

# Forest & River News

GRASSROOTS CONSERVATION & RESTORATION IN THE REDWOOD REGION

TREES FOUNDATION

SPRING 2023

## Restoring Ecological Balance in the Redwood Region

- **REDWOODS AND CLIMATE CHANGE**
- **NORTHERN CALIFORNIA TRIBES AND AGENCIES PLAN FOR TRIBAL LAND RETURN**
- **MARSHALL RANCH FLOW-ENHANCEMENT IMPLEMENTATION PROJECT UNDERWAY**
- **ELK RIVER ESTUARY ENHANCEMENT PROJECT**
- **25<sup>TH</sup> ANNUAL COHO CONFAB**
- **GROWING TREES FOUNDATION**





## Editor's Note

As we go to press, a weary population braces for yet another potent winter storm, bringing record snowpack to the Sierra, and exceptional snowfall on the Coast Range. Whipsawing from extreme drought to an over abundance of water in a matter of months, the spring thaw promises more flooding, as “water managers” deal with this sudden surplus.

What does it mean to live in a time when extreme conditions and the impacts of climate change materialize? How does one prepare, and build for resilience in the face of such overwhelming challenges?

In 1972, a meteorologist described “The Butterfly Effect,” the concept that the world is deeply interconnected. What may seem like a minuscule action can have great consequence, influencing the larger system in which it is embedded.

Perhaps the answer to our climate conundrum lies in the movement of a butterfly’s wing; in the aggregation of myriad minute, incremental shifts towards restoration. This issue highlights projects that, together, have big impacts. As we enhance wild habitat at home, we may not realize the global effect of our synergized actions.

Knowledge is power, and effective land stewardship strategies spring forth from a more complete understanding of the systems we hope to re-balance. We are excited to present a new study by Cal Poly Humboldt redwood researchers, and their findings on elder trees and carbon sequestration.

Obtaining accurate baseline data on ecological damage, resiliency, and the potential beneficial effects of restoration, is crucial, as evidenced by the implementation of the Marshall Ranch Project, also described in these pages. From planting trees in urban areas, to the muddy work of restoring estuaries, you’ll learn about the significant projects of our partner groups.

“The Butterfly Effect” echoes what Indigenous Peoples have long known; that we are all connected, and our actions radiate outwards and weave into the larger tapestry of existence, with every breath and footfall on this Earth.

Please read on, and be inspired by the information herein to keep those wings flappin’.

For the Grassroots,  
Jeri Ferguson, Mona Provisor, Mary Gaterud

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# Willow Walls, Cottonwood Containment, and Flood Control Town Creek Restoration Project in Covelo Gives Round Valley Students Hands-On Experience

By Eel River Recovery Project

In 2021, the Eel River Recovery Project (ERRP) was awarded a grant from the Department of Water Resources' (DWR) Urban Streams Restoration Program (USRP) for work in Covelo in northeast Mendocino County. The Town Creek Restoration and Education Project originally aimed to intensively treat one site by building a large-scale bioengineering structure with imported boulders and large wood. It now features a low-tech approach using mostly living willow, and the effort is fully involving students from nearby schools and the community.

Until the mid-1980s, the Round Valley County Water District (RVCWD) was allowed to use heavy equipment to excavate excess gravel from Mill Creek and its tributaries—Town, Grist, and Short Creeks—to maintain flood-control capacity. Since the cessation of channel clearance, due to extensive regulation changes, berms that once confined the flow have been washed out, and major bank erosion has taken place. A site on Town Creek below Airport Road has acute bank-erosion problems. The channel has widened to 300 feet and has long-term potential to re-route and create major problems for Covelo.

The recently implemented grant was initially conceived in 2019 when the RVCWD requested that ERRP consider filing for a DWR USRP grant to treat the Town Creek Airport Road site. After landowners confirmed the need and willingness to participate, ERRP recruited BioEngineering Associates to design and build a project to remedy bank erosion and create improved fish habitat. Once



Lourance Hall passes out willow cuttings to RVES 2<sup>nd</sup>-graders, while teacher Casey Cann looks on.  
ALL PHOTOS THIS ARTICLE BY PATRICK HIGGINS

the project opened in April 2021, DWR imposed requirements for perpetual easements and deed restrictions that were not acceptable to the landowners, who then pulled out of the agreement in early 2022. The project then changed to planning and permitting only.

Eric Austensen of Streamline Engineering joined the ERRP team in late 2022. He pointed out that there needs to be system-wide flood planning because channel constraints downstream of the restoration site could back up floodwaters and promote continuing aggradation and flood risk. He offered a design alternative that would use no imported large rock or large wood, and instead incorporate willow branches/shoots and stream aggregate. A major thrust of the project is involving students from nearby Round Valley Elementary School (RVES) and Round Valley High School (RVHS) in a meaningful way.

## Connecting Round Valley Students to the Town Creek Restoration

ERRP Outreach Coordinator Lourance Hall and educational consultant Viviana Field are working closely with RVES teachers and classes. Viviana is leading projects that focus on art with younger students (K-3) and building a watershed model with middle-school students. The artwork and model will be on display at the Covelo Library Commons as part of the 2023 Earth Day celebration, which will include a hosted open house on Friday, April 21<sup>st</sup>.

Lourance has established excellent working relationships with RVHS teachers. Classes have featured presentations from ERRP Managing Director and fish biologist Pat Higgins and restoration specialist Chris Tebbutt. High school students can help with restoration planning and implementation as part of school projects, in association with Future Farmers of America (FFA) programs.



Pat Higgins and Chris Tebbutt have been friends for 30 years, and during that whole time, Chris and his wife Stephanie have been restoring Anderson Creek—which runs through their organic farm near Boonville—using willow and deep-planted cottonwoods. When Pat asked Chris if he would help teach students (and the community) about deep-planting cottonwoods as part of a Town Creek demonstration restoration project, Chris jumped at the chance. He and Stephanie would bring native willow and cottonwood poles from Anderson Valley to Covelo if an excavator operator could be lined up. Lourance connected ERRP with expert excavator operator Chance Hart, and plans were made with landowner Jimmy Durall to plant an area 60 feet by 20 feet. Stephanie and Chris arrived with enough cottonwood and willow poles to span the 350-foot width of the parcel, and when they asked for permission, Jimmy gave the OK!

### The Pieces Come Together

After delaying the project for a week due to snow at the restoration site, the deep planting of cottonwood and willow was successfully carried out on Friday, March 10. The clouds parted to reveal snow-covered hills, rainbows formed in the morning mist, and later in the afternoon it was tee-shirt weather. More than a dozen



Stephanie Tebbutt directs RVHS students deep-planting willow stakes.

classes from RVES and RVHS came to watch as 15-foot-long cottonwood and willow poles were deeply planted. Deep planting allows roots to sprout and extend down into the water table, making it unnecessary to irrigate them.

Students pitched in by helping stage the poles in a small pond in the pasture to keep them wet. Then they shoveled aggregate that the excavator had left on grassy areas into the holes where trees were planted. Students were also taught about willow planting, including gathering willow cuttings, showing sprigs in the eroding wet banks, and pounding stakes into wet areas of the gravel bar on the stream margins. In total more than

three dozen willow and cottonwood poles and 125 willow stakes were planted.

The use of willow and cottonwood is inexpensive and could be employed by riparian landowners anywhere in Round Valley without a permit, if they are not operating in the channel. The RVCWD believes this approach could be exported and mimicked at other sites as the District, ERRP, and RVIT continue to plan and implement restoration across the Round Valley floor.

### Lessons in Mapping

Students will be taught how to use the Avenza Maps app to map where cottonwoods are with the assistance of ERRP contractor Noel Soucy of Soucy Biologique. They will also make a map of where car bodies and truck tires have been used to stabilize banks in the past so that these can be removed and the riparian zone restored. Noel will turn GPS data into maps and posters for display at schools and community meetings. The maps will be included in the project's Final Report, which will be used to help secure future funding.

🌲 For more information, call Lourance Hall at 707/972-3637. See the ERRP website ([eelriverrecovery.org](http://eelriverrecovery.org)) or Facebook page ([facebook.com/EelRiverRecovery/](https://facebook.com/EelRiverRecovery/)).



Jimmy Durall orients Stephanie Tebbutt (l) and equipment operator Chance Hart.



# Marshall Ranch Flow-Enhancement Implementation Project Underway

## Innovative Flow-Augmentation Project to Restore Flows in Redwood Creek

By Salmonid Restoration Federation

This summer Salmonid Restoration Federation (SRF), Stillwater Sciences, and Edwards Excavation will build an innovative flow-augmentation restoration project on the historic Marshall Ranch to improve instream flows in Redwood Creek (a tributary of the South Fork Eel River) for threatened salmon and other aquatic species. This project has been years in the planning and will likely improve Redwood Creek habitat conditions for decades to come.

The design includes two off-channel ponds and more than 100,000 gallons of water storage in tanks to store a total of approximately 10 million gallons of winter water to release incrementally during the five-month dry season when flows in Redwood Creek often become disconnected and impair habitat for Coho salmon, steelhead, and other aquatic species. Despite the legacy impacts of logging and unregulated water diversions, Redwood Creek still retains high habitat value for threatened salmonids.

Since 2013, Salmonid Restoration Federation has been monitoring flows in Redwood Creek and developing flow-enhancement strategies to protect fisheries resources. In conjunction with implementation of the project on the Marshall Ranch, SRF is developing a Storage and Forbearance Program downstream of the Marshall Ranch to ensure that the cool summertime flow releases remain instream and are not diverted by downstream water users. SRF and Stillwater Sciences are currently in the process of conducting site assessments



This first delivery of water tanks will be used for water onsite during the construction season.  
PHOTO BY DANA STOLZMAN

on mainstem Redwood Creek, and are pleased by how many landowners are interested in participating.

Additionally, SRF is pursuing a flow-enhancement project on the Lost Coast Forestland property near the headwaters of Redwood Creek. The Marshall Ranch and Lost Coast Forestland flow-enhancement projects combined would help accomplish our target flow goal of an average of 50 gallons per minute of flow release, which would keep flows connected to allow for fish migration and hydrologic connectivity.

### Project Summary

The historic Marshall Ranch, the largest contiguous landowner in the Redwood Creek watershed, is fully protected under a

conservation easement. The ranch bridges Redwood Creek, Somerville Creek, and Sproul Creek. This working ranch that has been in the Marshall family ownership since the 1800s is now protected in perpetuity, with restoration opportunities such as a flow-enhancement project that includes 10 million gallons of winter water storage between two off-channel ponds and 100,000 gallons of storage in water tanks that will be 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 all the way to the confluence with the South Fork Eel River.





David Sanchez (General Manager of The Marshall Ranch), Dana Stolzman (SRF ED), Dorothy Hoaglin (Wailaki Tribe), Tim Metz (Restoration Forestry and Property Manager of Lost Coast Forestlands), and Joel Monschke (Stillwater Sciences engineer) during the tribal consultation on Lost Coast Forestland property near the headwaters of Redwood Creek. PHOTO COURTESY SRF

This project was developed by several restoration partners, including Stillwater Sciences, the lead technical consultants; the Marshall Ranch General Manager, David Sanchez, and the Marshall Ranch family representative, Elizabeth Marshall Maybee, who had the vision to preserve the ranch through conservation easements; and Hicks Law, who oversaw the Appropriative Water Right and provides expert legal guidance to the project team. SRF’s Executive Director Dana Stolzman stated, “SRF is the project proponent, but this project could not have evolved without the ongoing support of the Wildlife Conservation Board and the hard work of the project team. In this era of extended drought conditions, climate change, and intensified fire risk, innovative projects like the Marshall Ranch Flow Enhancement are needed to improve instream flows.”

The California Water Action Plan ranks the South Fork Eel as one of the highest-priority watersheds in the state for flow-enhancement projects. Similarly, the Salmon Habitat and Restoration Prioritization Project in the South Fork

Eel River recognizes that although Redwood Creek is densely populated and suffers from legacy impacts, it still retains high habitat values for salmon.

After years of outreach, monitoring, and a Redwood Creek feasibility analysis, SRF and Stillwater Sciences have developed a variety of flow-enhancement opportunities ranging from groundwater recharge in the headwaters of Redwood Creek to flow-release projects in the mainstem on the Marshall Ranch, storage and forbearance projects downstream, and a recently funded forest-thinning component that will study the nexus between selective forest thinning and flows.

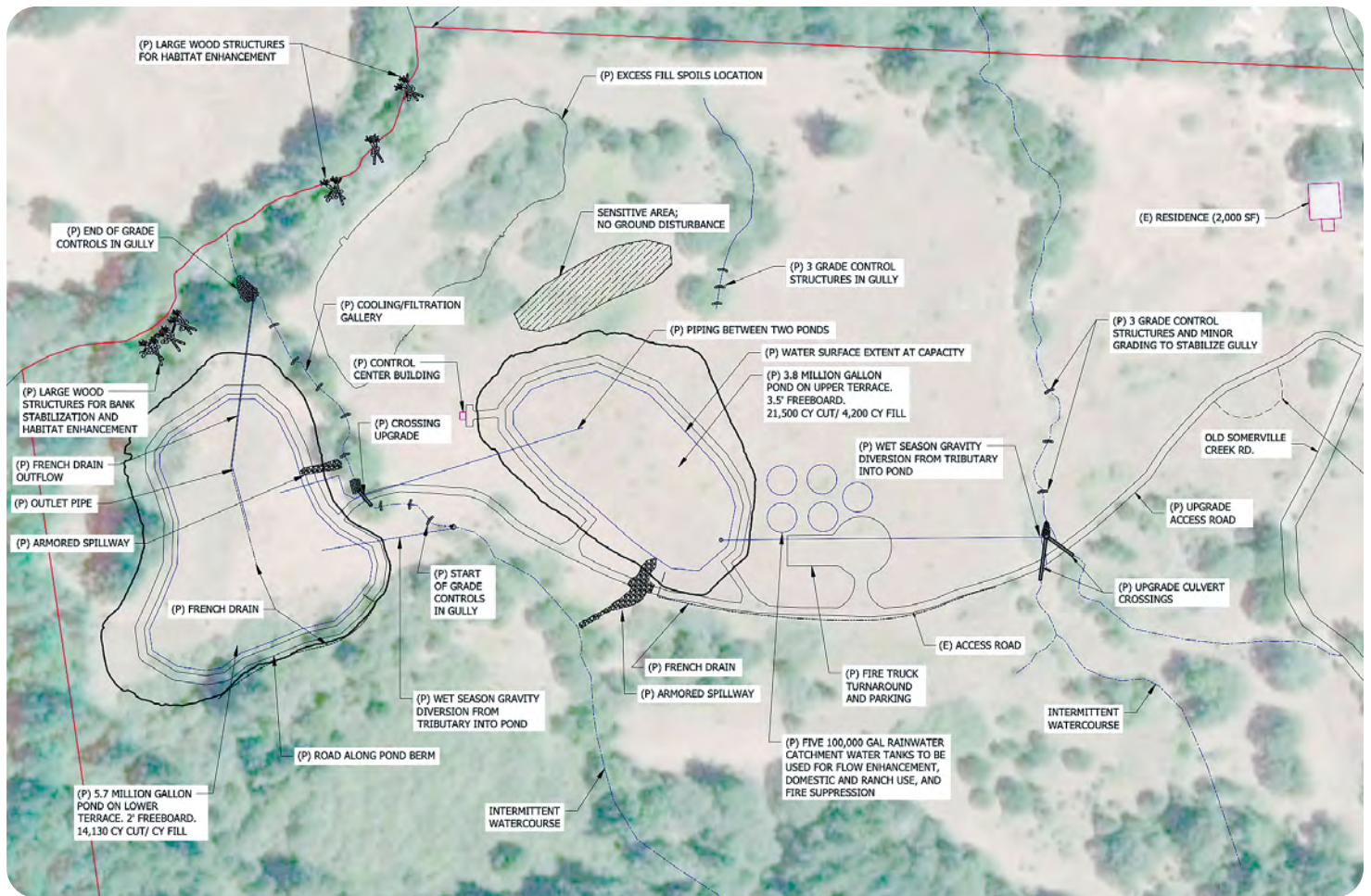
**Recent Project Milestones Include:**

In January 2022 the Marshall Ranch Flow-Enhancement Implementation Project was unanimously approved by the Humboldt County Planning Commissioners. Humboldt County Planning Department is the lead agency for CEQA for this exciting project, and it adopted a Mitigated Negative Declaration for the project.



The project team met with members of the Wagner Ranch to celebrate the recent finalization of their Conservation Easement in Sproul Creek since we are also designing a flow-enhancement project on La Doo meadow, a tributary to the West Fork Sproul on the Wagner Ranch. PHOTO BY DANA STOLZMAN





Marshall Ranch Flow-Enhancement Project, design page 3. BY STILLWATER SCIENCES

Concurrently, the State Water Board completed a final review of the Marshall Ranch Appropriative Water Right application and approved it in June 2022. This is an exciting milestone because the off-channel ponds will be filled in the winter season for metered cool-water flow releases throughout the five-month dry season.

The Wildlife Conservation Board's Streamflow Enhancement Program is funding the implementation of the project, which will begin during the summer of 2023. SRF will also receive funding through the North Coast Resource Partnership to identify, design, and implement five water-storage tanks as part of a storage and forbearance program intended to help ensure that the dedicated flows from the Marshall Ranch

remain instream and to improve water availability for landowners who may not have sufficient water storage in this under-served region.

Both the flow augmentation and storage and forbearance projects will be operated for a minimum of twenty years as part of Long-term Operations and Maintenance agreements required for Prop 1-funded projects.

SRF and Stillwater Sciences are in the process of permitting the various components of the Marshall Ranch project while working on designs for the Lost Coast Forestland property near the headwaters of Redwood Creek.

SRF and Stillwater Sciences will continue to do pre-project streamflow monitoring and snorkel surveys as well as post-project

streamflow monitoring and snorkel surveys once the project is completed.

SRF and Stillwater have conducted tribal consultations with Wailaki tribal members, who are fully in support of both the Marshall Ranch flow-enhancement project and the Lost Coast Forestlands flow-enhancement efforts.

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



Coho eyed eggs & alevin  
PHOTO TREES FOUNDATION ARCHIVES





# Add Butterflies to Your Garden!

## Restoring Habitat for Pollinators Benefits Salmon and Other Wildlife

By Salmon Protection  
And Watershed Network

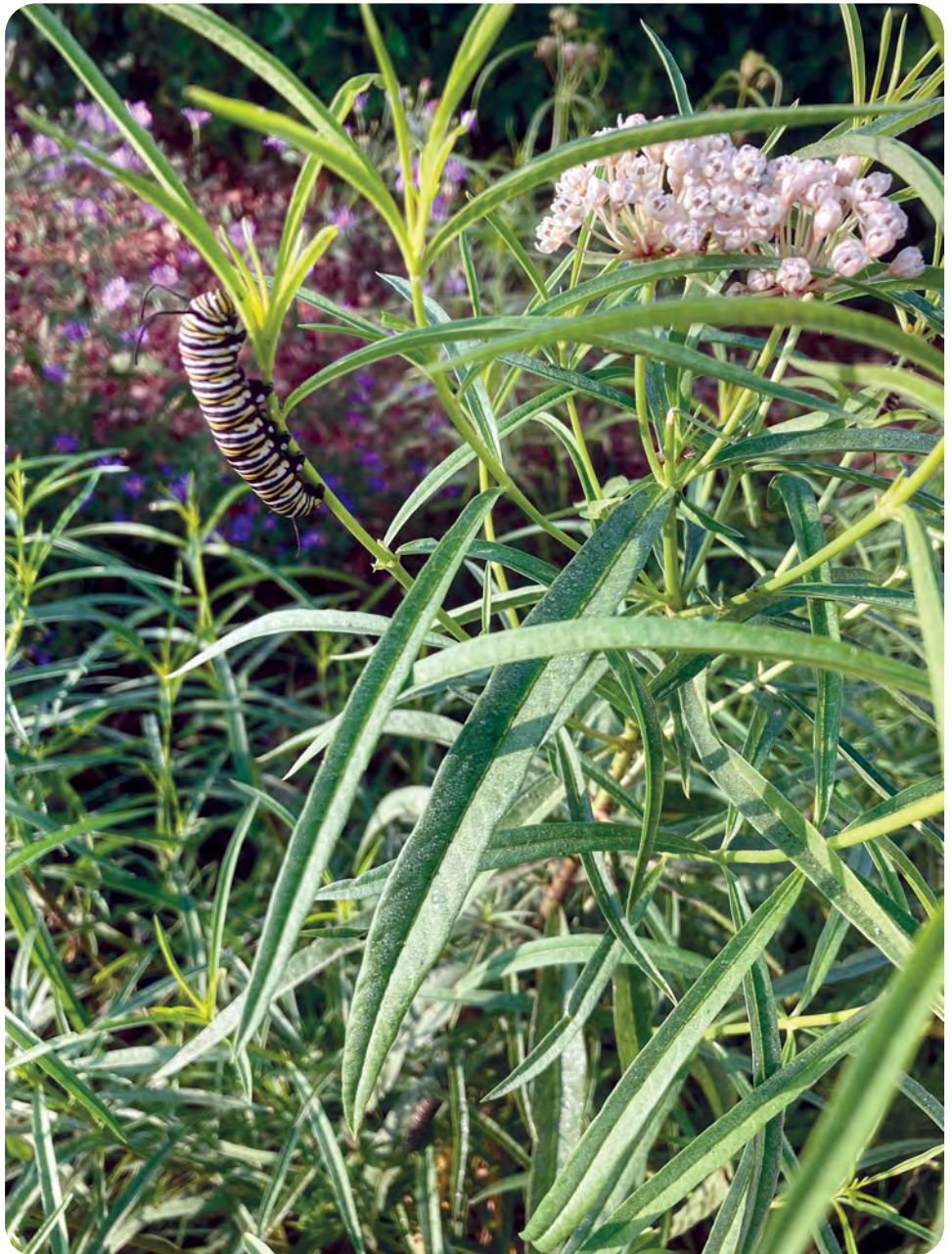
Along with plants, insects form the base of the food web and the bulk of the diet for fish, birds, reptiles, and amphibians. Plants and insects have co-evolved. Native insects require a diverse set of native plants to thrive and generally cannot penetrate the chemical defenses of non-native species of plants. Caterpillars are an important source of food for birds, especially song bird nestlings, and transfer more energy from plants to animals than any other insect. Reclaiming habitat for native plants benefits the many species of butterflies, moths, and native bees that we admire and depend upon while also supporting fish, birds and other wildlife. In return, **native pollinators help to create and sustain a biodiverse set of plants, contributing to better habitat for the native insects, which are a source of food for juvenile salmon.**

Monarch butterflies are one of the most recognizable species of pollinators in the world, famous for their seasonal migration. Their population has plummeted in recent decades; in 1989 there were 4.5 million Western monarchs, and today the population is around 330,000. The population of the Western monarch has slightly increased in recent years after reaching a low of about 2,000 butterflies in 2020. One of the most important and direct ways that we can benefit monarchs and other pollinators is to improve habitat by providing drifts of milkweed and large patches of nectar plants.

Salmon Protection And Watershed Network (SPAWN) initiated a variety of

programs to help with recovery of the Western monarch and other pollinators after the population of this iconic species sharply declined in 2020. While our

nursery has always grown a small amount of nectar plants to be incorporated in our stream-restoration projects, in winter 2021 the nursery greatly expanded the



Caterpillar on milkweed ALL PHOTOS THIS ARTICLE COURTESY SPAWN, UNLESS NOTED



quantity of nectar plants and the variety of species grown. In fall 2021/winter 2022, SPAWN planted 1,000 nectar plants at the Roy's Riffles Restoration project (for more information, see FRN, Spring 2021, [treesfoundation.org/2021/04/from-roys-dam-to-roys-riffles](https://treesfoundation.org/2021/04/from-roys-dam-to-roys-riffles)) site in San Geronimo; and in fall 2022/winter 2023, 400 native nectar plants were added to our Tocaloma site and an additional 150 nectar plants were added to our Roy's site. In addition, the SPAWN Restoration Nursery is propagating native milkweed and nectar plants with elementary school students at schools and installing habitat gardens and monarch waystations on school grounds. We have not added milkweed to our riparian restoration sites because these are in an area close to the coast, and no wild populations have been found in the area of our project sites. **Milkweed should only be planted in inland**

### Tips On Planting Milkweed

Do not plant milkweed within 5 miles of the coast; it may interfere with the reproductive diapause the monarchs are in while overwintering.

Do plant native milkweeds (*Asclepias fascicularis*) or (*Asclepias speciosa*) in inland breeding areas.

Do not plant tropical milkweed (*Asclepias curassavica*) in California; it does not go dormant and holds higher levels of the OE parasite than native milkweeds, alters the migration pattern, and can encourage monarchs to reproduce at the wrong time of year.

Expect California native milkweeds to go dormant in the winter.

Plant native milkweeds in similar conditions to where they are found in nature, in areas with plenty of groundwater and sun.

Plant native grasses with your milkweed to provide protection from sun, wind, and predators.



The Northern Checkerspot (*Chlosyne palla*) in the East Bay Regional Parks District, Berkeley, California  
PHOTO BY INGRID TAYLOR, COURTESY OF WIKIMEDIA COMMONS

**areas where monarchs breed during spring and summer months and should not be added to coastal areas near overwintering sites, because the presence of milkweed can cause monarchs to reproduce at the wrong time of year.**

Among many factors that have contributed to the decline of the Western monarch population, including habitat loss, pesticide use, and increased wildfires; one major issue is that milkweed has

been largely removed from land over past decades due to development, agriculture, and other alterations in the landscape. Monarch butterflies have four distinct stages in their life cycle in which they go through the process of metamorphosis: egg, caterpillar (larva), pupa (chrysalis), and adult butterfly (imago). During the larval stage there is only one plant, milkweed (*Asclepias sp.*), that caterpillars are able to eat. Milkweed is an obligate host plant to the monarch butterfly,





Roy's Riffles restoration site: thick growing willows provide good shade for understory plants.

meaning that this plant is required food for the caterpillar phase of the monarch life cycle.

Monarch butterflies are one of the more prominent examples of what happens to an insect when the essential host plant that supports the larval phase of the insect is removed from the wild. Dozens of other species of butterflies are also threatened or endangered in California, and insect populations are in decline worldwide.



Front & back of the White-lined Sphinx (*Hyles lineata*)

PHOTO BY DIDIER DESCOUENS,  
BY WAY OF WIKIMEDIA COMMONS

Many insects are dependent on their host plants at critical times in the life cycle. Nectar plants are essential for the adult phase of the insect life cycle. Gardeners and restoration practitioners can fulfill the needs of both larval and adult insect life-cycle phases by a planting a diverse set of native nectar-rich plants.

### Pollinators Play a Critical Role in Plant Reproduction; Healthy Ecological Systems Contain a Diverse Set of Native Plants

Five plants that are utilized by monarchs for nectar and are native to Marin County and most other coastal counties in Northern California are described in following section. Each of these plants is a host for the larval stage of particular species of butterflies and/or moths in addition to being a source of nectar for monarchs and other pollinators. A brief description is given of each plant along with a list of butterfly species the plant is thought to support as a host plant. All five plant species generally do best with sun and well-draining soil, can grow in sandy, clay, and rocky soils, and require dry summer soils after they are established. Establishment of root systems takes one to two years. The plants grow well

together and are naturally found in many plant communities including riparian, mixed forest, oak woodland, coastal scrub, and chaparral.

### California Goldenrod (*Solidago velutina ssp. californica*)

- ◆ Bloom color: golden yellow;  
Bloom time: August to October;  
Size: 2'-3'H x 2'-3'W
- ◆ California goldenrod is adaptable to moderately wet conditions.
- ◆ Host plant to: Northern Checkerspot and Field Crescent butterflies and dozens of species of moths including the White-lined Sphinx. Many beneficial insects are attracted to the nectar of the flowers.

### California Aster (*Symphyotrichum chilense*)

- ◆ Bloom color: purple and yellow;  
Bloom time: July to September;  
Size: 2'-3'H x 2'-3'W
- ◆ Flowers are sometimes eaten by deer but the roots generally persist even when the plant has been browsed. Interplanting asters with deer-resistant plants, such as narrow-leaf milkweed

#### Locally-Native\* Nectar Plants Fulfill the Following Roles:

Support pollinators, which helps to create and sustain a biodiverse set of plants.

Enhance habitat for fish, birds, amphibians, reptiles, and other wildlife through increased food supply.

Provide for the needs of both larval and adult life-cycle phases of butterflies and other beneficial insects.

Restore natural functions of ecological systems.

Require little to no summer water, fertilizer, or other amendments.

\* Locally-native indicates native plants derived from nearby eco-regions. For example, milkweeds from the central coast are going to be different than milkweeds from the Sierra foothills.



or goldenrod, may help to preserve the flowers. California goldenrod and California aster are a powerful combination in small gardens.

- ◆ Host plant to: Northern Checkerspot butterfly and White-lined Sphinx moth and many other moths. Many beneficial insects are attracted to the nectar in the flowers.

### **Hairy Gumplant** *(Grindelia hirsutula)*

- ◆ Bloom color: yellow; Bloom time: June to September; Size: 2'-3'H x 2'-3'W
- ◆ This plant does well on dry, well-drained slopes and also tolerates poorly drained soils.
- ◆ Host plant to the White-lined Sphinx moth. Nectar supports many species of beneficial insects.

### **California Lilac** *(Ceanothus thyrsiflorus)*

- ◆ Bloom color: varies from purple to blue; Bloom time: February to May; Size: 8'-12'H x 8'-12'W
- ◆ It is necessary to cage this plant to protect from deer for two years, until the roots are established. This plant appreciates afternoon shade in hot areas.
- ◆ Host plant to: Spring Azure, Echo Blue, Pacuvius Duskywing, California



Restoration at Roy's Riffles

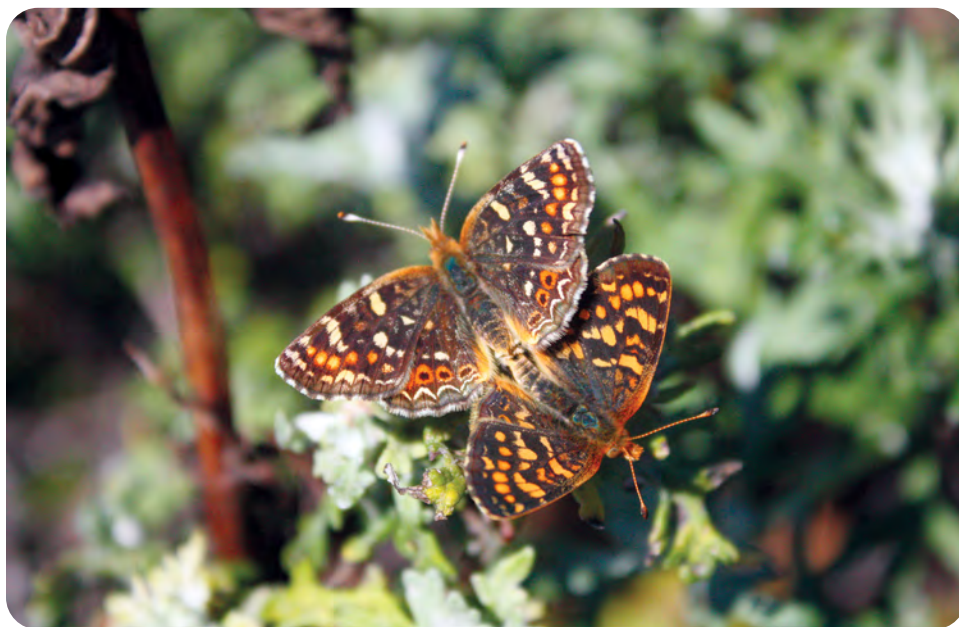
Tortoiseshell, Pale Swallowtail, and Hedgerow Hairstreak butterflies, and dozens of species of moths. Insects, especially bees and butterflies, are attracted to the flowers. Nectar supports many insects and is a favorite of California native bumble bees in early spring.

### **Pink-flowering Currant** *(Ribes sanguineum var. glutinosum)*

- ◆ Bloom color: Deep pink; Bloom time: February to April; Size: 6'-8'H x 4'-6'W
- ◆ This plant appreciates afternoon shade when growing in hot areas.
- ◆ Host plant to: Dozens of species of moths. Butterflies and hummingbirds are especially attracted to the flowers.

Additional companion plants for the ones listed in this article include sages (*Salvia* sp.), yarrow (*Achillea millefolium*), California sage (*Artemisia californica*), beeplant (*Scrophularia californica*), verbena (*Verbena lasiostachys*), coyote mint (*Monardella villosa*), California fuchsia (*Epilobium canum*), mallows like Checker Bloom (*Sidalcea malviflora*), monkeyflowers (*Diplacus* sp.), pipevine (*Aristolochia californica*), Phacelia (*Phacelia* sp.), penstemons (*Penstemon* sp.), lupines (*Lupinus* sp.), coffeeberry (*Frangula californica*), and coyote brush (*Baccharis pilularis*). Add native grasses or sedges to provide protection to the butterflies from sun, wind, and predators.

🌿 For more information:  
[seaturtles.org/spawn](http://seaturtles.org/spawn)



Field Crescent (*Phyciodes pulchella*) PHOTO BY SCOTT LOARIE, BY WAY OF WIKIMEDIA COMMONS



# Redwoods and Climate Change

## Vulnerability, Resilience, and Hope

### in the World's Tallest Trees

By Marie E. Antoine and Stephen C. Sillett  
*Cal Poly Humboldt*

Coast redwood (*Sequoia sempervirens*) has a narrow and highly fragmented distribution along 460 miles of western North America. Although they occupy only a small land area, primary (unlogged, old-growth) redwood forests are globally renowned. Extreme resistance to fire, fungi, and herbivores allows redwoods to become the tallest trees on Earth and live more than 2,000 years. These same qualities make excellent lumber, and redwoods have been heavily exploited by logging. Less than 5% of primary redwood forests remain (176 square miles), and mature (> 100 years old) secondary forests are even scarcer (42 square miles) because forests are logged repeatedly. Non-timber values like long-term carbon sequestration and biodiversity provisioning warrant closer consideration in this era of environmental disruption.

#### How Might Redwoods Fare in a Changing Climate, and What Can We Do To Help?

To answer these questions, we visited 45 locations (32 primary and 13 secondary forests) from California's Monterey County to Oregon's Curry County. We climbed 235 trees, measuring each one from base to top and extracting thin core samples. Redwoods, like other temperate-zone trees, store their growth histories in annual rings, and cores are a non-destructive way to read a tree's story. We took core samples from trunks at regular height intervals because sampling only near ground level tends to underestimate growth rates (more biomass production occurs within crowns as trees enlarge with age). Overall, we sampled 1.2 million



Although redwoods occupy only a small land area, they are globally renowned for their great size, longevity, and grandeur. PHOTO BY M. ANTOINE

annual rings, which were crossdated by Cal Poly Humboldt dendrochronologist Allyson Carroll. These data were combined with intensive measurements and allometric equations to reconstruct tree size and productivity through time. Redwood performance was modeled as functions of tree attributes, landscape position, and climate. Funding for this work came from Kenneth L. Fisher (Chair in Redwood Forest Ecology at Cal Poly Humboldt) and the Save the Redwoods League (Redwoods and Climate Change Initiative, Phase 3). Our rangewide analysis was recently published in *Forest Ecology and Management*—526 (2022) 120573. **What we learned is cause for both concern and hope.**

#### Which Climatic Variables Affect Redwood Productivity?

Redwood habitat suitability is generally dependent on soil water replenished through rain and fog drip as well as water absorption through foliage. The redwood range spans over 6° of latitude. Rain and summer fog are highest in the north and lowest in the south. Trees north of 40° are least drought-sensitive, making similar biomass in dry and wet years, while trees south of 37° are most sensitive. The extravagantly wet start to 2023 sets an unlikely stage for talking about drought, yet the climatic variable most related to redwood growth is a drought index encompassing both water availability and temperature variability.

Drought sensitivity has recently been increasing throughout the redwood range.



Southern trees experience problems earlier during multi-year droughts, and they recover more slowly from extreme drought than northern trees. Across the range, smaller and younger trees in secondary forests experience more growth suppression during extreme drought than larger and older trees in primary forests. In late 2022, when our analysis was published, the whole redwood range was once again in the midst of a multi-year drought. Abundant rain returned to the region in early 2023 with excessive precipitation and extreme winds presenting an entirely different challenge to redwoods.

Regardless of precipitation, the redwood range will experience progressive drying due to global warming. Temperatures are highest in the south, lowest in the north, and rising steadily, especially at night. The drying power of air—vapor pressure deficit (VPD)—increases exponentially with temperature. High daytime VPD means trees need to close their leaf stomata earlier in the day to prevent damaging water loss. This limits photosynthesis, but

such “source limitation” is mitigated by rising atmospheric carbon dioxide (CO<sub>2</sub>) levels. In today’s enriched atmosphere (CO<sub>2</sub> currently 419 parts per million, was 317 in 1960), trees can partially close leaf stomata to reduce water loss and still absorb plenty of CO<sub>2</sub> for photosynthesis. Nevertheless, heatwaves with extreme daytime temperatures can lead to treetop dieback, and another temperature effect directly inhibits radial growth of redwoods.

Growing season minimum temperatures are increasing as nights become unusually warm. High nocturnal VPD creates problems in the layer of dividing cells where new wood is made (the cambium). Dry air at night prevents sufficient turgor pressure to develop in the cambium for cell division and enlargement. With this “sink limitation” too few cells are produced to make new wood, so sugar produced by leaves via photosynthesis must be stored or used elsewhere. Where? Roots and mycorrhizal fungi are a definite possibility, though the belowground biology of redwoods remains largely unexplored.

Another major sink is indicated by the name of the tree itself—the wood is red because of heartwood chemicals that resist fungal decay. **Heartwood fungicide is redwood’s superpower.**

Trees strike a balance between making new tissues and protecting them from corruption. We express this balance with the metric “growth efficiency”—the amount of biomass produced annually per unit leaf mass. **Sink limitations due to warmer, drier nights reduce growth efficiency but may increase wood quality, because excess sugar is used to make fungicide, not tree rings.** Coastal fog helps to lower VPD, and nighttime fog is one of the best predictors of redwood growth efficiency. During multi-year hotter droughts, redwoods in forests lacking sufficient nighttime fog will see the most growth inhibition, but again, their heartwood may become more durable. This could be a silver lining of climate change, though it is more complicated because young and old redwoods aren’t equivalent.



Coastal fog helps alleviate drought stress. Nighttime fog, in particular, is one of the best predictors of redwood growth efficiency.

PHOTO BY S. SILLETT





In the wettest, foggiest part of the range, canopy communities include ferns, shrubs, and even trees growing high above the ground. PHOTO BY S. SILLETT

A bigger tree makes more wood annually than a smaller tree because it has more leaves, and the older a redwood gets the greater its annual investment in fungicide. Heartwood production and fungicide investment are both higher in primary than secondary forests throughout the range. This means secondary forests are generally less effective than primary forests at long-term carbon sequestration, and the capacity of regenerating forests to sequester carbon in durable biomass may be overestimated. Considering 95% of current redwood forests are relatively young, the priority is clear—we need more big old redwoods on the landscape.

### Elder Trees

Managing redwoods as short-rotation crops squanders the potential of a species that can live for two millennia. Long-term carbon sequestration is one issue, and biodiversity is another. These two non-timber values are interconnected because decay-resistant heartwood creates long-lasting substrates for epiphytes (plants that grow on plants without parasitism), including giant fern mats and ericaceous shrubs in the wettest part of the redwood range. Vascular epiphytes like ferns and shrubs represent an endpoint in epiphyte community

development. Tree structural complexity promotes biodiversity—the largest and oldest trees host the bulk of arboreal life

in addition to being carbon-sequestration champions. We've gotten to know redwoods very well over the past few decades and have come to think of exceptional individuals as elder trees.

We choose the word “elder” with intention both figurative and literal. The word applies figuratively because respect for elders is a cherished value in most cultural traditions worldwide. The literal sense of the word is demonstrated by the data—of 235 study trees only 34 hosted vascular epiphytes, and their average age was over 1,100 years. The biggest, gnarliest, epiphyte-laden trees are precious individuals that deserve all the reverence implied by the term “elder.” With over 95% of redwood forests having been logged at least once, elder trees are now rare on the landscape. This reality becomes



Extreme long life and decay resistance allow redwoods to accumulate durable structures that promote arboreal biodiversity. PHOTO BY S. SILLETT





Redwoods in the southern part of the range have higher drought sensitivity and less post-drought recovery than those further north. PHOTO BY S. SILLETT

starker with each major fire, landslide, or flood event that causes attrition in the last remaining primary forests.

### **What Can We Do to Help?**

We can literally grow hope for the future by designating potential elder trees (PETs). Imagine an approach where some of the most robust individual trees in a secondary forest are chosen to become part of the long-term inventory. These may or may not be trees with the largest trunk diameter. PET selection should also consider crown structure, where trees with the biggest branches and complexity such as limbs and reiterated trunks show exceptional promise. The PET acronym is apt because it conveys the sense of caring we associate with our beloved animal companions. In the

case of these special trees, if we tend and nurture them, they will thrive.

Work is underway to establish objective criteria for PET selection. Once PETs are designated, future forest management can be designed to promote their health and vigor, including thinning of crowded tree neighborhoods. Over time, a decreasing number of enlarging trees will produce increasingly durable biomass with some minimum number of PETs gaining full stature and becoming elder trees. With the PET strategy, wood production and non-timber values are not mutually exclusive. While the PET idea is not limited to redwoods, the extreme size and longevity of this species make it ideal for this tree-based approach to forest management.

### **Variability of Redwoods**

The variability of redwood—from gallery forests of California's Santa Lucia Mountains receiving less than 30 inches of annual precipitation to rainforests in southwestern Oregon receiving more than 80 inches, from foggy forests near the immediate coast to isolated canyons 30 miles from the ocean with little marine influence, and from lowland alluvial forests where redwood contributes over 99% of aboveground biomass to coastal montane forests dominated by other species—makes establishing realistic restoration targets across its range difficult.

### **Where Do We Start?**

The PET approach has maximum impact in the northern part of the redwood range





Redwoods' resilience and amazing ability to resprout after fire make them particularly well-equipped to persist in an uncertain future. PHOTO BY M. ANTOINE

because of ecologically important vascular epiphytes. While it's generally true that crown structural complexity promotes arboreal biodiversity, well-developed epiphyte communities including ferns, shrubs, and canopy soil occur only in elder trees of the wettest and foggiest forests. The northern range also has the most land area occupied by secondary forests with unrealized potential for long-term carbon sequestration. Young trees north of 40° have the highest growth efficiency and lowest investment in heartwood defense.

In other words, northern redwoods grow efficiently, but unless they are allowed to grow old, they produce relatively small amounts of low-quality heartwood with little fungicide. Promoting redwood PETs in the northern range will maximize future contributions of long-term carbon sequestration and arboreal biodiversity. Ongoing research shows that development of arboreal biodiversity can be accelerated by transplanting ferns into PET crowns. Even in places where

climate doesn't allow vascular epiphytes, PETs promise benefits such as long-term carbon sequestration, improved fire resistance, and the inspirational value of elder trees.

### In an Uncertain Future

The loss of so many redwoods in recent winter storms highlights the urgency of restoring big old trees to the landscape beyond the few remaining primary forests in parks and reserves. From floods and landslides to fire and drought, extreme events are becoming more frequent. A thriving PET population rangewide would give redwoods their best chance to contribute non-timber values in perpetuity. Realistically, these iconic trees might experience top dieback during extreme daytime temperatures and produce less wood because of higher nighttime temperatures. Hotter droughts and severe wildfires might even cause contraction of the species range near its range margins. However, with thick fire-resistant bark and an amazing capacity for clonal reproduction via sprouting, few tree species are so well equipped to persist in an uncertain future. Our actions now will determine the quality of forests to be enjoyed by generations to come.

The full article, Stephen C. Sillett et al. Rangewide climatic sensitivities and non-timber values of tall *Sequoia sempervirens* forests. *Forest Ecology and Management* 526 (2022) 120573, can be found at:

<https://www.sciencedirect.com/science/article/pii/S0378112722005679?via%3Dihub>

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**Sequoia sempervirens**  
 BY ROGER CULOS -  
 OWN WORK, BY WAY OF  
 COMMONS.WIKIMEDIA.ORG





# 25<sup>th</sup> Annual Coho Confab in the South Fork Eel River

## Returning to the Roots of Coho Salmon Restoration

### August 25-27, 2023

Salmonid Restoration Federation (SRF) is coordinating the 25<sup>th</sup> Annual Coho Confab that will take place August 25-27 on the Mattole River in Humboldt County. This year's Coho Confab will be held at the Mattole Retreat Center which is on the banks of the beautiful Mattole River in Petrolia, CA at the westernmost point of the Continental U.S.

The Coho Confab is a field symposium to learn about watershed restoration and techniques to restore and recover coho salmon populations. The Confab provides an ideal opportunity to network with other fish-centric people and to participate in field tours that highlight innovative salmon restoration practices. This year, SRF is collaborating with several groups to produce this educational event including Sanctuary Forest, Mattole Restoration Council, Mattole Salmon Group, Stillwater Sciences, and Eel River Watershed Improvement Group. The Confab is funded through CDFW's Fisheries Restoration Grant Program.

The Coho Confab will open Friday evening, August 25<sup>th</sup> with a community dinner and inspiring orientation presentations. Tasha McKee, Water Project Director of Sanctuary Forest, will present on the *Evolution of Streamflow Projects in the Mattole Headwaters*.

Tasha reflects, "WOW—it has been 21 years since we started this work in response to the summer of 2002 when the Mattole River stopped flowing just upstream of the Shelter Cove Bridge crossing. We hoped it was a rare drought but as the years have gone by, extreme low flows have occurred in most years with 2021 being the lowest. Our thinking has evolved along with our projects—both in response to the severity and frequency of drought and also learning what we can expect from the different approaches we have tried for improving streamflow. We hope to share our journey from



The Mattole River Estuary PHOTO COURTESY SRF

storage and forbearance, to groundwater recharge projects and most recently, streamflow augmentation ponds with metered delivery for the lowest flow months. We look forward to discussing these approaches and touring pilot projects—instream groundwater recharge projects that compare beaver dam analogs with log weirs and use of subsurface clay restrictive barriers to slow the subsurface flow. We will also discuss the need for upslope water sources and tour upslope groundwater recharge projects and upslope flow augmentation ponds. Project outcomes, lessons learned and the evolving science underlying the projects will be discussed, within the context of restoring salmonid rearing habitat. We look forward to learning from the group and exploring the many questions that come along with this work—how much wetted channel do we need to restore and how much is actually feasible? Is it even possible to maintain flow throughout these drought years—or instead should we target specific habitat reaches and pools with sufficient water for isolated salmonids to survive?"

Other orientation talks will include an overview by Flora Brain, Mattole Field Institute and King Range Alliance Coordinator, for the Mattole Field Institute program and the development of a land-based Resilience, Education, and

Research Station that could serve as a Cal Poly Humboldt Field Station and also a tribal interpretation and cultural center for the Bear River Band. The Mattole Salmon Group will also present on the concept of *Fewer Trees on the Ridges, More Trees in the Creek* as a primer for their exciting tour.

Mattole Confab field tours will include a full-day tour to the Mattole headwaters to see beaver dam analogues, flow enhancement projects, and Baker Creek led by Sanctuary Forest and Stillwater Sciences. The Mattole Salmon Group, Mattole Restoration Council, and Bureau of Land Management scientists will lead the tour, *Fewer Trees on the Ridges, More Trees in the Creek*, to showcase restoration work combining fuels reduction and instream wood placement across public and private land in the middle Mattole River.

Other potential tours will include visits to the beautiful Mattole estuary, restoration projects in the South Fork Eel, and perhaps a tour of Bull Creek that has been a study site in Redwood National Park for many years and for many projects.

The full Confab agenda will be available in May and registration is already open for this exciting event.

🌲 For more info: [www.calsalmon.org](http://www.calsalmon.org)



# Northern California Tribes and Agencies Plan for Tribal Land Return

## Tribes Ask State to Update Policies and Join Fight for Unrecognized Tribes and Water Protection at LandBack Symposium

Arcata, CA, from March 28, 2023 Press Release—Save California Salmon and Cal Poly Humboldt’s Native American Studies Department hosted the *Northern California LandBack Symposium*. This first-of-its-kind free event featured Tribal and State leaders, university representatives, foundations, NGOs, land trusts, and lawyers who work to return land to Northern California Tribes and Tribal land trusts.

LandBack is a proven strategy for building climate resilience and addressing some of the most pressing environmental issues facing the State of California and beyond. Indigenous stewardship builds community resilience, positively impacting the biodiversity of the landscape and the mental well being of its inhabitants.

“Our well being has always been interwoven with our natural resources,” explained Jason Reed from the Hoopa Valley Tribe. “Presently our salmon



Winnemem Wintu Chief Caleen Sisk (left) addresses panelists at the Northern California LandBack Symposium. ALL PHOTOS THIS ARTICLE COURTESY OF SAVE CALIFORNIA SALMON.

populations are on the brink of extinction and our water is being polluted. The last 170 years of land mismanagement have contributed to high rates of heart disease, poverty, suicide, addiction. Being able to manage these resources again will improve our physical, mental, emotional, and also our cultural well being.”

LandBack is also a way to help Tribes heal from attempted genocide, allowing them to return to sacred lands without

burdensome restrictions. For instance, over 1000 acres of land was recently returned to the Karuk Tribe from the U.S. Forest Service. These lands are used for the Tribe’s world renewal ceremonies. The return of these ceremonial lands took an act of Congress.

“The Tribal boarding schools and forced assimilation were not that long ago. Our parents and grandparents weren’t allowed to speak our language, practice our culture, but they stayed strong and they stayed resilient. Now there is a movement and it is getting our land back, our ceremonies back, and tying it all together,” explained Karuk Tribe Vice Chairman Kenneth Brink.

In California, implementing land return and protecting Tribal rights can be especially difficult due to the state’s history of refusing to ratify Treaties and of terminating Tribes located in lands that they wanted for building infrastructure, such as dams. Due to this, many Tribes do not have access to sacred sites or have any land holdings. This has meant that many



Indigenous Land Trusts panelists from left to right: Peter Colby (California Program Director, Western Rivers), Trina Cunningham (Executive Director of the Maidu Summit Consortium), and Corrina Gould (Co-Director, The Sogorea Te’ Land Trust). Priscilla Hunter (InterTribal Sinkiyone Wilderness Council) also participated as a panelist via Zoom video.



Tribes have had to create land trusts or work with power companies and agencies to hold, use, or manage lands.

“The work and advocacy that we do, it is for the healing and health of our communities and that is only going to happen when we are able to be on our own land freely, when we are able to practice ceremonies without burdens and limitations from people like the Forest Service. We need to be able to have full access and first rights to our sacred lands,” stated Save California Salmon Board Tribal Water Organizer Morning Star Gali.

Wade Crowfoot, California’s Resource Agency Secretary has committed to supporting Tribal land return. He brought up several steps the state has taken to support Tribes and Tribal land return since Governor Gavin Newsom’s apology for California’s genocide during his statements. The steps highlighted were focused around land return and restoration funding through the state’s 30x30 plan, along with recently completed first right of refusal policies for Tribes in land sales and disposal through California energy agencies.



Cal Poly Humboldt Native American Studies Department Chair Dr. Cutcha Risling Baldy speaks at the symposium.

“While we can be proud of our collective progress, there is so much work ahead of us,” explained Crowfoot. “The Newsom administration has three and a half more years left...we are really focused on continuing to drive down the field and identify real, substantive, durable land return, more resource partnerships and stewardship together, and then figuring out ways to institutionalize this. So our best practices I talked about today become our common practices across the agencies, and we will look to the results and conclusions of this conference to help guide us.”

While the State of California has done work to improve pathways to land return and promote the co-management of state occupied lands, significant barriers still stand between Indigenous peoples and the stewardship of their ancestral lands, especially for non-federally recognized Tribes.

“In my personal experience when it comes to consultation they do not care if we are federally recognized or non-federally recognized. We have been treated like the ‘Indian Problem’ in the room,” stated Morning Star Gali in her remarks.

Continued on page 39





# An Ecosystem of The Mind

For the record, I continue to investigate this lifelong obsession: forest, forests, but in particular, this forest outside my backdoor, this sister-city to the foggy, mossy, disorderly ecosystem of my mind. Jackson—I must use the name, not because I like it or approve of it, but because we haven't agreed on a better name. English—I must use the language, not because I necessarily like it, agree with it, or even find it satisfactory for expressing the reality I perceive, but because I was born in an ex-colony and raised colonized. My thought patterns were shaped by *civilizations* that looked to the sky for divinity, that learned the word 'dominion' as their birthright. I, like so many, was deeded an obligation to conquer and 'manage' the natural world. I am heir to empires, slave to paradigms that continue to marginalize, destroy, or assimilate the planet and all of us of any race who feel the divine in the soil beneath our feet, who hear voices and songs in the winds that caress our skin.

Obsession: I have written about this obsession in other places. I have seen people overtaken and possessed by forests before. I myself am in the thrall of Jackson, going on 28 years now. The mycelium has entered and nourished me; spiders have walked upon my skin while ticks have feasted on my blood. Raven overseers have spoken and I have listened, rapt, wishing I could understand but one word.

I have traveled more miles here than anywhere else in my life, know the paths like the deepening lines on my face—but still I get lost in the fog, still I circle back upon myself like Pooh and Piglet in



The author with an old Western hemlock. PHOTO BY EVAN MILLS

the Hundred Acre Wood, over cypress, manzanita, and pine-covered terraces, in deep redwood ravines, straying, straying, as my prints are joined by other prints and I become part of an invisible throng.

Yes.

I am not alone.

Jackson: that name again. I am sure Jacob Greene Jackson The Rapacious, that 19<sup>th</sup>-



century timber baron, was obsessed as well. But my present obsession is surely distinct from his. I can only imagine that sums and saws and ledgers and logs filled his nights, while I would gladly and unceremoniously ditch his name in some ravine, perhaps drown it in Caspar Creek, let it float out to be lost at sea with the SS Frolic and other shipwrecks.

Others—folks whom I look upon more kindly, people whose names shall remain vague—have walked or ridden with me in the past and now risk their lives for a place they barely knew of just a few dozen months ago. Still others fought and fought, years back, took a break for a decade, and now fight again, only a couple strides missed in the interim.

What is it, I ask at 3:35 am, that keeps so many of us entangled? Wealth? There are many kinds of wealth here, but the kind that brings financial gain can only



The delectable *Laetiporus sulphureus*. PHOTO BY CHAD SWIMMER



New shoots of *Veratrum fimbriatum* breaking through the winter-time forest floor. PHOTO BY CHAD SWIMMER

stripmine the soul. Other treasures are more keen: the fecund and brisk air after a storm, like gold. The spirits of the grand ancient trees, the ghosts of the slaughtered. Could it be they that keep diverting my dreams? Those trillium—also my elders—those turtles in the hidden ponds? On occasion I even secretly suspect the usnea that dangles in various shades of gray-green from old branches, streaming in the breezes before being rent asunder and woven into birds' nests.

There is an ecosystem of the imagination here, its bounds not mapped, its depths not plumbed. There is a forest inside my skull, in some queer manner a mirror of the neural map of mycorrhizae weaving through the loam. Even deeper beneath this web lurk secret wetlands, known only to burrowing creatures, giant salamanders, and to the rare person who has noticed certain perpetually thirsty plants demarcating seeps that silently nourish those amphibians, worms,





An unusually stacked *Ganoderma brownii*. PHOTO BY CHAD SWIMMER

bacteria; the roots that dance with fungal threads, sipping cool spring water and sharing life's syrup all the while.

To call this a redwood forest is of a fashion to blind oneself. To 'man'age it for anything at all is to neglect to notice that it actually would be much better at foresting us.

Jackson—that damn name again. Jackson Demonstration State Forest. We might as well call it a sword fern forest, a western gray squirrel forest, a plein-air concert

hall for the minute but grandiose winter wren. A subterranean playground for the Pacific giant salamander. A valhalla for chipmunks and chickarees.

This is a place that defies both science and the English language, but at the same time partly defines the word that is me. The we, however, the nearly-blind, mostly monolingual beings presently responsible for either this forest's salvation or its destruction, its desiccation or its deification, we must make do with what empirical observations and vocabulary

we have been afforded. We must listen, slow down, stop yearning so darn much for a happy ending or a package that when unwrapped will yield comprehensibly tasty contents.

**The future to us is unwritten but the past is clear: this forest should have remained ancient in the first place.** Where we allow time to take us is dependent on a narrative chanted in an obscure tongue. I can not and do not expect the loose ends to be tied up into an ornate bow. I fiercely want to 'save' it—to see it saved—but to be honest I am not sure what saving it would actually mean.

Instead, I venture out in my uncertainty beneath the boughs, past midnight, past December. There is nothing in the dark that can hurt me more than we have hurt it. Sometimes I walk miles before dawn. I am not alone, nor am I misplaced beneath the stars of this magnificent morass, this ecosystem of our collective mind.

I pass skunks—their white lines weaving in the blackness—pass deer nibbling, bobcats stalking, bears grunting, browsing, and lumbering. I am certain I pass an occasional mountain lion. Who really—I sometimes bother to ask—are the monsters here? Who really could be my friend, and why?

*Chad Swimmer is an activist, educator, naturalist, musician, and gardener who has lived on the unceded land known as the Mendocino Coast since 1986. He co-founded the Mendocino Trail Stewards, the Coalition to Save Jackson, APAN-Mendo Needle Exchange, Touchstone Soup Kitchen, and is now the Chief Organizer of Disquiet Media, with three monthly radio shows originating from KZYY, Listener-Powered Community Radio for Mendocino County and Beyond. All of his radio shows can be accessed at [www.disquietmedia.blue](http://www.disquietmedia.blue)*





# Diggin' In The Richard Gienger Report

## Nancy Peregrine and the Fight for Sally Bell Grove Remembered, Paying Attention to Local Forestry, Enacting Good Stewardship, Book Nook

Once again, some things to share: Part of my last column was dedicated to Nancy Peregrine, Fred “Coyote” Downey, and Lon Mulvaney, all lost by the community recently. This column is being drafted just before a celebration of Nancy’s life at the Mateel Community Center on March 18<sup>th</sup>. Nancy positively influenced hundreds of persons and perspectives during her lifetime. I am going to focus on two high impacts she had: protection of the Sally Bell Grove and the Sinkyone Wilderness Coast, and the struggle to save Vista Ridge, a spectacular old-growth Douglas-fir grove along the headwaters of the Mattole River.



What became known as the Sally Bell Grove in the middle, after the 1977 THP G-P clear-cut. PHOTO BY RICHARD GIENGER

### Nancy Was There

Nancy was essential connective consciousness for what she sometimes referred to as the “unintentional” community of Whale Gulch and

neighboring villages. Starting in the 1970s there was strong sentiment across many communities to protect any old growth and remnant forests, especially among “reinhabitants/hippies” witnessing the impacts of “total logging” and massive floods. Locally this focus was especially strong in resisting the depredations of Georgia-Pacific (G-P), starting in 1975, in its relentless drive to take all remaining merchantable timber, particularly old-growth redwood between Usal and Bear Harbor. People appealed to every possible ally and process to stop the destruction—exhausting administrative and legislative remedies (due diligence, due diligence, due diligence; Timber Harvest Plan by THP, and trying to stop the destruction of one after another archaeological/cultural sites).

In September 1977, G-P filed a plan to take all timber out of Little Jackass Creek canyon. (Lots of details for another time: Cal Parks and Rec combining the Bear Harbor and Usal projects—also in September 1977 in Fort Bragg—that



Nancy Peregrine, along with teachers Sandra and Kristy, surround by Whale Gulch kids as they pack up for a Llama hike sometime in the 1980s—one of the many things she did that influenced and taught both adults and children. PHOTO BY JANICE SADON





The start of a field tour on Feb. 19, 2023, following the 2<sup>nd</sup> N-Shong Konk' "Good Fire" event at the Mateel Community center, to Duggan's Opening and Chinquapin Springs Tan Oak Grove. This focused on information critical to applying Traditional Ecological Knowledge (TEK) in order to recover those two places with local and regional Indigenous partners. PHOTO BY KATHY MOXON

would become the current Sinkyone State Wilderness, InterTribal Sinkyone Wilderness, and Sinkyone Wilderness State Park.) The California Department of Forestry backed G-P down to do the cutting in stages.

After continued protracted struggle came the proverbial last straw: G-P came back in 1983 for the remaining old growth in the Little Jackass Creek watershed, which almost immediately became known as the Sally Bell Grove watershed, because that keystone ridge preserved the old-growth presence behind and above the beautiful cove at the base of the canyon and the ancient and precious cultural heritage. Sally Bell was a renowned survivor of a massacre of Native people in the Needle Rock area that took most of her family. The clearcut THP triggered the start of litigation in a Mendocino County court—what became the precedent-setting EPIC v. Johnson Appeal Court decision in 1985 (Environmental Protection Information Center and the International Indian Treaty Council v. California Department of Forestry and G-P).

Cutting to the dire situation: G-P moving in to cut as soon as the THP was approved and no restraining order or stay in place.

Concerned surrounding communities had come together close to Nancy's home. Mike Roselle, fresh from civil defense of the Kalmiopsis Wilderness in Oregon, came to help get affinity groups together. He and other veterans of the struggles against herbicides and nuclear power plants get deep into non-violent resistance. And the morning of the day came: "They are cutting, they are cutting!" Several waves of civil defense ensued. Some trees had been cut, then operations were stopped on the first day the civil defenders showed up. But in the time between the adverse ruling of the local court and action by the appeals court, the situation on the ground got out of hand. G-P fallers were trying to cut as much and as fast as they could. Mem Hill was caught under a Tan Oak tree toppled by an old-growth redwood. Seven women were arrested and taken to jail in Ukiah. And then the Appeals Court Stay of Operation came through, but it took a while for the sheriffs to ensure enforcement throughout the Grove. Anxiety, anxiety...how are the women doing? No worry, the contagious and joyful laughter of Nancy Peregrine spread through the jail, a true expression of inspiring indomitable spirit.

Nancy displayed the same fortitude and responsibility in defense of the old-growth Douglas-fir grove on Vista Ridge, watching out for forest defenders and keeping close constant radio contact to relay a court-ordered stop of operations as soon as it happened. And she did. Law enforcement typically took some time to get its own verification. Unfortunately the grove was later cut, but through multiple efforts of Sanctuary Forest and funding from the State of California and support from others, Vista Ridge is permanently protected as a key part of the extensive area conserved in the salmonid refugia and precious old-growth groves and stands of the Mattole River Headwaters. Nancy was there *allatime*.

### Quite a Winter

It's been quite a winter and almost to spring: big rains labeled atmospheric rivers, earthquakes, and snow from late December 2022 through March 2023. Rio Dell and Fernbridge experienced major shakeup and damage, roads failing (dropping out, buried, or blocked), power lines down, thousands of trees falling down, deep snow and drifts. People were trapped in or close to home for days or even weeks. Whale Gulch was



hit especially heavy on the coast with unusual amounts of snow coupled with winds and water-saturated soils.

And how about Highway 101 with two lanes gone from the two-lane overlook of the historic Reggae on the River site? The landslide has been and will continue to be active on an outside bend of the South Fork Eel River. And, ahem, this brings up CalTrans still trying to shove through the Richardson Grove boondoggle in this same area. This will be EPIC's fourth "head them off at the pass" moment—and the Humboldt County Supervisors may be joining the opposition. From the beginning the CalTrans Richardson Grove project made no sense, even beyond the unacceptable impact on the Grove. The Richardson Grove section itself is stable, but the ground above outside bends of the South Fork on either side of the Grove IS NOT. On the south side, Highway 101 was basically erased by this year's winter storms, and on the north side freshly applied asphalt is covering up subsidence and "scarpage" that have been underway almost every year, and in geological time. Better save your millions (billions), CalTrans and California, for real highway problems. Lay off the needless cosmetic and adverse-impact-prone fake problems.

### **Please Pay Attention!**

And the rants keep coming: Please pay attention to the ongoing and multifaceted PG&E industrial powergrid nightmare. PG&E information and action link: <http://endpowerlinefires.com>

Please pay attention to the need for real forest and water stewardship, including dam removal, co-management, and landback. Got to turn it around, bit by bit, step by step, model by model.

Save California Salmon is a highly recommended non-profit giving solidly sane takes on issues, events, and action as if people and the Earth matter.

Please pay attention to turning around the industrial plantation-based economies that so much of the world is trapped in. At least make headway on alternative models whenever you can and wherever you are.

Right now the future of the stewardship of California forests, for the forested watersheds and the people who depend on them, is swaying in the balance of making a viable model for the future in Jackson Demonstration State Forest. This is a last chance to model a watershed recovery that can work and be broadly applied. The vision and decisions about this "modernization" must transcend political sleight of hand and the continued cadre of control by the CAL FIRE/Board of Forestry/Forest Industrial complex.

Talkin' about that Board of Forestry, back then and again now...

Been trying to sketch out information pertaining to all of this in the 72 "Diggin'

In" columns so far written for *Forest and River News*. Before I turn to some examples of good news, I want to share some earnest, thoughtful, real, and gentle but firmly expressed critiques of the Board of Forestry and CAL FIRE by Kim Rodrigues, RPE, former Board of Forestry and Professional Forester Examining Committee member. She has had an outstanding career with UC Cooperative Extension—Agriculture and Natural Resources. This was written in May 2016 when Kim concluded that she was unable to commit to the degree of engagement that she felt was necessary to continue as a Board member. You may notice her emphasis on AB 1492 and Pilot Project Watersheds. These two basic actions are supposed to be a foundation for forest and watershed recovery with full public participation and transparency, but they were "kicked to the curb" after that intent and implementation was subverted and ignored.



Kathy McCovey, Karuk Cultural Fire Specialist; Perry Lincoln, Native Health in Native Hands and Trees Foundation Board member; and Kathy Moxon, RFFI during the opening circle to the Feb 19 hike. Perry started things off with an Indigenous song and story. PHOTO BY ALICIA LITTLETREE BALES





Richard Gienger addresses Geneva Thompson, California Assistant Secretary of Tribal Affairs, at a recent LandBack Symposium (see page 18 for details). Ellen Taylor and Michael Evenson of Lost Coast League listen on right. PHOTO BY KERRY REYNOLDS

### Excerpts from Kim Rodrigues 2016 Letter

“The BOF is addressing critical, long-term issues that will influence our future forest structure and function for decades to come, particularly during this period of intense management pressures due to drought-related mortality and climate change. This is a huge responsibility and requires fully committed BOF members.”

“... support future efforts to more fully engage the public and all interested stakeholders in AB 1492 efforts, including the Pilot Project Watersheds...”

“... understanding and leadership in bridging the gaps between the BOF, CAL FIRE, and the interagency partners is one of the most critical elements in developing long-term options to help protect, maintain, and enhance our forestry resources and all associated benefits, most critically our watersheds.”

“The workload is unreasonable for a person that also holds a full-time position in their professional field, unless they can be released from other job duties during their service. This can lead to real or perceived conflicts of interest as the industry has ‘paid’ representatives on the BOF, while it is difficult to find and retain informed and engaged public members.”

“... I believe that the representation of the BOF membership may not provide the required expertise to meet the needs of the state. In addition to the statutorily required representation of the BOF, you might consider an interdisciplinary balance, as well. A forest hydrologist or fisheries biologist in a public member position would greatly advance and enhance the BOF. The emerging interagency and public stakeholder group affiliated with AB 1492 may provide welcomed and needed input to the ongoing BOF committee processes and related public engagement efforts within the Pilot Project Watersheds.”

“...the tensions between forestry as an integrated ecological science and fire prevention and control are often at odds. BOF and CAL FIRE staff turnover is also very high, adding to a lack of institutional knowledge and support of long-term goals. . . .”

“Ultimately, the California Natural Resources Agency needs to assume the responsibility of verifying that the Forest Practice Rules are being implemented to protect the public trust resources from negative cumulative impacts and to sustain resilient forests. This cannot be accomplished within CAL FIRE alone. It is a public trust responsibility requiring interagency expertise and collaboration, and the AB 1492 process provides an opportunity and a responsibility to ensure these public trusts are maintained and protected. It is critical to engage the public in all aspects of this work.”

“I recommend reviewing and seriously considering the recommendations from Report No. 46, June 2001, ‘A Scientific Basis for the Prediction of Cumulative Watershed Effects,’ as a relevant point of reference for our current forestry challenges. Many of these recommendations remain relevant to the current situation and may inform the interagency efforts.”

There we go folks, documenting basic, chronic, controllable, and correctable problems that have been clear for a long time. Moving on to the more hopeful items to wrap up now.

### Local and Regional Bright Spots

There are multiple active projects and proposals that especially address fire and forest stewardship. Fire departments and companies, fire-safe councils, tribes, for-profit and non-profit organizations, and layers of government from municipal to county to state to national are all engaged. A recent proposal was submitted for Traditional Ecological Knowledge



(TEK) fire on Duggans Opening and Chinquapin Springs Tan Oak Grove in ridges between the South Fork Eel and Usal watersheds. The proposal is co-sponsored by Eel River Wailaki, Native Health in Native Hands, Southern Humboldt Prescribed Burn Association, and Redwood Forest Foundation, Inc. (RFFI)/Usal Redwood Forest.

Good fire burns are being planned for many locations, including Southern Humboldt Community Park and Mail Ridge. Salmon Creek and Telegraph Ridge recently received key funding. There is too much happening on this front for me to fully describe.

The North Coast Resource Partnership is a long term, collaboration among Northern California Tribes, counties, and diverse stakeholders. To view many of their innovative past, present, and future projects visit: [NorthcoastResourcePartnershipProjects.org](http://NorthcoastResourcePartnershipProjects.org)

### Another Quick Positive Note

The 24<sup>th</sup> Annual Coho Confab in September 2022 went splendidly. I was especially moved by the tour of Anderson Creek's Coho refugia, with more than 20 other participants. This creek—a lot of

it within RFFI's Usal Redwood Forest as well as Sinkyone State Wilderness and the InterTribal Sinkyone Wilderness—had more than a dozen spawning Coho in late December 2022, according to reports. [See page 17 for information on this year's Coho Confab.]

### Stretching Out to Give You Six Suggested Readings

The six include three 2022 books written by deep researcher of Humboldt County, Jerry Rohde. All three are available at Blue Moon Gift Shop in Garberville, CA and other outlets in Northern Humboldt and nationally.

- 1) *Southern Humboldt Indians*
- 2) *Southwest Humboldt Hinterlands*
- 3) *Southeast Humboldt Hinterlands*

My #4 suggestion offers lots of California and regional history in a book by Tom Harris about an incredible person and his career, including an Epilogue written by the man himself, Richard Wilson. One of my favorite parts is Chapter 5 about the Mendocino County Forest Practice Rules saga—foundational, folks, foundational.

- 4) *Stand for the Land—A Defining Duty of Richard A. Wilson*



Diana Totten (right) sharing observations at Duggan's Opening, a meadow restoration project planned on Redwood Forest Foundation, Inc. property. Rick Crenshaw, Natasha Carrico, and their son RJ Crenshaw listen while Alicia Littletree Bales records audio.

PHOTO BY KAREN YOUNGBLOOD

## To Get Involved

- ◆ Richard Gienger  
[rgrocks@humboldt.net](mailto:rgrocks@humboldt.net)  
707/223-6474
- ◆ EPIC  
[wildcalifornia.org](http://wildcalifornia.org)
- ◆ Forests Forever  
[www.forestsforever.org](http://www.forestsforever.org)
- ◆ Mendocino Trails Stewards  
[mendocinotrailstewards.org](http://mendocinotrailstewards.org)
- ◆ Pomo Land Back  
[www.pomolandback.com](http://www.pomolandback.com)
- ◆ Redwood Forest Foundation, Inc.  
[www.rffi.org](http://www.rffi.org)
- ◆ Sanctuary Forest  
[sanctuaryforest.org](http://sanctuaryforest.org)
- ◆ Save California Salmon  
[www.californiasalmon.org](http://www.californiasalmon.org)
- ◆ Save Jackson Coalition  
[savejackson.org](http://savejackson.org)

Not to get you too depressed, or riled up, but my fifth suggestion tunes you up for understanding a lot that is going on today. The exhaustively researched book by Gerald Horne gives facts on these dark (and recurring?) chapters of history.

- 5) *The Counter-Revolution of 1836: Texas Slavery & Jim Crow and the Roots of U.S. Fascism*

And #6, a new improved and expanded 3rd edition of John Perlin's classic book:

- 6) *A Forest Journey—The Role of Trees in the Fate of Civilization*

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

*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, 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.*





## Oregon grape, *Berberis aquifolium*

Oregon grape is a beautiful shrub, especially when in bloom. The sweetly fragrant flowers bloom in late winter and early spring and are pollinated by bees and moths. After pollination, berries appear in clusters and ripen to a deep purple—hence the use of ‘grape’ in the common name. Birds love the berries, which are tart but edible.

The inner bark of the roots is bright yellow due to the presence of the alkaloid berberine, which can be used as a dye and has many healthful properties. According to local herbalist Michele Palazzo, “The medicinal uses for Oregon grape root



Holly-shaped leaves and blooms of Oregon grape  
ALL PHOTOS THIS ARTICLE BY CHERYL LISIN



Long-leaf Oregon grape in bloom.

are diverse. It has antiviral, antibacterial, and antiseptic qualities and can be used externally on wounds and for many skin issues. A tea or alcohol extract can be taken internally to enhance the immune system to ward off viruses, bacteria, fungi, and parasites. It is anti-inflammatory and cleansing to the organs. Oregon grape root is a very useful remedy to have in your first aid kit when you are taking care of your family, hiking in the wild, or traveling the world.” Michele reminds us to harvest responsibly. “It is important to not over-harvest our wild plants!” Preparing Oregon grape root is beyond the scope of this article.

Oregon grape makes a good garden shrub, growing 5 to 8 feet tall and spreading by rhizomes to form thickets. Its shiny evergreen leaves are divided into 5 to 9 holly-shaped leaflets, which can turn a nice bronzy red color in winter. Once



established, it is drought-tolerant and deer don't tend to eat it. There is a dwarf form available in the nursery trade, sometimes called 'compacta' or 'repens'. Another species, long-leaf Oregon grape, *Berberis nervosa*, is also a great garden shrub, growing up to 2 feet tall, with longer leaves consisting of 7 to 23 leaflets and spire-shaped flower clusters.

Ranging from Canada to Mexico and east to the Great Plains, Oregon grape thrives in mountain and foothill habitats. It is not related to grapes but is in the Barberry Family, Berberidaceae. There are six species and subspecies of *Berberis* native to Northwest California, and more than 500 species worldwide, ranging from trees and shrubs to herbaceous perennials. Many people know Oregon grape by its former genus name, *Mahonia*, which was reclassified by scientists from *Berberis* many years ago and recently changed back to *Berberis* again.

*Special thanks to Herbalist, Teacher, and Proprietor of Mama Palazzo's Herbal Remedies, Michele Palazzo, for her contribution to this article.*



The bronze-red winter foliage of Oregon grape



Oregon grape in bloom.

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



# Growing Trees Foundation

In an effort to better serve our community and our partner groups, Trees Foundation has grown. We have new Staff, new Board Members, and a bustling new Forest Health and Fire Resources Program.

After serving nearly four years as our Organizational Development and Partner Outreach Director, Kerry Reynolds is moving into a new position as our Forest Health and Fire Resources Program Director. We are thrilled to welcome Mary Gaterud as our new Organizational Development and Partner Outreach Director, and Damien Roomets and Kyle Keegan as new members of the Forest Health and Fire Resources Program team.

We also proudly announce two new members of our Board, Elizabeth Redfeather and Perry Lincoln, both representatives of the First Peoples who engaged in responsible land stewardship of our home bio-region since before the measuring of time. Please join us in giving a heartfelt welcome to their honored participation in the leadership of our organization.



Kerry Reynolds (right) visits with Cultural Fire Management Council's Elizabeth Azzuz at the first N-Shong Konk' "Good Fire" event, co-sponsored by Trees Foundation, at the Mateel Community Center in Redway.

## Expanding Roots and Reaching for the Sky

**Elizabeth Redfeather** is a Tribal Member of the Round Valley Indian Tribes and she is proud of her rich culture as a descendant of ConCow, Wailaki, and Nomlaki Peoples. Born in Healdsburg, CA, she moved home to her Reservation around 2007 and now works as a Tribal Social Worker. Elizabeth is active in her traditional ceremonies and is a dancer with The Round Valley Feather Dancers. She also participates in the Nome Cult walk, a 100-mile trek that commemorates the tragic march of Indigenous survivors who were forcibly removed from their homelands in 1863. Her interests include advocating for Missing and Murdered Indigenous Women and Missing and Murdered Indigenous Persons (MMIW/MMIP), supporting restoration of the practice of cultural burning to prevent devastating wildfires, standing up for Mother Earth, saving sacred cultural sites, and learning all she can.



Elizabeth Redfeather in traditional regalia, dancing with Round Valley Feather Dancers.

**Perry Eugene Lincoln** is also a Tribal Member of the Round Valley Indian Tribes, and the Executive Director and Project Leader of Native Health in Native Hands (NHNH), a 501(c)3 nonprofit. Perry is a father and grandfather, and a

descendant of Wailaki, Yuki, and Pomo Peoples. Perry was raised surrounded by native elders, listening to stories, singing songs, talking about native culture, and attending many ceremonies, dances, and gatherings. He has been instrumental in revitalizing the Wailaki language, and tribal arts and crafts. He strives for collaborative bridges between different communities, and creating opportunities for native youth—such as accessing lands, building traditional redwood canoes, and learning ancestral languages. He believes that overall, it's not about any one person, but the act of building and supporting teamwork.



Perry Lincoln (left) with Star Lincoln at the opening of a field tour on Feb 19, 2023.

## The Germination of a New Cycle

We would also like to say goodbye, and thank you, to former Trees Foundation staff member **Mitchell Danforth** who was instrumental in developing the role of the Community Fire Resources Coordinator. We wish him well on his next adventure. He passes the torch to Damien Roomets, who assumes this current Trees Foundation staff position.



**Damien Roomets** moved to the North Coast of California from Park City, Utah in 2009. Drawn to the area's breathtaking landscape and the artist and activist culture, he has spent much of his time here in the woods working as an arborist and sawyer, volunteering as an active member of the Briceland Volunteer Fire Department, playing music, and living off-grid. He holds a Bachelor's degree focused in Environmental Economics from Dartmouth College, and brings a diverse background of work experience that includes prescribed fire, fuels reduction, building construction, nature photography, technical writing, and website development.

In his role as our new Community Fire Resources Coordinator, Damien is assisting in the many projects sprouting up as part of the Forest Health and Fire Resources Program. In the coming year, this includes coordinating defensible space assistance, home risk assessments, curbside chipper days and rural residential chipper days in the greater southern Humboldt area in partnership with the County of Humboldt and the Shelter Cove Resort Improvement District.



Damien Roomets (right) at a Briceland Volunteer Fire Department training with fellow firefighter Tanner Speas.



Kyle Keegan (right) at a volunteer work day at the Southern Humboldt Community Park, where an area is being prepped for cultural burning in the fall of 2023. PHOTO BY KERRY REYNOLDS

Already, Damien is busy assisting in fire resilience community outreach, local workforce capacity building, and fuels reduction and healthy land stewardship project development, thanks to two CAL FIRE Forest Health grants funded by the California Climate Investments (CCI) program.

This same funding has allowed us to welcome **Kyle Keegan** to our staff as a technical advisor and Salmon Creek Watershed landowner liaison. Currently, Kyle is providing free consultations and site visits to Salmon Creek landowners to assist them in connecting with grant opportunities for defensible space, fire hazard reduction, and forest health projects. Kyle's work with Trees Foundation includes conducting neotropical bird nest surveys for the Northern Mendocino Forest Health Collaborative project. Kyle joins Damien and Kerry in actively supporting the efforts of local Wailaki-led nonprofits Native Health in Native Hands and Eel River Wailaki in restoring cultural fire and other traditional cultural practices in the ancestral homelands of the Wailaki People.

Kyle, an ecological restorationist and longtime contributor to *Forest & River News*, co-operates the Fool's Farm in Salmon Creek with life partner Dana Bloomer. He is also a certified nature recordist and he brings to Trees Foundation his 25 years of direct experience in ecological restoration of oak woodland, grasslands, conifer, and mixed forests; 14 years of direct experience in up-slope and in-stream restoration and watershed assessment; and his experience co-leading workshops and leading restoration hand crews in the Salmon Creek, Mattole, and Russian River watersheds.

And to assist with this extraordinary expansion, Trees Foundation welcomes **Mary Gaterud** as our new Organizational Development and Partner Outreach Director. Originally from the east coast, Mary found her way west in 1992, where she obtained a Master of Arts degree in Psychology from Seattle University, building on a BA from New College of USF. Mary first came to visit Southern Humboldt in 1995, and immediately felt a visceral pull to relocate, and call this wild place home. She has lived on the banks of the Main



Stem Eel River, the ancestral territory of the Sinkyone, homesteading, farming, stargazing, DJing, and art making for the past 22 years. Her recent foray into local activism has whet her appetite for more direct involvement in the implementation of concrete environmental stewardship and sustainable land-use practices, and so she is honored by the opportunity to join the Trees Foundation team.



Finding magic in the intersection of the elemental, community, and activism, Mary Gaterud proudly serves the restoration work of Trees Foundation's partner groups.

### Thanking Barbara for 25 Years of Service to Trees Foundation

This winter, **Barbara Ristow** retired from Trees Foundation after 25 years of dedication and service. We marked the occasion with a small retirement luncheon at the Trees Foundation office, when she officially turned in her office key.

“Her eye for both fine details and big pictures is unerring. Barbara helped orient me to Trees Foundation, oh so many years ago, when I was lost in a sea of acronyms,” recalled Board President Susy Barsotti. “It was always a joy to work with her, or just hang out. Her dedication to our organization is without peer. I’m especially grateful for the solid and loving way she held the relationship with our Cereus Fund donor.”



Jeri Fergus, Barbara Ristow, Mona Provisor, and Kerry Reynolds (l-r) at a recent thank-you and farewell lunch for long-time Trees Foundation Collective member Barbara.

PHOTO BY TREES FOUNDATION

Barbara remained onboard as manager of our Cereus Fund for about five years after semi-retiring as our bookkeeper and valued Collective member. She was dedicated to thoughtful stewardship of the Cereus Fund, and her long friendship with our beloved Cereus donor, who passed away in early 2022. [See our Winter 2022/23 issue for more about our Cereus donor.]



Barbara shows off the quilt given to her by Trees Foundation, and made by Mona Provisor with original artwork by Holly Sweet.

“She was our conscience,” Jeri Fergus expressed. “She was the person who would make us stop and really think about our decisions before moving forward.”

“Barbara was always kind and patient with me,” Kerry Reynolds shared. “She taught me about Trees Foundation’s history, and she always made herself available whenever I had a question. It was clear that she cared about Trees Foundation deeply.”

Trees Foundation will greatly miss Barbara’s kindness, the bright and sensible energy that she would consistently bring to the table, and the many years of institutional memory that she was always happy to share.

### The Work Continues

Trees Foundation thanks the Community for its support as we grow into our new, expanded roles, and we encourage you to reach out with any questions, inquiries about assistance, or for more information about our new Forest Health and Fire Resources Program.



# Conservation Partner Organizations at Work

## Timber Sale Round Up

EPIC Leads the Charge to Oppose Post-Fire Opportunistic Logging Projects

Environmental Protection Information Center

Having trouble keeping track of all the gigantic logging projects currently proposed by the U.S. Forest Service on our public lands? EPIC is here to help break them down and explain the projects and their implications.

The Region 5 Post-Disturbance Hazardous Tree Management Project, which was proposed in 2022, is poised to be the largest timber sale in the United States in modern history. The post-fire logging project includes 5,780 miles of roads and trails throughout California. The “North Zone” of the project, located in our region, includes 2,708 miles of roads and would permit clearcutting 300’ on either side of those roads. Picture a football field sized



Westside Timber Sale, Klamath National Forest PHOTO BY AMBER JAMIESON

clearcut on either side of a seldom used forest road. That equates to 187,880 acres of logging in the name of hazard tree management (!), almost 200,000 acres of

logging, and would touch nearly every northern spotted-owl Critical Habitat Unit in Northern California. The king-sized project covers nine national forests and is split into three zones across California.



Log deck at the Westside Timber Sale, Klamath National Forest PHOTO BY AMBER JAMIESON

EPIC and allies filed an objection to the “North Zone” of the R5 Project, asking the Forest Service to reduce the environmental impact by retaining living trees, focusing on high-severity burn areas, and limiting the Project to roads that are needed by the public. In addition, we advocated for reducing the extent of logging on either side of the roads and for fully protecting riparian reserves. We believe these are reasonable constraints on a project that otherwise looks more like a massive timber sale than a safety measure.

The Antelope Tennant post-fire timber sale includes 20,000 acres of clearcutting that the Forest Service euphemistically calls “fire recovery” and “fuels reduction.” The Forest Service is pushing this logging



# Conservation Partner Organizations at Work

through as an “emergency” despite the fact that the fires took place in 2021. The hundreds of projects EPIC has reviewed typically include additional reports on wildlife, soil, hydrology, botany, archeology, etc.; but there is no in-depth information on any of these subjects for the Antelope Tennant project. Take wildlife, for instance: despite the fact that these forests are home to threatened and endangered species, there is zero information provided in the Environmental Assessment.

The Bear Country post-fire timber sale includes more than 4,000 acres of logging within the Wild & Scenic Salmon River watershed. The logging will be concentrated on fire-resilient mature and old-growth forests in the river canyon, and within some of the only occupied northern spotted owl sites in the region. Alarmingly, the project would remove 223 acres of nesting and roosting habitat and 700 acres of foraging habitat for the northern spotted owl “in perpetuity.” Also on the Salmon River, the River Complex project proposes nearly 2,000 acres of post-fire logging in the headwaters of the South Fork Salmon and Scott rivers. The Forest Service plans to clearcut the Taylor/Carter Meadows Late Successional Reserve, which will create more flammable timber plantations.

To top it off, we just received a scoping notice for the FH7 “restoration project” on the Mendocino National Forest, which includes 9,575 acres of commercial logging.

EPIC and our allies have been working hard to comment on and object to these projects to try to ameliorate the damage.

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

## Elk River Estuary Enhancement Project: Making Things Right

Friends of Elk River

By Jerry Martien

The difference between water and land has been especially muddy this winter, but for the Elk River Estuary Enhancement Project, that was part of the plan. Two City of Eureka parcels near the mouth of the river, more than 120 acres of “reclaimed” pasture and degraded salt marsh, will once again become a functioning intertidal ecosystem.

Throughout fall, travelers on 101 between Herrick Road and Humboldt Hill were entertained by a moto-cross of loaders and dump trucks taking out old dikes and dams, re-digging buried tide channels on the south side of the river. On the north side, along Pound Road and Hikshari’ Trail, crews with hand tools and weed whackers cut back invasive *Spartina* grass while Swampmasters crawled through newly uncovered channels.

At high tide, it looks like part of the bay. At low tide it looks like a big muddy mess—but we all know recovery can be ugly in its early stages.

### A New Trail Replaces Old Infrastructure

Originally proposed by Aldaron Laird and funded by the State Coastal Conservancy, the project began as a way to accommodate sea level rise. But it also removes old tide gates and barriers to fish migration, opens up nearly three miles of water for non-motorized boating, and re-purposes thousands of cubic yards of sediment, the product of upstream logging, into a pedestrian and bike path that extends from Elk River to a new access point at Humboldt Hill.

The new trail is already popular. Elevated well above high tide, paved, two lanes wide, it even features a center line and traffic signs. A lot of trash was cleaned up. There are pull-outs for wildlife viewing. Walking and biking is almost like motoring.

Not everyone is pleased by these changes. Fishermen, beach strollers, and dog walkers used the old trail for many years.



Drone view of the Elk River Estuary at high tide. PHOTO COURTESY CITY OF EUREKA





Restored channels, view from Pound Road Trail. PHOTO BY JERRY MARTIEN

They complained about lack of public access during construction and called attention to the destruction of existing wildlife habitat. A big muddy mess.

Restoration also uncovers old mistakes. This place is still known to many locals as Stinky Beach. The pasture was once a place where they spread the solids of Eureka’s sewer plant. Across the river, Pound Road leads to the old concrete ruins where the City caged and disposed of its excess dogs and cats. They went next door to the rendering plant, along with dead livestock and leftovers of the slaughterhouse, to be cooked into a malodorous commercial product that mingled with the fog and sulfurous exhaust of two pulp mills.

Restoration has to ask what we hope to bring back to this place. Its older Wiyot name is Hikshari’, a site of continuous settlement and “management activity” for many centuries. When Laird & Associates drew up plans for reconstructing the estuary, they ensured it was done in consultation with Wiyot representatives. Laird prefers to call what they’re doing enhancement: “We are not returning the area to what it was before white people came here.” After recovery, it’s important to accept the things that can’t be changed.

### The Many Facets of Restoration

Restoration means education and change, as much as engineering and botany. The City of Eureka has demonstrated, when it returned Tuluwat Island (formally Indian Island) to the Wiyot, that it can also mean acceptance, reparation, and land return. Making things right. Calling places by their Wiyot names. Hikshari’.

Restoration also applies to governance, changing the ways we make public decisions, being more inclusive and open. People in Elk River only learned of this project because it got attached to another murky issue we have followed for years. At a meeting of the North Coast Regional Water Quality Control Board, in 2016, while Elk River residents waited to ask the board to take effective action to reduce sediment (they didn’t), Eureka officials were told that their sewer plant was in violation of state and federal water quality laws. Its effluent was illegally going into Humboldt Bay (and Elk River’s estuary). But the timber companies got their zero-sediment logging plan, and the City was given five years to fix their waste system.

Seven years later, Eureka and regional water quality staff were claiming the Elk River Estuary Enhancement Project would “mitigate” their problem—basically, make it

go away. That claim hasn’t come up again since an environmental law firm sued the City for its criminal behavior—and won—but meanwhile, time and effluent move on.

Then another piece of the story came to the surface at a Humboldt Community Services District (HCSD) meeting. The old pound property, owned by Figas Construction, the low bidder on the project, would be the site of a \$4.2 million Nature Center. Because HCSD is Eureka’s junior partner in the wastewater plant, serving rate payers from Freshwater to Fields Landing (not Elk River), they would want to help pay for this additional “mitigation” of the plant’s pollution. HCSD strongly objected, and the Nature Center sank out of sight with the mitigation claims. Its status remains unclear.

### The Mallards Like It

Recovery from old habits requires time and constant vigilance. This project is a good beginning. Many people should be thanked for their contributions, but especially project manager Katie Marsolan, the drivers and equipment operators for their long hours, the tireless weed whackers and hand diggers of Redwood Community Action Agency, and Samara Restoration for its care in returning native plants to this damaged landscape.

A few mallards have been seen checking things out. A hopeful egret. A small flock of sanderlings that came over from the beach. Nature will heal before we do.

For more information:  
[treesfoundation.org/partner-groups/friends-of-elk-river/](https://treesfoundation.org/partner-groups/friends-of-elk-river/)





## Klamath National Forest Targets Old-Growth Reserve for “Salvage” Logging

Klamath Siskiyou Wildlands Center

By George Sexton,  
Conservation Director, KS Wild

### Headwaters of the Salmon River Threatened

Nestled in the headwaters of California’s renowned Salmon River are scenic trailheads accessing epic hikes in the Trinity Alps Wilderness Area. The surrounding forests and tributaries are crucial refugia for spotted owls, Pacific fisher, salmon, and steelhead. For good reason this special place was set aside as a Late Successional Reserve in the Northwest Forest Plan, which supposedly protected this corner of the forest from the Klamath National Forest’s logging agenda and directed the agency to manage the landscape for wildlife and watershed values.

Then came the 2021 River Complex wildfire, and the Klamath National Forest decision-makers threw the rulebook out the window. While planners in many of the surrounding National Forests responded to the fires by focusing on roadside hazard-tree abatement and fuels reduction near homes and communities, the Klamath did what the Klamath usually does and proposed extensive clearcutting on steep slopes above salmon habitat in the backcountry.

### River Complex Salvage Timber Sale

The River Complex salvage timber sale primarily targets old-growth snags providing “post fire foraging habitat” for northern spotted owls within a



Recent Late Successional Reserve (LSR) old-growth logging on the Klamath National Forest.  
PHOTO BY GEORGE SEXTON

Late Successional Reserve that was also designated by the U.S. Fish and Wildlife Service as Critical Habitat. If there is any place that should be off limits to clearcutting, this is it.

Klamath timber planners contend that the proposed salvage logging does not constitute “clearcutting” because of the retention of a minimal number of trees and snags—yet the vast majority of “leave trees” are located outside the proposed logging units, such that where logging occurs all the forest structure will be removed. That’s what most reasonable people call clearcutting.

### An Unresponsive Agency

Klamath country is fortunate to have robust restoration, tribal, and conservation organizations that know the land, the watersheds, and the communities. Instead of partnering with those who know the land the best, the Klamath

is famous for its “us against the world” timber-production agenda. Indeed, while ignoring local knowledge and information, the Klamath National Forest routinely exceeds its assigned timber-volume target. Collaboration and restoration always take a backseat to timber production following fires on this forest.

KS Wild looks forward to working with the Environmental Protection Information Center, the Klamath Forest Alliance, and the Mt. Shasta Bioregional Ecology Center to thwart this egregious logging proposal.

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





# Thoughts on Resilience in Winter

Northern Mendocino Ecosystem Recovery Alliance

By Will Emerson

## Winter Lessons

As I write this, we approach Spring Equinox, but you would not know it looking out my window. The four-plus feet of snow are slowly melting, pushed by the four-plus inches of rain in the last two days. The surface of the snow is littered with nature's prunings—tree branches, needles, bark, lichen, feathers, cones, and pitch all brought down by the gales last week. Winter definitely wore her white dress this year.

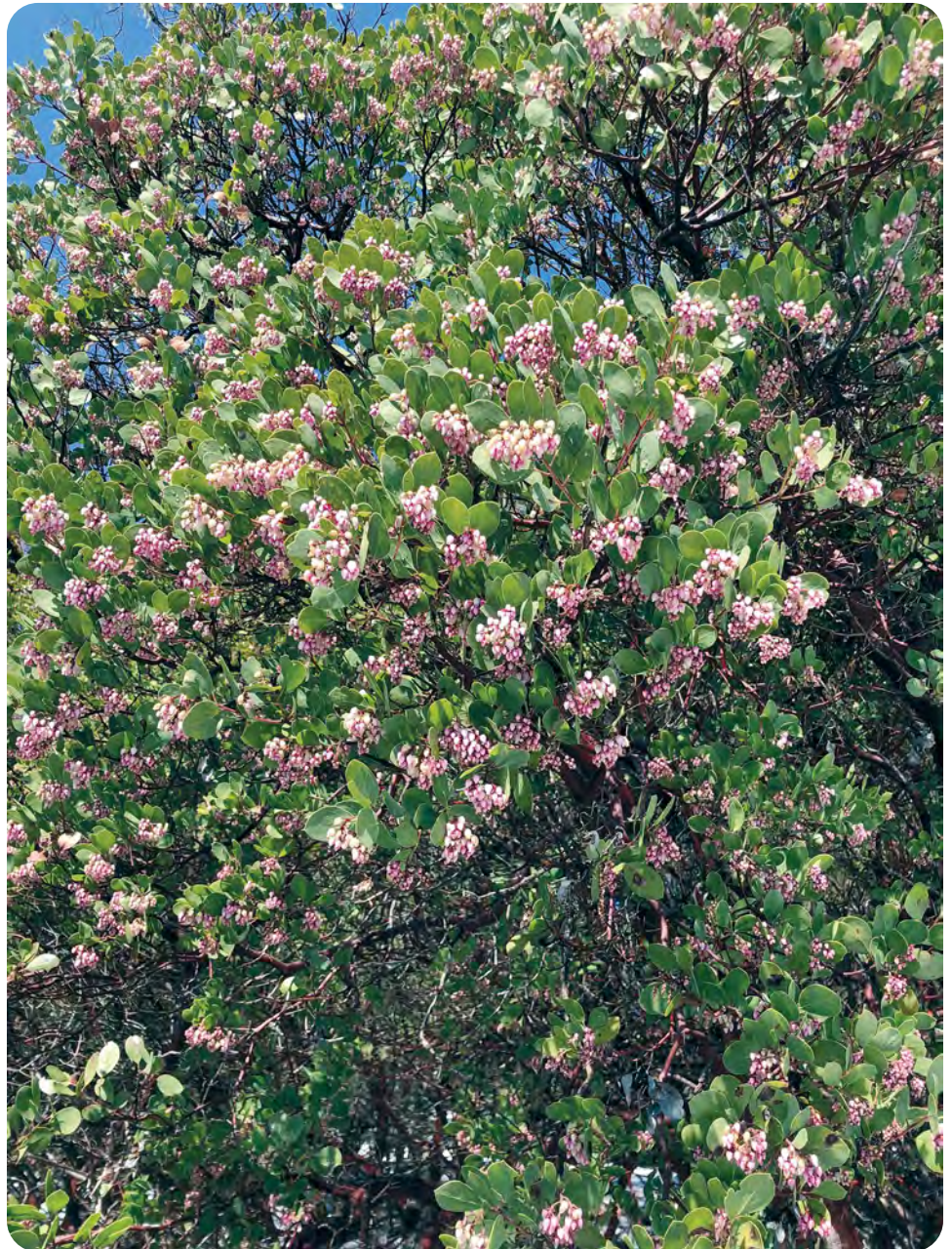
We're all dreaming of warm spring days with green grass and flowers blooming, as I'm sure the animals are who hunker down under the trees waiting for something edible to appear. We've all had a taste of survival this year when our intricate plans got disrupted by nature's strong hand. It's good for us to experience discomfort and hunger for a while, to be forced to slow down and yield control while nature has its way. This is how we find resilience within ourselves. We protect our core heat and energy and wait for a better day.

Likewise, we learn to work together to protect our tribe. We share what we have and gather resources to help others. If we work together, we can survive disasters and move on to brighter, easier days. What a wonderful metaphor for humanity's plight. We have largely created our own problems, which nature harshly reveals while offering us redemption if we will just slow down, pay attention, and change our ways. Resilience is not tinsel on the tree, it's shoveling the snow off your roof so your house doesn't collapse.

## What We are Up To

With that in mind, I'm writing to update you all on our nascent non-profit group, the Northern Mendocino Ecosystem Recovery Alliance. We celebrated our first year of existence, and here are some of the things we have accomplished and what we are working on as the year turns:

- We became a 501(c)(3) non-profit corporation. Mostly, this validates our ability to jump through bureaucratic hoops. For our first year, we were fiscally sponsored by Trees Foundation. Thank you, Trees, for helping us get started and guiding our way!
- We helped put together a Forest Health Work Crew with Elk Ridge



Manzanita blooming as the snow melts. PHOTO BY WILL EMERSON



# Conservation Partner Organizations at Work

Landscaping as contractor. The crew has been working on the Redwood Forest Foundation's (RFFI) shaded fuel break on Highway 1 west of Leggett for over six months. They are available for future jobs, big or small.

- Our members helped the Eel River Recovery Project craft a CAL FIRE Forest Health proposal to treat 800 acres in the Tenmile Creek watershed around Laytonville. If accepted, this project will create shaded fuel breaks, do prescribed burning, restore oak woodlands, and more on private property as well as on the Laytonville Rancheria in collaboration with the Cahto Tribe.
- We received a Technical Assistance Grant from the North Coast Resource Partnership. This will get us professional help to create a master plan to develop

Tan Oak Park south of Leggett as a Forest Health Training Center. There are many possibilities there to create a gathering place to train a forest health workforce and educate the public on land stewardship. This spot was a gathering and trading place for the Wailaki tribe, and we hope to return it to that function for everyone.

- We helped the Bell Springs Fire Department get a Mendocino Community Foundation Disaster Relief Grant during the recent storms to get food, animal food, and supplies to people isolated by downed trees and snow. We staged supplies at Tan Oak Park and Blue Rock so they were available to Spy Rock, Bell Springs, and Leggett. Thanks to Ben O'Neill for spearheading that effort. We're helping Leggett with Emergency

Planning for future disasters so our communities can get the help we need when disaster strikes.

- We'll be hosting training events this year to help young people enter the forest health workforce as well as for land stewards who want to learn how to better care for their lands or learn new skills like making furniture from forest thinnings. Stay tuned.

Contact us through the website if you would like to help by joining one of our committees or to sign up for our newsletter.

**If the storms of this winter have shown us anything, it's the truth that we are all in this together.**

🌲 For more information: [www.nm-era.org](http://www.nm-era.org)

## Thank You for Supporting Trees Foundation!

We rely on the generous support of our readers to fund our work. We provide services to a network of over forty grassroots partner groups that are leading community-based efforts in healthy land stewardship throughout California's Redwood Coast.

Your donation empowers us to publish the *Forest & River News* magazine; operate robust fiscal sponsorship and partner outreach programs; and provide our partner groups with professional graphic design and GIS mapmaking services at little to no cost to them.

You can donate online at [TreesFoundation.org/Give](http://TreesFoundation.org/Give) or mail your tax-deductible gift to Trees Foundation, 439 Melville Road, Garberville, CA 95542.

### **Wanted: Forest & River News Distribution Volunteers!**

In an effort to increase the scope of our readership and get the word out about the vital work of our partner groups, we seek volunteers to help distribute *Forest & River News* far and wide, throughout California's North Coast... and beyond.

Are you able to help in your area? Please email [trees@treesfoundation.org](mailto:trees@treesfoundation.org) with "Distribute FRN" in the subject line.



*LandBack*, Continued from page 18

“Along with talking about Land Back we need to talk about Tribes back. We need a plan from California for our non-federally recognized Tribes,” said Winnemem Wintu Chief Caleen Sisk.

Save California Salmon and Cal Poly Humboldt’s Native American Studies Department worked with experts to create a draft California LandBack Red Paper to inform policy makers on the history of landback efforts along with current policy and funding needs to help make Tribal land return easier. Recommendations from the Northern California LandBack Symposium will be incorporated before the official release of the paper this summer. A summary of the recommendation from the conference and Red Paper can be found below.

### Some Key Recommendations from the Conference:

- ◆ The State creates processes and laws to help unrecognized Tribes who wish to become recognized do so, in order to facilitate land return;
- ◆ California’s tax codes and land transfer laws are changed to allow easier transfers of state, counties and university lands to Tribes and Tribal land trusts;

- ◆ To allow for tax exemption and lower tax rates for Tribally-held lands that are not yet held in trust - similar to exemptions for nonprofits;
- ◆ That state and federal land managers have a first right of refusal policy for lands that are considered excess lands and are to be sold or given away;
- ◆ California universities create streamlined policies for land, ancestor, and ceremonial objects to be returned;
- ◆ Tribal land return be a goal in California’s 30x30 policy;
- ◆ That Land Trusts prioritize Tribal land return, and that land easements for conservation and culture are changed to be less of a burden to Tribes.

Conference videos can be viewed online.

#### Symposium Opening Program:

[https://youtu.be/iCNmwBcs\\_Q0](https://youtu.be/iCNmwBcs_Q0)

#### Panel 1: Public and Private Lands:

<https://youtu.be/9RQvhgZonlY>

#### Panel 2: Land Grab Universities :

<https://youtu.be/PSFWy6e9Qq0>

#### Panel 3: Tribal Land Trusts:

<https://youtu.be/4DjRulZneK4>

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



INDIGENOUS JUSTICE EXECUTIVE DIRECTOR MORNING STAR GALI  
SPEAKING ON THE PUBLIC & PRIVATE LAND RETURN PANEL AT THE SYMPOSIUM.

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#### Cover Image

You might expect such a statuesque tree to have equally dramatic pinecones, but in fact, redwoods bear diminutive cones of just an inch in length, each bearing just a few dozen tiny seeds.

*Photo by M. Antoine*

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

If you would like to distribute *Forest & River News* in your area, please contact us!

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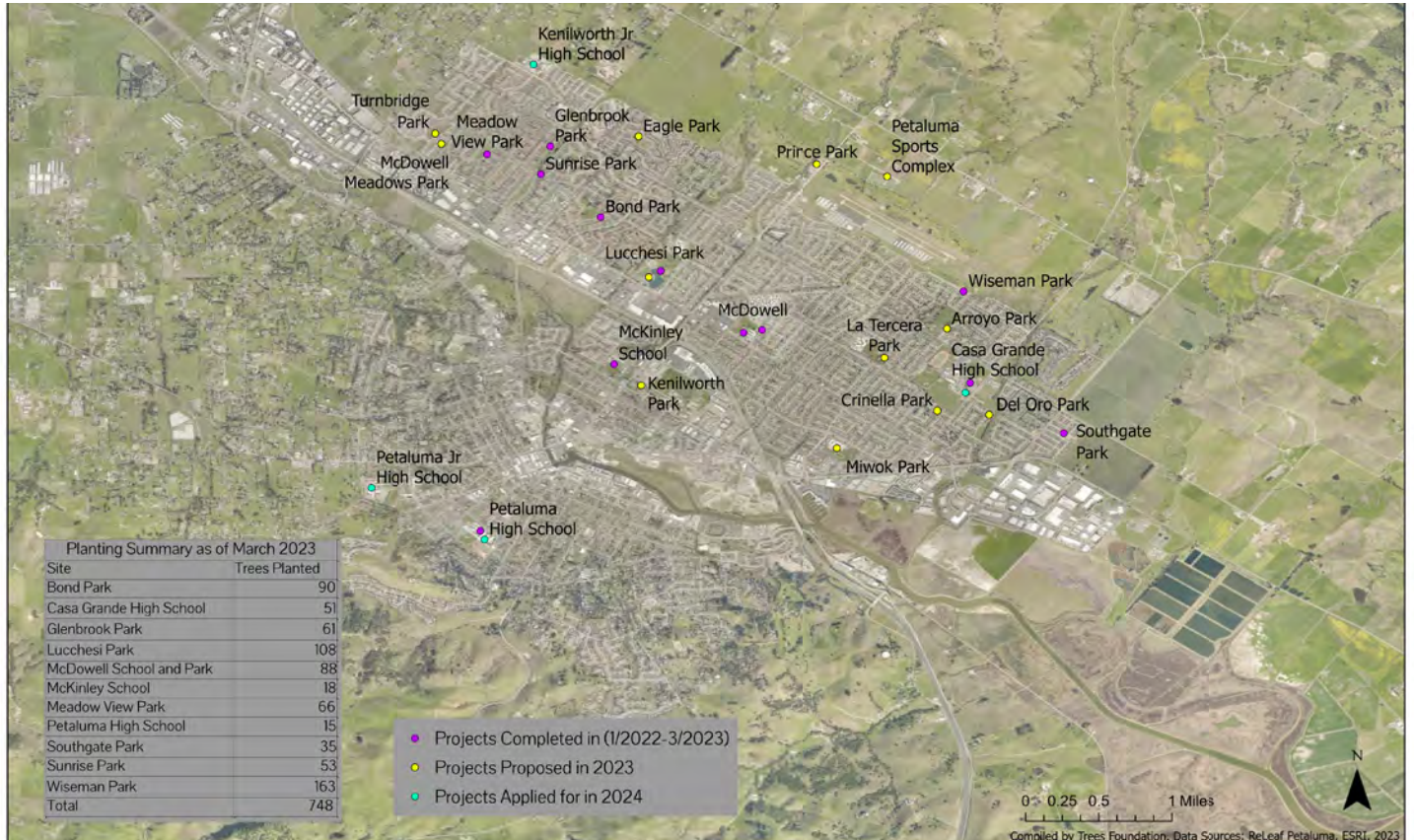


Our mission is to restore the ecological integrity of California's North Coast by empowering and assisting community-based, regional projects that promote healthy land stewardship.

## Trees Foundation Services Spotlight

ReLeaf Petaluma wanted to display the work they had completed for the planting season just ending, and turned to Trees Foundation for help. We created a map for them to identify the Parks and Schools where they planted trees in 2022-2023, and also to show those planned for next planting season and the one after. Cullen Cramer, the

GIS Coordinator at Trees Foundation, had suggestions for displaying supplementary information and the key. The map has been very well received; they will post it on their website and use it for presentations to Petaluma's Parks and Recreation Commission. GIS mapmaking is one of the many services we offer our Partner Groups.



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