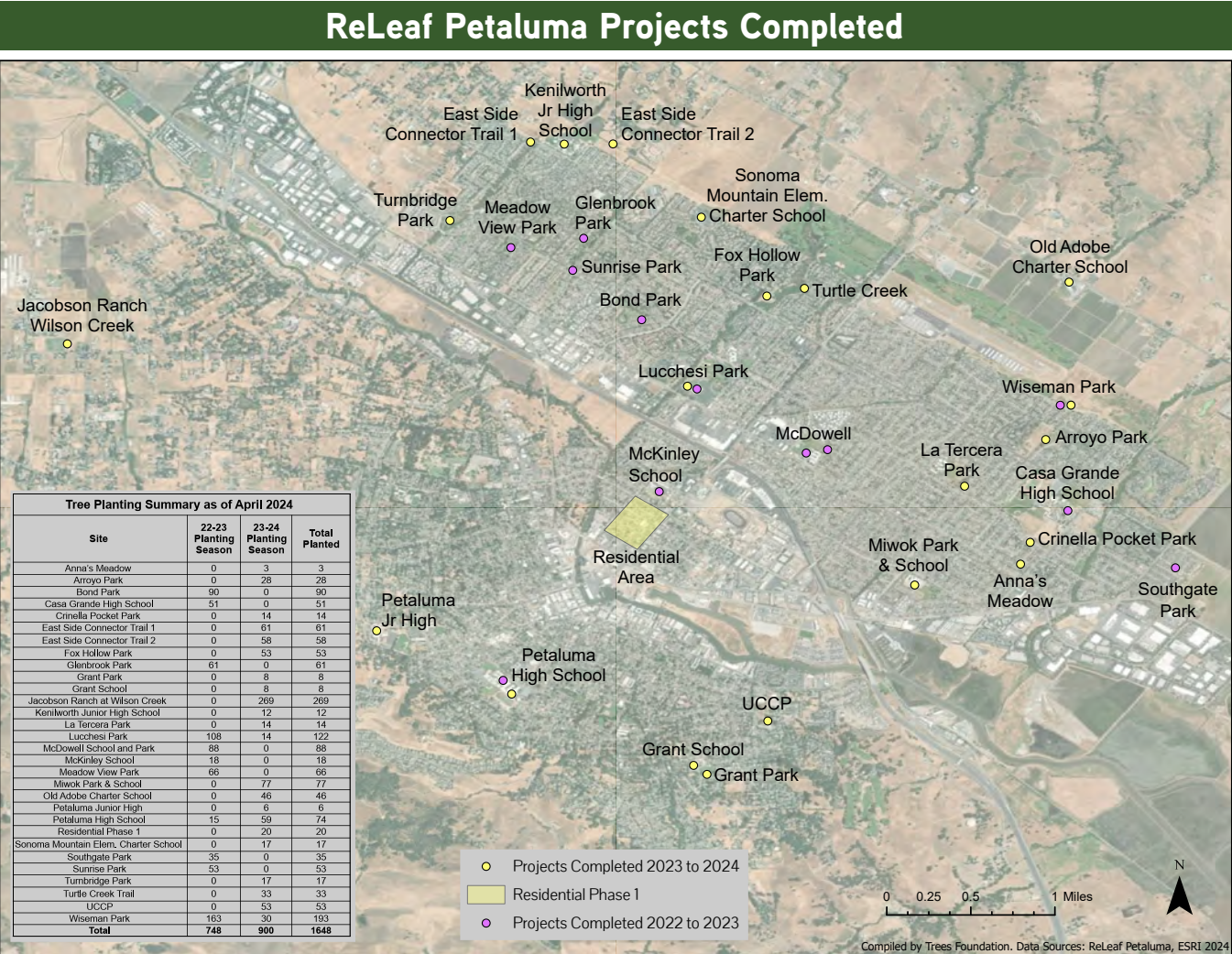
A Native Urban Forest Grows in Petaluma

ReLeaf Petaluma has made steady progress in expanding Petaluma’s Urban Forest since it planted its first 150 trees in April 2021. We celebrated our 1,000th tree in December 2023, which was a wonderful milestone. We finished the 2023/24 planting season with an additional 900 trees, bringing the total number planted by ReLeaf as of April 2024 to 1,643. All but 4 of these trees are native to the Petaluma area because ReLeaf is attempting to address the precipitous decrease in biodiversity as well as the climate crisis. We hope to create a native oasis, leading with the trees, to benefit people and our planet. Currently, we are working under the City of Petaluma’s \$1 Million Canopy Grant, funded by the Inflation Reduction Act and the USDA Forest Service Urban and

Community Forestry Program, to place 2,600 new native trees, deployed through exciting new programs developed by ReLeaf. ReLeaf’s new Residential Program concentrates on low-income neighborhoods with low canopy cover. We provide free trees, installation, and three years of tree care consultations to get the trees off to a good start. We kicked off our pilot program last season, for the first time learning to work with individual homeowners and just a few trees at many locations as opposed to mass plantings in one location, such as a park. The intricacies of residential plantings are indeed different, and we learned what worked and what parts of the program needed adjustments.



PHOTO COURTESY OF RELEAF PETALUMA



MAP CREATED FOR RELEAF PETALUMA BY TREES FOUNDATION GIS SPECIALIST CULLEN CRAMER

Our Re-Oaking program will lead volunteers who will collect 2,250 acorns in the hopes of starting 750 successful native oak trees to plant in Petaluma’s city-owned open spaces. Our ambitious goal is to recreate the oak savannahs that are native to our area. We are working with our partner, Point Blue Conservation Science, to learn best practices for acorn harvesting, treatment, and planting, and we are excited about starting acorn collecting this fall. We are also thrilled to be able to offer canopy shade to semi-public properties such as places of worship, hospitals, and daycare centers. We installed our first trees funded

by the grant at the United Church of Christ, Petaluma property, which also houses a Montessori preschool and hosts other nonprofits that serve the community. Their 4.25-acre property is now sporting 53 new trees, and we look forward to finding more opportunities like this which provide shade and habitat in highly frequented urban areas. Thank you to our partners Rebuilding Together Petaluma, Petaluma People Services, Daily Acts Organization, Cool Petaluma, Point Blue Conservation Science, Trees Foundation, and of course the City of Petaluma who work hand in hand with ReLeaf to expand Petaluma’s tree canopy and work towards a future where nature is right outside our front doors. For more information go to releafpetaluma.org





Southern Humboldt Defensible Space Project



Grant funding is available to assist vulnerable residents in removing hazardous vegetation from around their homes!

Please fill out the online form to register your interest in receiving a free wildfire [Home Risk Assessment](#) and [Defensible Space Treatment](#) to remove hazardous fuels around your home. This service is being offered to vulnerable populations (residents who are low income, seniors and elderly, or disabled) by the **County of Humboldt Department of Public Works** on behalf of the **Humboldt County Fire Safe Council** in partnership with the **Briceland Volunteer Fire Department**.

Access the online [Interest Form](#)
At this website URL: <https://arcg.is/0n9yji>

Or use the QR Code to
access the form!



For more information about this project go to:
humboldt.gov/FireSafeCouncil

**** Please note that funding for direct defensible space assistance is available on a limited basis. Completion of this form does not guarantee defensible space assistance, but it will put you on the interest list. Applications will be prioritized based on need, strategic value, and date of form submission. ****

Don't qualify? Please help us find the community members who do. This service benefits both the recipient and the neighborhood. If you know someone who might qualify, please let them know about this program, and direct them to the online interest form, or have them contact one of the coordinators listed below.

Have questions or need assistance with the online interest form?

- Humboldt County Fire Safe Council, County Coordinator, Tanner Speas at rspeas@co.humboldt.ca.us
- Briceland Volunteer Fire Department, SoHum DS Project Manager, Lygle Dillon at bricelandfire@gmail.com

Funding for this project was provided by a grant from the California Department of Forestry and Fire Protection as part of the California Climate Investments Program, through the California Fire Safe Council.

Trees Foundation Board

Leib Ostrow | Founder and Board President
John Wilhelm | Board Treasurer
Bill Eastwood | Board Member
Ali Freedlund | Board Member
Elizabeth RedFeather | Board Member
Perry Lincoln | Board Member
Cleo Aster Woelfle-Hazard | Board Member

Trees Foundation Staff

Damien Roomets | Executive Director
& Fire Resources Coordinator
Mona Provisor | Financial Director
Kerry Reynolds | Forest Health & Fire Resources
Chelsea Sproul | Fire Resources Program Assistant
Sarah Brooks | Organizational Development Director
Cullen Cramer | GIS Specialist

Forest & River News

Editors

Sarah Brooks
Chelsea Sproul
Leib Ostrow

Design & Layout

Carlos Roye

Art Direction

Maude Turpin

Cover Image

Chinook Salmon - North Fork Smith River
in Old Growth Redwoods

UNDERWATER PHOTO BY THOMAS B. DUNKLIN

Editor's Note & Masthead Image

BY RANDY LaMORTE

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

Trees Foundation is located at 439 Melville Road,
Garberville, CA, 707/923-4377,
www.treesfoundation.org

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
treesfoundation.org/donate

Trees Foundation

PO Box 2202 Redway, CA 95560

RETURN SERVICE REQUESTED

trees@treesfoundation.org

 [treesfoundation](https://www.facebook.com/treesfoundation)

 [trees_foundation](https://www.instagram.com/trees_foundation)



Our mission is to restore the ecological integrity of California's North Coast by empowering and assisting community-based, regional projects that promote healthy land stewardship.

Forest & River News is partially funded by a grant from The Bill Graham Memorial Foundation.

If you would like to make a tax-deductible donation to support Trees Foundation, Forest & River News, or any of our partner groups you can send a check made out to Trees Foundation:

Trees Foundation
439 Melville Rd.
Garberville, CA
95542

If you make a note letting us know how to direct your funds we are happy to ensure your donation is going to the projects you want to support.

We also have information on planned giving and memorial donations in honor of loved ones.

Find out more at our website
[treesfoundation.org](https://www.treesfoundation.org)

Or call our office (707) 923-4377



“The beauty of hands-on watershed restoration is that it allows the place itself to become our teacher.”

-Freeman House