

Forest & River News

TREES FOUNDATION

SPRING 2018

GRASSROOTS CONSERVATION & RESTORATION IN THE REDWOOD REGION

Cannabis Considered

**80 ACRES AND COUNTING: CHANGING TIMES BRING
NEW PARTNERS IN THE FIGHT TO SAVE VAN ARKEN!**

**EEL RIVER RECOVERY PROJECT BEST PRACTICES
EFFORTS IN FULL SWING IN 2018**

**NORTHERN CALIFORNIA WATER PROTECTORS
FIGHT NEW DAMS, TRUMP'S WATER PLAN**



Editor's Note

The Redwood Region has long been known for its foggy mystique. Its history is rooted in the timber industry, agricultural farms, and marijuana culture. For more than forty years local activists have taken the stage to highlight the environmental degradation our landscape has faced from its being used solely for financial gain. Humboldt County activists have worked hard to build coalitions, raise awareness, and make a difference for the many species that call this place home. However, the one topic of taboo in the golden rolling hills of California has been the cash crop farming of cannabis; the invisible fist propping up our local economy. For many decades green triangle farmers hid in the shadows of the redwoods, while in recent years cannabis farming has become flagrant, yet as a community we have only quietly addressed the growing environmental concerns.

This isn't to say that no one has been ringing the bell and doing the work around these issues. Trees Foundation has published in the pages of past *Forest & River News* editions the work of Partner Groups diligently addressing these concerns. And as the body of work regarding the relationship between cannabis and our environment grows, we at Trees felt it was time to bringing this work together, in one place, for our Partners and the community at large to gain a better understanding of what is being done and how they can participate. This year, each of our editions of *Forest & River News* will bring you the latest in environmentally sustainable work being done by our Partner Groups surrounding cannabis cultivation in our region. We hope their work will give you heart that we can sustain both the financial and ecological wealth of our region, by supporting each other and our earth.

Cover photo: Bear Butte Farms

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80 Acres and Counting: Changing Times Bring New Partners in the Fight to Save Van Arken!

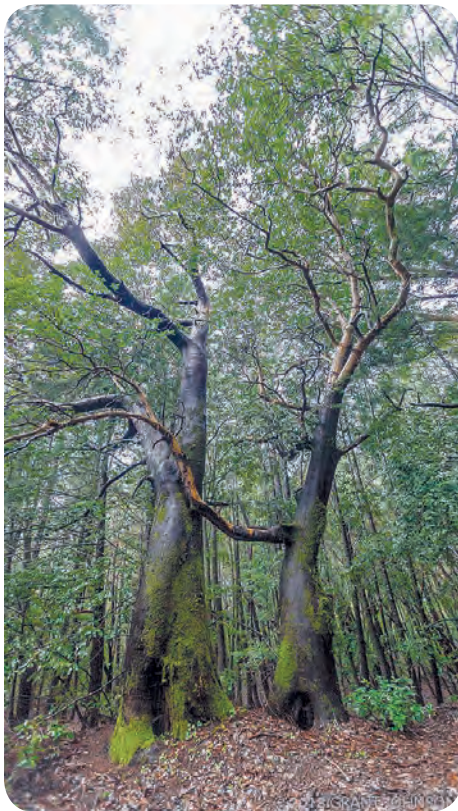
By Galen Doherty, *Sanctuary Forest*

“By the very nature of our work in agriculture we develop land for our needs and uses, although we can do this sustainably and with the environment in mind, it is equally important for us to preserve land and ecosystems that do not need to be developed for human economic purposes. This is why we chose to help save the Van Arken”
—Daniel Stein, *Briceland Forest Farm*

In the heart of the Mattole River headwaters is the Van Arken Watershed. Untouched for the last 50 years, spanning 1,650 acres—completely free from residential development, it is the third largest tributary in the headwaters, and a salmon stronghold for wild runs of native



Confluence of the mainstem and middle fork of Van Arken Creek
PHOTO BY GRANT JOHNSON



Old-growth Madrone trees slated for conversion to monoculture conifer plantations.

PHOTO BY GRANT JOHNSON

coho, Chinook, and steelhead. These lands are all that remain of over 4,000 acres of industrial timberland in the Mattole headwaters that, since the early 2000s, have been fragmented and sold off for rural-residential development.

Now, if not conserved, the last of these forestlands face a devastating timber harvest plan: over 100 acres of clear-cut logging of second-growth redwood, and 200 acres of rehabilitation, which is the clearcutting and herbicide spraying of native hardwood forests, and tan oak, madrone, and chinquapin for conversion to monoculture conifer plantations. The plan also includes construction of new roads and landings;

and while the green rush may be on its way out, new development pressures are never far behind.

For 30 years, here at the southern extent of the temperate rainforests of the Pacific Northwest, on Northern California's Lost Coast, Sanctuary Forest has been a strong voice for the ecosystem and the human community in which we live. We've worked hard to purchase land to forever protect its natural resources, and to create a place where people can live in harmony with the environment and steward the land so as to increase its health and vitality. Our goal is to buy the entire Van Arken watershed, permanently protecting it from the threat of timber harvest and



To recognize the support of these individuals and businesses, we have launched the Save Van Arken logo as a tool to demonstrate exceptional commitment to the environment: permanently protecting 1 acre of incredibly rich and bio-diverse land in the headwaters of the Mattole River! The Save Van Arken logo illustrates the project's roots in a 30-year history of successful conservation and restoration in the Mattole watershed, the hands represent our diverse community coming together to help protect Van Arken, and the tree as the future potential for what we can create together in the future; a thriving community forest. By donating or pledging to fund an acre each business earns the right to use the Save Van Arken logo in their marketing, branding, consumer outreach, etc. In addition each organization is listed on the Sanctuary Forest website and in other Save Van Arken outreach.

"I grow some of the best cannabis in the world; but how do I reach the public/consumer? At Humboldt High Five, we are distinguishing ourselves from other groups by supporting the community, taking care of the environment, and doing things that stand for "goodness". The Save Van Arken logo demonstrates that Huckleberry Hill Farms doesn't only talk the talk, but I walk the walk."—Johnny Casali, Huckleberry Hill Farms & founding member of Humboldt High Five

development, and ensuring that it is actively and responsibly stewarded as a buffer against the ever more severe effects of climate change. Our vision is to create a community forest resulting in a network of old-growth forest and wildlife reserves and working forestlands, providing invaluable ecosystem services as well as a source of economic growth for the local community. The Van Arken Community Forest will be owned by Sanctuary Forest in perpetuity and will be cooperatively managed in partnership with our diverse community. It will forever be an open space for low impact recreation such as hiking and biking, educational opportunities, scientific study, and above all else a stronghold from

which the recovery of our native runs of wild Mattole salmon can be achieved.

At a community meeting late last year, local landowners on Mattole Canyon Creek did the math and pledged, on the spot, to gift Sanctuary Forest the money to fund the purchase of one acre (approximately \$5,500) of the Van Arken watershed. Thanks to them, our Fund-an-Acre campaign was born. Friends, neighbors, road associations, cannabis farmers, and collectives have stepped up and donated/pledged to fund an acre all at once or over the life of the campaign (4 years: \$1,375/year; \$115/month); and together we have funded 80 acres, raising over \$440,000 in the last year!

By joining the Fund an Acre Family, and using the Save Van Arken logo, cannabis farmers have a unique opportunity to demonstrate their commitment to protecting the natural ecosystem. In doing so, they are permanently protecting 1 acre of the Van Arken watershed, and offsetting the footprint of their farm. Never before have the good actors in the industry had a way to distinguish themselves from those who degrade the environment in their efforts to maximize



By donating or pledging to fund an acre each business earns the right to use the Save Van Arken logo as a tool to demonstrate exceptional commitment to the environment: permanently protecting 1 acre of incredibly rich and bio-diverse land in the headwaters of the Mattole River!

profit. However, the goal of this campaign goes beyond a simple contribution towards conserving the Van Arken watershed. We are striving to achieve a symbiotic relationship where cannabis consumers across the state actively choose to purchase product from farms that are not only producing some of the best sun-grown, organic, sustainable, or regenerative cannabis; but are taking it one step further and helping protect the natural ecosystem. By gaining consumer recognition and support at the dispensary end, we can help to keep these farmers in business while at the same time forever protecting the Van Arken watershed.

The Fund an Acre campaign was launched to raise money from the local community and beyond, and to demonstrate public support for the project. Our goal is to secure 90 Fund An Acre donors each year for the next four years, resulting in a total of \$2,457,000; approximately 28% of the estimated purchase price of 9 million dollars. Each Fund an Acre donation will leverage significant support

from state grants (55%) and foundations (11%) to buy the land and create the Van Arken Community Forest. This means that each acre funded privately will leverage an additional two acres through public funding!

“The Van Arken Community Forest Project is a unique opportunity for cannabis farmers to demonstrate their commitment to the environment, offset their impacts, and forever protect the few wildlands left in Humboldt County.”

—Heather Kornberg, Humboldt Sun Kissed Farms, & Board Member of the International Cannabis Farmers Association

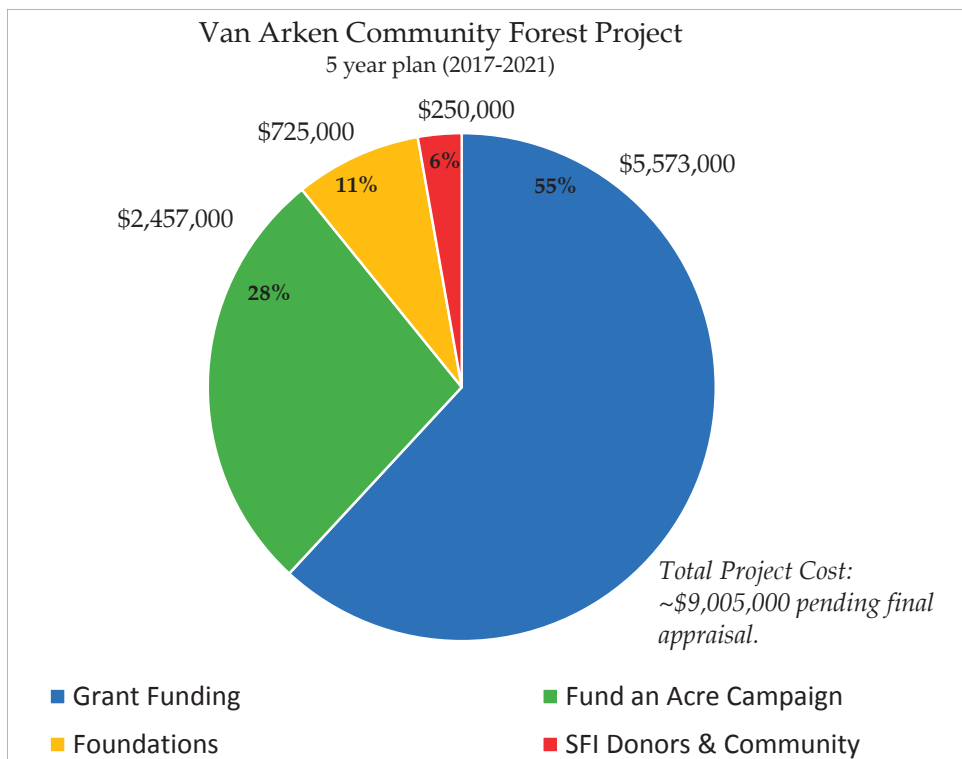
Humboldt County has long been known for its incredible natural resources and stunningly beautiful landscapes. It has also gained global recognition for producing some of the best cannabis in the world. However, over the past decade the environment and our communities have suffered as more and more people grew more and more cannabis. The green rush has left a toll on both the environment and our community. As



Huckleberry Hill Farms is now using the Save Van Arken logo on their cannabis products packaging.

we transition to a new era, we must work together as a community both to protect the last of these precious places and preserve our way of life.

Here in the Mattole, we have always taken on the biggest of challenges without looking back. This uncanny ability to time and again accomplish what others see as impossible, has resulted in a network of over 140,000 acres of conserved land in and around the Mattole headwaters.





Johnny Casali tends the crop at Huckleberry Hills Farms

Once again we are asking for your help to answer the call to expand the Sanctuary Forest, save Van Arken!

A huge shout out to all of the cannabis farms and other businesses that have donated or pledged as of February 26, 2018. To learn more about Sanctuary Forest and the Fund An Acre Campaign,

please give us a call at 707-986-1087 or visit our website. Also check out our video on YouTube by searching "Save Van Arken".

"The Fund an Acre Campaign provides an opportunity for the community to work together to give back the area in which we reside. It is a chance to help

see that a unique and special place remains available for habitat and for the enjoyment of future generations. We've all seen the negative media coverage about cannabis farms; it is important to us as farmers to be able to demonstrate that cannabis farmers are community contributors and that we care about the environment. In a world of industrial paradigms, this is our way of thinking globally by acting locally."—Casey O'Neil HappyDay Farms and Board Chair of California Growers Association

For more information:
www.sanctuaryforest.org

**FUND AN ACRE FAMILY:
Cannabis and Other Businesses
(as of February 26, 2018)**

Briceland Forest Farm
California Growers Association
Cali Gardens
Compliant Farms' Watershed Fund
First Nest
Full Moon Farms
Google, Inc.
HappyDay Farms
Highland Technology, Inc. (2 acres)
Huckleberry Hill Farms
Humboldt's Finest
Humboldt Heritage Farms
Humboldt High Five
Humboldt Sun Kissed Farms
Hohstadts Garden Center & Sequoia Soil Co.
Mattole River Farms
Moontime Medicinals
Rainbow Hill Farm
Redway Liquors
Redwood Roots Family
Tranquility Lane Farm
Whitethorn Winery (2 acres)

Eel River Recovery Project

Best Practices Efforts in Full Swing in 2018

The Eel River Recovery Project (ERRP) is a grassroots group that works with communities throughout the 3,600 square mile Eel River basin, and has assisted citizens with monitoring since 2012. Community concerns about potential salmon extinction, newly developing toxic algae, and diminished stream flow lead to the formation of the group. Monitoring data collected by ERRP confirmed that flow depletion and nutrient enrichment were significant problems in several sub-basins. To address these limiting factors, ERRP has conducted extensive outreach and education on water conservation and water pollution prevention targeting the conscious cannabis farming community.

In 2018, we will be able to take our efforts to a new level with the award of a California Coastal Conservancy grant that focuses on a key South Fork Eel River tributary, Tenmile Creek.



Tenmile Creek at Black Oak Ranch on May 15, 2017 when Pacific lamprey were spawning everywhere.



Tenmile Creek at the Black Oak Ranch at same location seen above with dry stream bed in September 2014. ALL PHOTOS THIS ARTICLE BY ERRP

In four out of the first five years of its existence, ERRP held “Water Day” educational events in Garberville and Redway to help cannabis growers access and share more information about sustainable farming practices. Despite drawing hundreds of people to every event, we got the feeling that it wasn’t causing the needed magnitude of change on the ground. ERRP Water Conservation Committee Chair Larry Desmond recommended that we get more resources and do farm visits and educational forums throughout the watershed.

In May 2015, the State Water Resources Control Board (SWRCB) provided a grant to do exactly that, with funds from their Clean Up and Abatement fine monies. ERRP contractors were able to do outreach to hundreds of farmers at events and to visit 70 cannabis farms to provide



ERRP contractors Anna Birkas and Noah Cornell on a technical assistance visit to Woodman Creek farm in July 2015. Anna and Noah will be working on Tenmile Creek project.

technical assistance on agricultural “best practices”. Data from each farm is proprietary, but aggregate data suggested a need for increased water conservation implementation and more effort to prevent sediment and nutrient pollution.

While the SWRCB rejected proposals for a phase two project in 2016 and 2017, ERRP was able to successfully compete for a Proposition 1 bond grant that will be administered by the California Conservation Corps (CCC) and will begin in April 2018 in the Tenmile Creek watershed. The Tenmile Creek watershed was selected for several reasons: it has a conscious community within the basin and a critical mass of residents ready to cooperate, it has three species of at-risk Pacific salmon present in most years, and it is proximate to the largest coho salmon refugia in northwestern California.

In establishing rapport during grant development with the community of Laytonville and the Tenmile Creek watershed, it became apparent that no one was in favor of the stream losing

surface flow. **Also, everyone seemed to recognize that it wasn’t “bad actors” who were causing the problem, but rather the cumulative effect of too**

many people pursuing the same economic opportunity at once—growing cannabis.

Local residents had already started to initiate a Tenmile Creek Watershed Council (TCWC), based on concern about poor riparian conditions and upland erosion sources, such as gullies. Those active in the nascent group said technical assistance on water conservation would be welcome. Therefore, ERRP will work with the TCWC using methods similar to those employed successfully in the upper Mattole River watershed by Sanctuary Forest. Because of previous interest, the Prop 1 grant will also fund planning for riparian improvement, gully erosion prevention, and hillslope restoration throughout the Tenmile Creek basin.

ERRP is driven by science and follows the hierarchy for stream restoration laid out in a scientific paper referenced as Bradbury et al. (1995). Oregon State Senator Bill Bradley, the lead author, convened some of the most well recognized fisheries and watershed scientists and they published

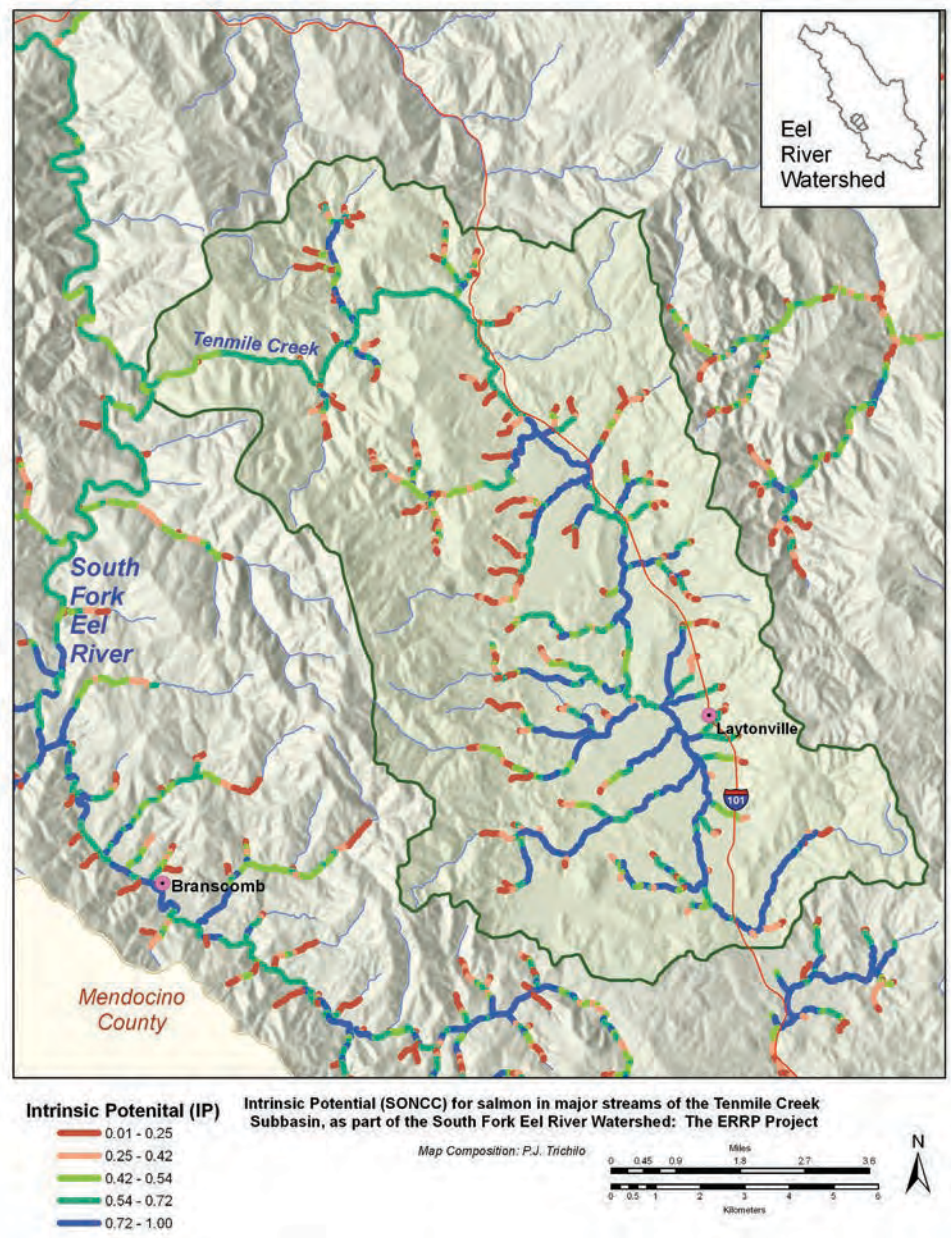


Chinook salmon male at left and larger male at upper right, sitting over a salmon redd on Tenmile Creek at the Black Oak Ranch on November 16, 2017.

the *Handbook for Prioritizing Watershed Protection and Restoration to Aid Recovery of Pacific Salmon*. The chief recommendation is to pick restoration targets that have signs of ecological resilience and also are proximate to population centers or refugia, that can supply a source of colonists when the stream is restored.

Tenmile Creek has annual runs of Chinook salmon and steelhead, and coho salmon have been documented as present in several recent years, which shows potential for ecological resilience. Also, the upper South Fork Eel River that is adjacent to the Tenmile Creek watershed, harbors the last functional meta-population of coho salmon in northwestern California, which means a population in the thousands annually. Consequently, Tenmile Creek deserves high ranking for restoration prioritization and will increase salmonid populations substantially, if successful.

The National Marine Fisheries Service (NMFS) has studied the question of where optimal coho salmon habitat would have been historically, and maps of the “intrinsic potential” (IP) have resulted. This model on which maps are based use valley width and stream gradient to predict where optimal gravel for spawning would have sorted and where meandering



NMFS Intrinsic Potential map
CREATED BY ERRP GIS SPECIALIST PAUL TRICHILO



ERRP Best Practices meeting at Harwood Hall in Laytonville on March 26, 2016, co-hosted with the California Growers Association.

low gradient reaches formed ample pool habitat for rearing. The NMFS IP map for the Tenmile Creek watershed shows it has more high IP habitat than the upper South Fork Eel River. This suggests major benefits to the coho salmon population, if Tenmile Creek flows are restored.

Two key sub-basins within Tenmile Creek will be the focus of the Prop 1 2018 grant. Water rights and permitting consultant Hollie Hall will be providing free technical assistance to farmers within the targeted



Streeter Creek underground at its convergence with Tenmile Creek because of aggradation, June 1995.

watersheds, including water conservation implementation tips. Anna Birkas and Noah Cornell of Village Ecosystems are also part of the ERRP technical assistance team, and will be providing advice on how to restore watershed hydrology while still running a profitable farm. Their approach to farm planning includes contouring your landscape, so that it acts as a sponge that can capture winter runoff and also creates a nutrient buffer to prevent water pollution.

Evan Engber and Philip Buehler of BioEngineering Associated in Laytonville

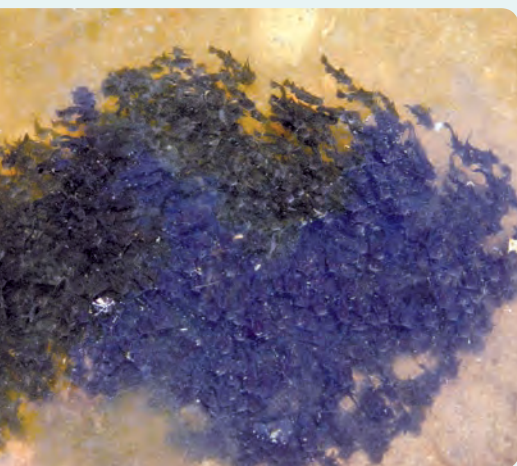
will also be ERRP sub-contractors under the Prop 1 grant. They will work with Tenmile Creek landowners to assess riparian and upland conditions, and plan projects for riparian restoration, and gully erosion control where there is need and cooperation. Riparian restoration will use bioengineering techniques primarily, where strategic amounts of large rock are interbedded with massive amounts of

willow branches to create structures that become living stream banks.

Scientific monitoring will also be a part of the Prop 1 Tenmile Creek grant, with Thomas Gast Associates working on collecting flow data and ERRP Managing Director, Pat Higgins, conducting basin-wide water temperature and biological surveys. Pat will work with a network of ERRP volunteers established during the project so that the ecological health of Tenmile Creek can be assessed at a sub-basin scale.

In addition to salmon and steelhead, ERRP has also noted diverse exotic fish and aquatic species in Tenmile Creek during drought years that escape from agricultural impoundments and proliferate in warm isolated pools. These include green sunfish, bass, and catfish, as well as bullfrogs and the red swamp crayfish. Educational outreach will include alerting residents about the need to prevent additional exotic organism introductions to ponds in the Tenmile Creek watershed.

For more information:
www.eelriverrecovery.org



Brown bullhead catfish fry feeding in a Tenmile Creek pool, July 2015.



Lower Streeter Creek after riparian restoration using bioengineering, May 2015.

Northern California Water Protectors Fight New Dams, Trump's Water Plan

By Regina Chichizola,
Save California Salmon

This winter the Trump administration reignited California's water wars when it announced plans to maximize water deliveries from the Central Valley Water Project. The announcement included a statement that new dams and diversions that Save California Salmon has been fighting could be included in the Environmental Impact Statement, and Tribal Trust responsibilities on the Trinity River, the Klamath's largest tributary, could be impacted.

Northern California Tribal members and fishermen immediately announced they would fight the new threat. California's rivers are already in crisis due to bad water management during the recent drought.

Although Trump often blasts letting water reach the ocean for fish, this water grab was initiated with legislation pushed by U.S. Senator Dianne Feinstein and could not come at a worst time.



Diversity and signs at the State Capitol on January 23rd, 2018 at the rally against the water plan. PHOTO BY REGINA CHICHIZOLA

Last year, the Klamath River suffered the worst salmon returns in history leading to an allocation of one fish per eight Yurok Tribal members. The Sacramento River only had 230,700 Fall-run Chinook salmon projected down from 650,000 only years before. Wild Spring-run Chinook

salmon numbers dropped to hundreds on the Klamath and Sacramento Rivers, and only two Delta smelt were counted. In fact, a report claimed that without change 45 percent of California's fish species will be extinct within 50 years.

The situation was so bad that commercial fishing was shut down in much of Oregon and California—leading to a declared state of emergencies in both states. The reality of not having fish was a new one for lower Klamath River Tribes.

"Drought years place our fish populations in jeopardy, but what kills our fish is man-made. The government's policy to send our water to farmers and not to fish has caused undue hardships on our fishermen, families, and way of life," explained former vice-chairman of the Yurok Tribe, Susan Masten.

The dismal salmon returns were predicted. During California's drought industrial farmers, which use 80 percent of California's water supply, expanded almond acreage by 150,000 acres. During



Noah Oppenheim, Executive Director of the Pacific Coast Federation of Fishermen's Associations, listens to Morning Star Gali of the Pit River Tribe speak on the Trump water plan rally. PHOTO BY REGINA CHICHIZOLA



John McManus, of the Golden Gate Salmon Association addresses the crowd and Bureau of Reclamation during the public comment part of the meeting.
PHOTO BY REGINA CHICHIZOLA

the same time over 90 percent of juvenile salmon died in the Klamath River, and up to 98 percent of Winter-run salmon died in the Sacramento. Repeats of the 2002 Klamath adult fish kill were narrowly averted three years in a row by decisions to release water into the Trinity River, the Klamath's largest tributary, which is diverted into the Sacramento River. Westlands Water District litigated against water releases forcing the Yurok and Hoopa Valley Tribes and fishermen to defend them in court.

On January 23rd, 2018 Save California Salmon joined members of the Pit River, Winnemem Wintu, Yurok, and Hoopa Tribes, commercial and recreational fishermen, and Bay Delta advocates to rally outside at a meeting on the Trump water plan at the State Capitol, and to provide testimony.

At the rally Noah Oppenheim, Executive Director of the Pacific Coast Federation of Fishermen's Associations (PCFFA), discussed how California's commercial salmon fishery was hurting due to a combination of the drought, catastrophic water mismanagement, and excessive south-of-Delta exports. He said: "many fishermen had lost their boats and the fleet in the Bay Area is only one fifth of what it had been twenty years ago."

"Now the Bureau of Reclamation is here to twist the knife," he explained. "What began last year as a non-jeopardy re-initiation of consultation has become a water grab fueled by greed and opportunism. If the Bureau gets its way, commercial and recreational salmon fishing will be lost forever in the Central Valley. Fishermen and anglers from the Golden Gate to Redding and all the way to Seattle need healthy salmon runs to survive."

The groups message was that the Bureau should restore salmon, instead of prioritizing the delivery of water to powerful farmers.

"The Bureau of Reclamation needs to deeply consider the greater detrimental environmental effects that are already evident from manipulating natural water systems," explained Klamath Justice Coalition member Annelia Hillman.

"We are all aware that maximizing water flows to the Central Valley does not mean sending clean drinking water to residents—it means meeting corporate demands that waste water on fracking and unsustainable big ag industries."

The history of California and Oregon water projects has been painful. The projects span from the Trinity River in the Klamath watershed, to the San

Joaquin River in the southern Central Valley. Dams block over half of the salmon spawning habitat in the Sacramento River, 109 miles of habitat in the Trinity River, and the majority of the Feather, American River, and San Joaquin Rivers.

"In the early 1940's America built the largest dam in the country located in Shasta County, trapping a water system 250 miles long known as Pit River," explained Pit River Tribal chairman, Mickey Gemmill, Jr. "This step of progress of man failed to recognize interconnected web of ecosystem and the Pit River people, cutting a life line of the salmon."

Fishermen and Tribes are now fighting for fish passage and reintroduction as a way to bring their salmon home and restore endangered species. Projects like the Klamath dam removal and the Shasta fish passage proposals could prevent salmon species from going extinct. Maximizing diversions could mean the fish don't have enough water to swim upstream to reach new habitat.

To add insult, this plan was announced as the Trump administration is working to fast track plans to raise the Shasta Reservoir, which could hamper fish passage opportunities and flood some of the remaining sacred sites



Klamath Justice Coalition member Annelia Hillman speaks at the State Capitol. PHOTO BY REGINA CHICHIZOLA

of the Winnemem Wintu Tribe. The Winnemem Wintu Tribes lands were inundated by the Shasta Reservoir when it was first built and they are fighting the dam raise.

“This is our Dakota Access Pipeline” said Caleen Sisk of the Winnemem Wintu Tribe, about the dam raise and new water plan.

These plans are especially threatening when coupled with other proposals that promise to divert, store, and transfer more water.

Governor Jerry Brown’s “California Water Fix” (a.k.a. Twin Tunnels) proposes to build two, 20-40 feet pipelines to divert water from the Northern Bay Delta. The Sites Reservoir would build privately owned reservoirs that would cover 14,000 acres in an off-channel facility and build a new 2,000 cubic feet per second (cfs) diversion and two new pumps on the Sacramento River. It also includes new water rights for up to 3 million acre-feet a year from the Sacramento’s most important salmon creeks.

Proponents say Sites and the Tunnels are unconnected, however Southern California water interests have indicated they do not want one without the other. Regardless, they could store and move much more fresh water from rivers and the Bay Delta, threatening the drinking water supply of 25 million Californians, along with Sacramento and Klamath River salmon.

“Increased diversions of water from the Sacramento and the Delta adversely impact the Trinity River because they create larger demands on the Central Valley Project (CVP). The Trinity River is a source river for the CVP as a result of a diversion tunnel to the Sacramento River.” explained Tom Stokely, a former Trinity County supervisor. **“According to studies, water right claims are already five times greater than availability in a**



Morning Star Gali, Regina Chichizola, Dania Rose Colgrove, Jon Luke Gensaw, Sammy Gensaw, Thomas Joseph, Marva Jones and Annelia Hillman show solidarity at the State Capitol on January 23, 2018. PHOTO BY DAN BACHER.

normal year. This creates an insatiable demand for Trinity water.”

Both Sites and the Tunnels were first proposed in the 1980s, yet now proponents claim they are environmentally friendly. The Sites Authority even applied to the California Water Commission (CWC) for Proposition 1 money, which is meant to fund projects with environmental and public benefits. The CWC recently announced a negative rating for Sites, despite the Authority’s threats they will build reservoirs and only provide water to irrigators. Institute for Fisheries Resources director Noah Oppenheim equated the threat to blackmail.

“We reject assertions that Sites is about the environment. New diversions and water privatization are not a public benefit. We cannot trust the fox to evaluate, design, and operate the henhouse.” Sites reservoir proponents, have joined those who are proposing dams on the Yuba and San Joaquin Rivers to urge the California legislator to overturn the requirements of Proposition 1.

Where would water come from in the over allocated system? The Site’s Authority

would divert more water in the winter and spring, despite science that shows increased winter and spring flows are needed in dammed watersheds to move gravel, inundate floodplains, and help juvenile salmon migrate to sea. Other new diversions would occur year-round.

It is not over for California’s Rivers. The Klamath dams are set to be removed, and fish passage is mandated at the Shasta Dam. California plans to increase flows for salmon in spring and winter, and many tributaries on the Sacramento River are being prioritized for restoration.

These processes would improve salmon populations and water quality. They would also return salmon to Tribes and restore ocean fisheries.

To sign the petition against the Trump water plan go to: <http://chn.ge/2nmb2BT>

Comments opposing public money can go to: cwc@water.ca.gov.

For more information go to CaliforniaSalmon.org, Save Californian’s Salmon on Facebook, @calisalmon on Twitter, or California Rivers on Instagram

The Perils of Rainbow Ridge

By Save the Mattole

It's early March of 2018 and the snow has nearly melted on the grasslands above the ancient forests of Rainbow Ridge. It has been 20 years and two logging regimes since Earth First!ers of the Headwaters Forest movement first put themselves between the trees and saws here, but the struggle to protect the ancient forest here, is alive as ever. The future of this place hangs in the balance. For months the state regulatory agency Calfire has delayed a decision to approve or deny a controversial new logging road proposed by Humboldt Redwood Company (HRC). As of this writing, the date of decision is now March 13th. HRC hopes this road would ease access around the sites that have been blocked by forest defenders time and again in order to stop the extraction of timber from this irreplaceable gem of coastal old-growth Douglas-fir, oak, and madrone forest. Within the blockaded area lie hundreds of acres of large Douglas-fir trees that HRC sees as sawmill fodder.

Following the tumultuous timber war and bankruptcy of Pacific Lumber in

2006, and the subsequent acquisition of the lands by HRC, it appeared that the ancient forest of the North Fork of the Mattole River were saved. HRC came onto the scene promising not to log old-growth forest and won community support in their bid for Pacific Lumber's lands. Sadly, by 2014 HRC had re-conceptualized their old-growth forest policy and that spring began felling trees in the ancient forest here. This immediately prompted on-site protests, tree sits, and a four month blockade by forest defenders later that summer.

After the 2014 blockade, logging operations in the ancient forest ceased for two years and HRC cancelled logging on about three quarters of the proposed acreage. The company attempted to resume logging in May of 2017, sending in crews to conduct "hack n' squirt" herbicide operations in nearly 200 acres of mixed species forest. Those slopes are now marred with large swaths of tall dead madrones, tanoaks, canyon oaks, and others. HRC and sibling company Mendocino Redwood Company had claimed they only use herbicides



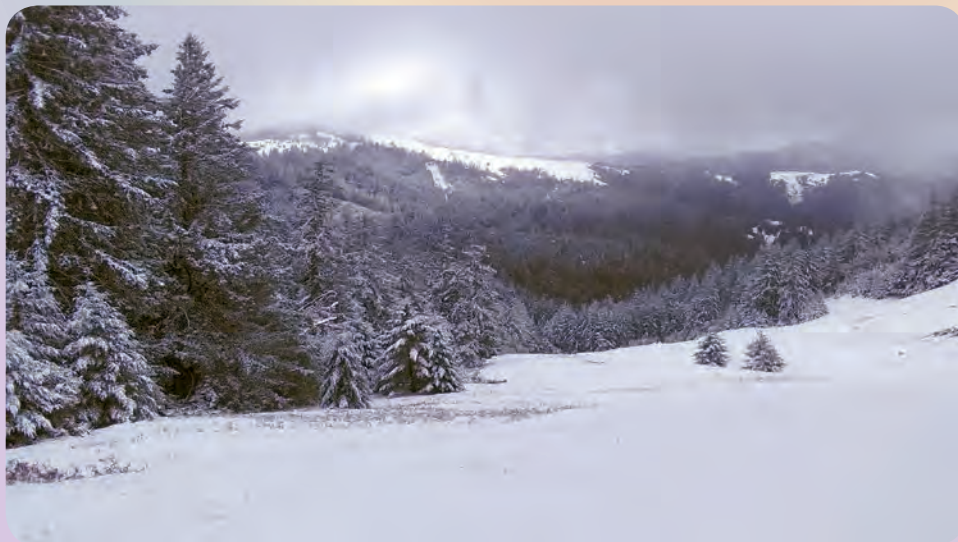
Forest defenders at work

to "restore the balance" of species on previously logged lands. On the contrary, the vast majority of the acres they herbicided here in 2017 were part of the unlogged old-growth forest. This has led to greater distrust and feelings of betrayal within the conservation community.

In June of 2017, a loose coalition of forest activists once again blocked the road under the banner "Save the Mattole's Ancient Forest". This prevented the herbicide operation from being completed and once again, no timber was extracted from this precious place.

It's now nearly spring of 2018 and the future could unfold any number of ways, but one thing for sure—until these logging plans are cancelled or a resolution can be reached, this 20 year old front lines struggle will continue.

For More Information:
savethemattolesancientforest@riseup.net,
on Facebook at Save the Mattoles
Ancient Forest, or at 707/336-2231



Winter 2018 in the Mattole

Announcements

INSTITUTE FOR SUSTAINABLE FORESTRY

Please join the Institute for Sustainable Forestry for our 2018 field season as we explore the dynamic processes that shape the mountains, rivers, and forests of the Northcoast. We have built this program around three themes; watershed health, fire adaptation and resilience, and geological influences on the ecosystem. These tours will highlight some of the most innovative cultural and technical solutions to our natural resource challenges and inform our understanding of ecological processes. Join the conversation as we work to implement a vision of a thriving future for forest dependent communities on the Northcoast.

March 24: Ascending the Mendocino Ecological Staircase at Jughandle State Reserve

We will begin this conversation with an overview of the tectonic setting of the Noyo basin and stream incision. We will then ascend the Ecological Staircase and examine the unique soil and plant associations on each tread and riser.

April 21: Enhancing Forest Biodiversity at Homestead-scale in Salmon Creeks Fools Farm

The day will include examples of holistic land stewardship practices growing and protecting soil, small scale mushroom production, oak woodland and grassland restoration, groundwater recharge projects, and wildlife habitat enhancement.

May 20: Floodplain Processes in the Heart of Southern Humboldt

Float from Tooby Park to the USGS gaging station and explore the South Fork Eel core of Southern Humboldt. Bring your own Boat. We will discuss tectonics, extreme floods, sediment dynamics, and floodplain restoration.

June 16: Ultramafic Biogeography Part One: Red Mountain.

BLM wilderness area, this 4,000ft ultramafic peak's is dominated by pines, cedars, and cypresses with a 4.5' manzanita closed canopy, and is home to a numerous endemics.

June 23: Ultramafic Biogeography Part Two: The Lassics

These two 5900ft. peaks dominate a botanical area and wilderness in the Six Rivers National Forest. We will observe alpine wildflowers, recent wildfires, and ultramafic endemics.

August 4: Angelo Reserve and Elder Creek

Visit a UC Natural Reserve, National Science Foundation Critical Zone Observatory. Discuss research by Mary Power, Bill Dietrich, their students, and colleagues.



An example of a groundwater recharge project.
PHOTO BY KYLE KEEGAN, FOOLS FARM

August 25: RFFI's Usal Forest: Working toward a Community-based Forest Model

Tour the Redwood Forest Foundation Inc.'s Usal Forest. Discuss creating and operating a community based forest and the challenges of restoration forestry. See the cumulative impacts of 100+ yrs. of logging. Look at forest, road, stream, and riparian restoration. Led by RFFI's board and staff.

Sept. 22: Standish Hickey Recreation Area

Discuss community engagement and the local park governance model that has kept the park thriving through a period of uncertain funding. We will also tour the terrace sequence that records the late Pleistocene incision of the South Fork Eel River.

Oct. 13: A Canoe Fire Transect in Humboldt Redwoods State Park

The 2003 13,724 acre fire was the largest wildfire in old-growth coast redwood stands in over 50 years. This transect will explore the fire's effects, erosion, recovery, and risk management.

Nov. 17: Mushrooms, Music, and Merlot

Return to the Usal Forest at Kenny Creek to explore the fall mushrooms. Then go to the Peg House by Standish Hickey SRA for a harvest celebration of forest foods!

Dec. 8: Before and After Wildfire, Biochar and Prescribed Fire

Study fire safe perimeters, home brew biochar, and prescribed burns. Locations will depend on this year's burn programs.

For more information please visit the ISF website at: www.newforestry.org or call 707 244 4584



Calypso bulbosa x kostiukiae

PHOTO FROM [HTTP://NATIVEORCHIDSOFTHEPACIFICNORTHWEST.BLOGSPOT.COM/](http://nativeorchidsofthepacificnorthwest.blogspot.com/)

Feeling Inspired?



Thank you!

Feeding time at Usal Beach
PHOTO BY LINDSEY DARBY

Your support makes projects like these possible.

It also allows Trees Foundation to continue publishing *Forest & River News*, keeping Partner Groups and communities connected in the continuous battle to protect our wild places.

Trees Foundation is a 501 (c)3 non-profit organization. Donations are tax deductible.



Diggin' In: THE GIENGER REPORT

Of course, as always, there is a lot going on and on a lot of levels. The catastrophic fires in Mendocino, Sonoma, Lake, and Napa Counties in October were followed by huge catastrophic fires in Southern California in December, some of which continued into the beginning of January. Rains in early January then produced deadly and destructive mud slides/torrents on the fire burned slopes.

On the positive side there was abundant rain during the month of November that brought good runs of Chinook salmon high up into prime spawning areas of the South Fork Eel River and Mattole River watersheds. Mattole surveyors found the highest numbers of Chinook and their redds in certain reaches that they had not seen since the early 1980s when spawning survey efforts began. For instance, about 80 redds and 130 spawning Chinook in

the 1.5 mile reach on either side of the Humboldt-Mendocino County line were counted. Then in December there was hardly any rain. There was enough of a rain rebound in January to bring coho salmon and steelhead into prime tributaries of the South Fork. Since then rainfall has been pretty sparse with a lot of cold weather and some snow. Hopefully, March through June will bring the precipitation that is so needed.

I can't begin to name or memorialize the many wonderful persons that have died recently. One of the more public individuals was Ruthanne Cecil. Among other things, she was one of the three original founders of the Environmental Protection Information Center (EPIC). She was at the forefront in fighting against the aerial spraying of phenoxy herbicides (agent orange ingredients used

in Vietnam) in local and regional forests. Her commitment was inspirational. Throughout her life she was also a loving mother, dedicated to working people, and proud of her heritage from the indigenous Sami people of Finland. She will be missed and a memorial is being planned for some time in May.

I continue to document various road and stream issues—plenty of those. There is still so much that needs to be done—across the board. It's been interesting following the culvert replacement in the Huckleberry Hill area on Briceland Road. Some really good work has been done, but while the streambed has been retained in the 10' in diameter at this time—that retention has been assisted by a very large amount of streambed migrating through the culvert from upstream. It is tricky taking all the hydrological factors into



Looking upstream to culverts about 150' above the new Briceland Road/Huckleberry Hill Dinner Creek crossing (22 November 2017). Note headcut/falls on clay. ALL PHOTOS THIS ARTICLE BY RICHARD GIENGER



Looking downstream at the new Huckleberry Hill Crossing on November, 26, 2017.

account and the channel adjustments including a 3' high 'nick-point' or falls migrating upstream on raw clay above the new culvert, which will need to be dealt with. Especially when the migrating cut gets to the culverts placed at the older higher channel level. Also, it's a fish passage issue at certain flows. The Usal, Needle Rock Roads, and legacy roads all continue to need long-term comprehensive corrective measures.

Progress on the Campbell Creek Pilot Project continues to be painfully slow. We're told the report focusing on various reforms regarding data, cumulative impacts, restoration needs, and transparency needs to be done by the end of this year. The actual scope of work has still not been determined. Part of this is due to agency personnel being called away on emergency duty to the massive fires and subsequent rain-triggered damage. Sure need to be further along than we are.

The Little Hoover Commission has just issued a new report on the drought Sierra Nevada forest die-backs and fire issues. Check it out via this link: [http://www.lhc.](http://www.lhc.ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf)

[ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf](http://www.lhc.ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf). There is a lot to digest—over 80 pages. Some cover bigger picture needs for the state. Other recommendations include more prescriptive fire—\$200 per acre for prescriptive fire treatment versus \$800 per acre for wildfire suppression. Lots of practical, subjective, and cultural issues all intertwined. I suggest you also check out their 1994 Report #146 on forestry that has many of the key recommendations unimplemented—like “master environmental protection plans” for all forested watersheds.

There is a burgeoning effort under a “Trees Matter” banner that includes former CAL FIRE Director Richard Wilson, Forests Forever, EPIC, and others—to finally implement the directive of the 1993 Forest Practice Act to maintain, restore, and enhance timberland productivity, while similarly addressing environmental issues. Jeff Hedin and I have been interviewing Richard Wilson at various times on KMUD since November 2017. His life and career(s) are amazing. For one part read *The River Stops Here* by Ted Simon.

It is an incredible book not only covering the effort that stopped the damming of the Middle Fork Eel River and flooding of Round Valley, but thoroughly covers the big picture of imperial plans and realities of California water—plans and realities that affect lives all over California. How about that Oroville Dam? Over 80' deep pours of concrete to patch the dam outlet were done in 2017 with huge cost overruns.

To jump a little bit, there are some other books I'd like to mention to help gain some important insights that affect us today. After reading three books about Appalachia, I've come to think of much of our region as 'Appalachia-by-the-Sea'—with the same patterns of displacement and exploitation. Those patterns are discernible across North America and other continents. Check out *Hillbilly Elegy* by JD Vance, *Ramp Hollow: The Ordeal of Appalachia* by Steven Stoll, *What You Are Getting Wrong About Appalachia* by Elizabeth Catte, and the novel *Thirteen Moons* by Charles Frazier (author of *Cold Mountain*).



A log jam on Moody Creek is a barrier for salmon and steelhead. Moody Creek is an important coho stream with the low gradients that coho prefer. Modification of this barrier is part of a restoration proposal which will be submitted within the month for funding. Intense partnerships with Pacific Watershed Associates, Eel River Watershed Improvement Group, Trout Unlimited, and others like the Lost Coast Forest, are vital to the public and RFFI's Usal Redwood Forest.

Another relevant perspective on today comes from examining United States history mid-19th century. Much of the rhetoric, conflict, ‘fake’ yet all too real this and that, which happened in the mid-19th century—continues today. Did you realize that the night before and in the early morning hours on the day Lincoln was inaugurated, in 1861, Congress passed a Constitutional Amendment to be ratified

by the states that would have permanently established slavery in the United States, with the provision that the amendment could never be overturned? Check out *1861: The Civil War Awakening* by Adam Good heart, and *Grant* by Ron Chernow

Some current milestone and controversial events include the 4-1 vote to remove the statue of President McKinley from

the Arcata Square and 5-0 to remove the plaque across from the Jacoby Building that referred to ‘Indian Troubles’ and Jacoby Storehouse as a settler refuge. Fred “Coyote” Downey has pointed out that slavery still existed for California Indians until 1954, when the practice ended of having Indians charged with various offenses, including being indentured to ranchers.



Looking upstream, headwaters Mattole between Baker and Thompson Creeks, at a naturally formed habitat complexity/pool—large fallen tree forming pool and collecting other wood giving cover to salmon & steelhead. Barely discernible is a large Chinook (white ‘wear’ showing along its back) in mid-channel in left quarter of photo.



Two Chinook salmon, one very large, using a pool and cover that was created from structural logs and assorted wood of many sizes collected by the structure, in the Mattole headwaters between Baker and Thompson Creeks.

I have been working on a paper for a special issue #40 of the *Humboldt Journal of Social Relations* on the topic of the “American West After the Timber Wars.” I’m up to 14 pages. I’m getting edited to a shorter version. My paper is called “‘Timber Wars’ & Aftermath in Northwest Coastal California”. My basic point is that the so-called ‘timber wars’ are not over, backed by personal experiences and anecdotes, as well as broader regional history and beyond.

“... Yes, there was the high-profile struggle over the establishment of Redwood National Park in the late 60s, and its expansion in the early 70s, but the ‘real war’ was, and is, over changing the extraction/exploitation ethic and reality that had destroyed or depleted forests for millennia. It was part of an opening of consciousness typified by the impact of Rachael Carson’s *Silent Spring*. In the Pacific Northwest and California, particularly, it involved taking on the whole social and economic engine, that, in continental U.S. had moved and removed the forests from East to West with little or no effective restraint or conservation ethic for future generations. To question this in the assorted legislative or administrative chambers was to face a gauntlet of resistance. To face it on the ground was riskier yet—the

beneficiaries of the no-holds -barred logging made up the basic bread & butter industry in community after community and region after region. To really get a good feel for the effects in those communities and regions please read *Overstory Zero: Real Life in Timber Country* by Robert Leo Heilman. For a longer view try *A Forest Journey: The Story of Wood and Civilization* by John Perlin.”

An important addition, as an epilogue, will cover three key unresolved aspects: 1) Description of the Saga and Significance of the Five Individually and Cumulatively Sediment Impacted Watersheds -- Bear, Stitz, Jordan, Freshwater Creeks and Elk River. Starting in the winters of 1995-96 and especially 1996-97 (The Stafford debris torrent New Year), the controversies continue today and include rate-of-harvest and adverse legacy impact corrections.; 2) Description of the condition (past, present, and future) and significance of Jackson Demonstration State Forest (JDSF). JDSF has around 55,000 bd ft /acre versus 8,000 to 20,000 bd ft / acre for the rest of the large ownership coastal forestlands in the region, and 3) Description of the Saga and significance of the struggle for Rainbow Ridge between the Mattole and Bear Rivers (& related efforts).

To Get Involved


 Richard Gienger
rgrocks@humboldt.net
707-223-6474

 California Legislative Information
www.leginfo.ca.gov

 EPIC
wildcalifornia.org

 Institute for Sustainable Forestry
www.newforestry.org

 RFFI
www.rffi.org

 Sanctuary Forest
www.sanctuaryforest.org

For the Rainbow Ridge issue please go to:
<https://alumni.berkeley.edu/california-magazine/just-in/2018-02-13/california-timber-battles-shift-new-grounds>

Please read this and the public comments and add yours. This is in a UC Berkeley alumni magazine and written by Glen Martin, former environmental writer for the San Francisco Chronicle. One of the parts of the piece is a strong focus on Rainbow Ridge potentially becoming part of the UC Natural Reserve System. The Heath Angelo Natural Reserve along the headwaters of the South Fork Eel River near Branscomb is a wonderful and invaluable part of that system.

In closing, please keep active you all. Reach out to EPIC, Forests Forever, RFFI, and related organizations that will help you make some informed decisions for your involvement. Help Sanctuary Forest with their Van Arken Creek project and take part in their hikes program, and the new tour/workshop program of the Institute for Sustainable Forestry (ISF).

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



LIVING WITH FIRE

Celebrating Mistletoe

This article by Lenya Quinn-Davidson was originally published on Fire Adapted Communities Learning Network's blog.

To see dwarf mistletoe seeds is to experience them. These are not typical seeds that gently drop from a mature plant. Rather, they are explosive—forcibly ejected from their fruits at high rates of speed. I remember learning about this in college: that dwarf mistletoe seeds can travel up to 60 mph and fly more than 60 feet from their hosts (Hinds et al., 1963). This process is triggered by internal heat production (called thermogenesis) within the mistletoe fruit—something that's never been observed in another plant (Rolena et al., 2015). It wasn't until many years after college that I actually experienced the phenomenon for myself. I remember driving along the Trinity River here in northern California and seeing a sudden splattering of little gelatinous green balls all over my windshield. I still remember how excited I was when I realized what they were: seeds that had flown as fast as I was driving.

It turns out that the seeds are only one of many intriguing things about mistletoe. There are more than 1,300 species of mistletoe; they grow all over the world (on all continents except Antarctica!); they support and interact with wildlife in all kinds of neat ways (Watson, 2001; PDF, 388 KB), and they are part of human culture and tradition (even evoking a kissing response in some!). And yet they're parasitic—not usually our favorite type of organism. More specifically, they're hemi-parasitic, meaning that they obtain all of their water and minerals from their host plant, but have some ability



Leafy mistletoe is fully photosynthetic and therefore has a limited impact on its host trees.
PHOTO BY DAN KIDWELL, SHARED VIA FLICKR CREATIVE COMMONS

to provide for themselves. For example, leafy mistletoe, which is common in oaks where I live, is fully photosynthetic and therefore has a limited impact on its host trees. Dwarf mistletoe is a more demanding guest, requiring water, minerals and other nutrients, and taking a much greater toll on the many species of plants that it inhabits.

As a major forest pathogen, dwarf mistletoe has a strong and well-studied connection to fire. Studies conducted in the 1970s clearly noted the relationship, pointing to fire suppression as the primary driver of increased dwarf mistletoe abundance in many North American forests (Alexander and Hawksworth, 1975; PDF, 2.84 MB). At that time, dwarf mistletoe was recognized as one of the most damaging pathogens in many important forest types, and its impacts on the timber industry—with estimated

losses of 3.2 billion board feet annually (Shea and Howard, 1969)—spurred quite a bit of research into its ecology and potential control tactics. Wildfire and prescribed fire naturally emerged as focal points for research, and those topics have continued to lure researchers, just as dwarf mistletoe has continued to wreak havoc. In a 2008 paper, Paul Hessburg and others (PDF, 1.006 MB) argued that due to its wide distribution and habitat versatility, “dwarf mistletoes are probably responsible for more tree growth and mortality losses each year than all other forest pathogens combined.”

Like most forest pests and diseases, the relationship between fire and dwarf mistletoe is a two-way street: mistletoe affects fire, and fire affects mistletoe. For example, research has shown that mistletoe-infested stands of ponderosa pine have higher snag densities and higher



If implemented regularly, prescribed fire can control infestations of dwarf mistletoe in ponderosa and Douglas-fir forests.
 PHOTO BY GARY CHANG, SHARED VIA FLICKR CREATIVE COMMONS

fuel loads than uninfested stands, and that infested stands have higher crown fire potential (Hoffman et al., 2007; PDF, 2.14 KB). Mistletoe also has a number of tree-level effects that increase flammability and fire behavior potential, including the establishment of witches' brooms (dense, twiggy growth around areas of infection) and resinous stem cankers (Alexander and Hawksworth, 1975). Other research has documented reduced self-pruning and stunted growth in infected trees, both of which effectively lower the height of the live crown and thereby increase the potential for torching and canopy fire (Conklin and Geils, 2008; PDF, 774 MB).

The effects of mistletoe on fire behavior are fairly intuitive, but I find the effects of fire on mistletoe to be a little more intriguing. For instance, a study by Zimmerman and Laven (1987, PDF, 681 KB) tested the effect of smoke on the seed germination of three species of dwarf mistletoe, and they found that smoke exposure can reduce germination or prevent it altogether

(when exposure exceeds 60 minutes). Earlier work by Koonce and Roth also indicated that heat and smoke might

have a disproportionate effect on dwarf mistletoe compared with their effects on the host plant (1980). Other studies have looked at the sanitizing effect that fire can have on mistletoe-infected trees. Conklin and Geils studied ponderosa pine stands in New Mexico, and they observed reductions in the dwarf mistletoe rating (DMR)—a categorical system for assessing infection (Hawksworth, 1977)—in 12 of 14 frequently burned plots (2008). This sanitizing effect was associated with average tree scorch above 25 percent, and it points to the potential utility of prescribed fire for dwarf mistletoe management, assuming that fire intensity is able to meet these minimum “scorch pruning” thresholds. Hessburg et al. also found that thinning and burning could be effective treatments for dwarf mistletoe in ponderosa and Douglas-fir forests, but that treatments would have to be implemented on regular intervals, as effects diminished after 20 years (2008).

Of course, the relationship between fire and mistletoe—and the approach to fire-



Mistletoe has numerous impacts on trees, which in turn can impact fire behavior. Shown here is a tree infested with mistletoe and the resulting patches of dense, twiggy growth, known as witches' brooms. Find out how and when fire can serve as a management tool against this nuanced pest.

PHOTO BY GRAEME CHURCHARD, SHARED VIA FLICKR CREATIVE COMMONS



Foresters using prescribed fire to treat lodgepole pine infested with mistletoe in the 1970s .
 PHOTO BY U.S. DEPARTMENT OF AGRICULTURE, SHARED VIA FLICKR CREATIVE COMMONS

based treatments—is highly dependent on the fire regime of the specific forest type in question. Much of the literature on dwarf mistletoe and fire comes out of frequent-fire forests like ponderosa pine and western mixed conifer, but lodgepole pine and black spruce are also common hosts, and their fire regimes are much different. In those types of forests, which are adapted to less frequent, more severe fire regimes, stand-replacing fire

may be important for protecting future cohorts of trees from infection. Research on lodgepole pine forests in the Rocky Mountains showed that the time elapsed since the last stand-replacing fire is a good predictor of mistletoe infestation, and that the presence of remnant infected trees increases the rate of infestation in younger, post-fire stands (Kipfmüller and Baker, 1998). In these forest types, the

authors suggest that effective prescribed fire treatments would need to be intense and stand replacing.

I've always thought that mistletoe was interesting, but working on this blog opened a whole can of unexpected worms. Who knew that it was mistletoe, with its many interesting wildlife synergies, that inspired Charles Darwin to study evolution (Watson 2001)? Or that the term “mistletoe” is an ancient reference to some mistletoe species' reliance on seed dispersal by birds, which eat the seeds and then deposit them on tree branches—the name comes from “misteltan,” an Anglo-Saxon word meaning “dung twig” (!!). Mistletoe has also been used by humans to bait deer for hunting (the foliage is quite tasty!); to treat infertility, syphilis, bubonic plague, epilepsy and other ailments; and to celebrate the return of summer, which mistletoe hints at with its evergreen foliage (Paine and Harrison, 1992). So with this blog, I celebrate mistletoe—i.e., dung twig, kissing plant, ballistic seeder, fire friend and foe—as quite possibly the coolest plant ever!



Dwarf mistletoe fruits
 PHOTO BY THOMPSON RIVERS UNIVERSITY, SHARED VIA FLICKR CREATIVE COMMONS

🌲 The Fire Adapted Communities Learning Network publishes blogs on a weekly basis. Subscribe to have more stories like this delivered to your inbox.”



Trees Foundation Board Member Lenya Quinn-Davidson is a Staff Research Associate with University of California Cooperative Extension in Eureka and the Director of the Northern California Prescribed Fire Council. She works on a wide range of issues, including research, outreach, and policy related to prescribed fire and fire management more generally. Feel free to contact her at lquinnndavidson@ucanr.edu.

Collaborating with Sanctuary Forest

Collaboration with conservation organizations, agencies, scientists, and others in our community has always been essential to achieve the goals of our three core programs: Lands Conservation, Land and Water Stewardship, and Education. The Cereus Fund grant of Trees Foundation allowed us to continue our work with our partners in the Mattole watershed—Mattole Restoration Council and Mattole Salmon Group, who together with Sanctuary Forest make up the Mattole River and Range Partnership (MRRP)—to address coho recovery actions on a watershed scale.

This year the Coho Confab, hosted by the Salmonid Restoration Federation, was held in the Mattole River valley in Petrolia. Sanctuary Forest participated in the Confab with Tasha McKee, Water Program Director, presenting with Elijah Portugal of Redwood Community Action Agency, about how we can learn from beavers and how beaver structures can be applied towards salmon restoration planning. Tasha and Elijah followed up with a hands-on workshop in the Mattole headwaters demonstrating the design process of beaver dam structures in place for a planning project that is currently underway in Lost River, funded by the Wildlife Conservation



Tasha McKee, Sanctuary Forest Water Program Director, and Elijah Portugal from the Redwood Community Action Agency, lead a tour at Lost River in the Mattole headwaters as part of the Coho Confab and demonstrate how beaver dam structures can be applied in salmon restoration planning. PHOTOS THIS ARTICLE BY SANCTUARY FOREST

Board Streamflow Enhancement Program and several Foundations: Grace US, Bella Vista, Firedoll, Weeden, Patagonia, and the Anadromous Fund of Trees Foundation. In addition, Sandy Miles, Water Program Coordinator for Sanctuary Forest participated in a landowner workshop with Matt Clifford, JD, of Trout Unlimited, Tom Leroy of Pacific Watershed Associates, and Cassie Pinnel, Executive Director of the Mattole Restoration Council. The workshop provided landowners with the tools and resources needed for road improvements and water conservation.

Sanctuary Forest has been working with landowners for the past several years as part of the Mattole River Water Conservation Technical Assistance Program funded by CA Dept of Fish and Wildlife with support from Grace US and Bella Vista Foundations. The goal of this project is to promote watershed wide water conservation, best management practices, and responsible land stewardship through education and technical support to Mattole River communities.

Our work is focused in the Mattole River watershed; however our impact is far reaching. Recently, we have been asked to share informational resources with The Nature Conservancy in the Navarro River watershed and help them to develop a collaborative water management framework based on lessons learned from the Mattole. This collaboration among groups, agencies, and community is vital to achieving a healthy river and forest that can sustain fish, wildlife, and people—and we thank the Cereus Fund, and all our funders, for providing the support to continue this collaborative approach to watershed management.

For more information:
www.sanctuaryforest.org



The Nature Conservancy & Trout Unlimited visit a local homestead in the Mattole headwaters where an instream salmon habitat project is underway. This homestead has also been a site where we lead tours demonstrating responsible land stewardship and best management practices for water conservation.

In Search of Meaningful Public Participation

Coalition for Responsible Transportation Priorities

Caltrans recently released a new draft Public Participation Plan, required by law for its statewide transportation planning efforts. Like many such documents, the Caltrans plan outlines good principles and goals for public engagement, but is overly vague and lacks credible implementation mechanisms. We submitted comments saying as much, directly to the agency. But we also thought this provided a good opportunity to reflect on the state of public participation at Caltrans, and in public decision-making more generally.

Caltrans calls on the public to “get involved early” and “stay involved” beyond the initial planning stages. The agency acts as if the opportunities for public involvement are real and meaningful, and the challenge is simply to educate and motivate the public to utilize these existing opportunities. But this ignores the realities of the transportation planning process.

Consider, for example, the development of Regional Transportation Plans (RTPs). RTPs are the legal foundation for most local, state, and federal transportation planning; and therefore should be a key opportunity to “get involved early.” But experience shows that the bulk of each “plan” consists merely of lists of already-planned projects submitted by local agencies and Caltrans. In fact, we have been told explicitly by transportation planners that when an RTP is under development, it is “too late” to provide feedback on the various projects included in it.

Instead, the public is told to engage at the very beginning of the project development

process (called “project initiation”) and during the “route concept planning” process—neither of which provides any actual opportunity for public input. In essence, by the time the public is asked to provide input on a transportation “plan,” the projects which will later claim to be implementing the plan are already well under way, and the input has little effect.

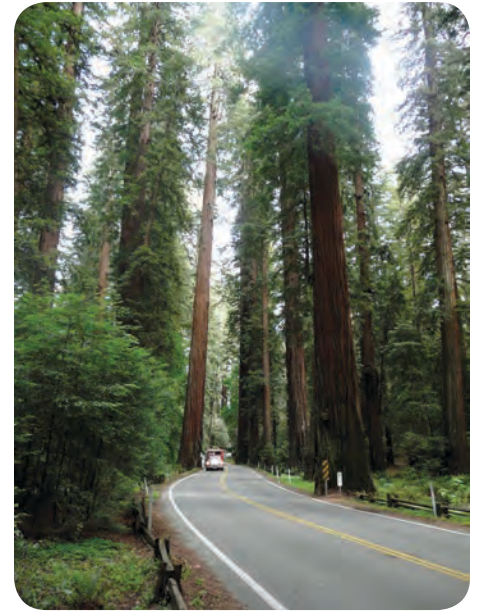
Caltrans also claims to follow a policy of “Context Sensitive Solutions,” which it defines as “a collaborative approach among transportation partners, stakeholders, and the public in all phases of program delivery, including: long-range planning, programming, environmental studies, design, construction, and maintenance that help preserve and enhance community values, while improving safety and mobility.”

That sounds great, but we can think of only one example of this approach in our region—and that process was initiated by a Congressman, not by Caltrans.

In general, Caltrans has been notorious for ignoring local input and performing only the bare minimum of public engagement required by law (if that). In fact, when we convened a group of stakeholders last year in an attempt to develop a “context sensitive solution” to the years-long controversy over the Richardson Grove highway expansion project, Caltrans refused to attend the meeting or to allow any other public comment on the project at all.

At this point, it’s clear that without credible and detailed implementation plans and accountability mechanisms, theoretical opportunities for public participation will continue to be less than meaningful. Consequently, the public’s perception that the agency does not take public participation seriously will continue to be reinforced.

So what’s the solution? It may be helpful to look to current efforts by the City of Arcata



Highway 101 through
Richardson's Grove
PHOTO BY EPIC

to improve its central Plaza, a process in which we have been deeply involved. We are impressed with the City’s decision to move forward slowly and deliberately, with lots of unstructured public input and—critically—no final pre-determined endpoint. This is a good model for how to engage the public on important decisions and projects.

It may be that we need new laws or regulations mandating more rigorous public participation processes, such as the one being used for the Arcata Plaza. But as long as public agencies like Caltrans continue to treat public participation as just another box to check on the way to completing a project, new rules will make only a limited difference. Agencies need to embrace the democratic necessity and transformative power of true, meaningful public participation in order to regain public trust and function at a more effective level.

For more information:
transportationpriorities.org

Fish and Wildlife Service Says Goodbye to Spotted Owl Assistance in California

So long, and thanks for all the technical assistance!

**Environmental Protection
Information Center**

By Rob DiPerna

The U.S. Fish and Wildlife Service recently announced it will no longer provide technical assistance to private timberland owners in California to ensure Timber Harvest Plans (THPs) and other logging plans avoid “take” of the federally-threatened northern spotted owl. The announcement closes a 19-year chapter in which the federal wildlife agency has provided private timberland owners and the California Department of Forestry and Fire Protection (CAL FIRE) with biological review of state-sanctioned logging permitting frameworks aimed at avoiding “take” of the spotted owl.

The U.S. Fish and Wildlife Service originally listed the spotted owl as “threatened” under the federal Endangered Species Act in 1990, and began formally offering assistance to CAL FIRE and private timberland owners in California as of 1999 at the request of then-California Secretary of Natural Resources, Mary Nichols. The U.S. Fish and Wildlife Service began to scale back its technical assistance program for private timberlands in California in 2008, handing the brunt of the day-to-day work of ensuring spotted owl “take” avoidance over to CAL FIRE, the lead agency responsible for approval of private timberland THPs and other similar logging projects that could adversely impact northern spotted owls.

The technical assistance program never received a fully-funded mandate or line-item

in the agency’s budget. The scale-back of the U.S. Fish and Wildlife Service in 2008 created a vacuum of checks and balances on private timberlands “take” avoidance assurance in California, and some large industrial landowners—most notably Sierra Pacific Industries and Fruit Growers Supply Company—took full advantage by conducting risky logging activities in and near spotted owl nesting sites that never would have been sanctioned by the Fish and Wildlife Service during the technical assistance era. With CAL FIRE alone, and in the lead, it was clear the fox had been left guarding the northern spotted owl nest sites.

In 2012, EPIC took action. We filed a listing petition with the California Fish and Game Commission requesting that it list and protect the northern spotted owl under State law and the California Endangered Species Act. It took nearly five years, but the Fish and Game Commission did eventually list the northern spotted owl under the California Endangered Species Act, an action that was codified as of June 2017.

Today, our efforts to see the spotted owl listed and protected under State law

could not have been better timed. The most recent range-wide northern spotted owl demographic study released in 2016, showed continued and alarming declines in owl populations, reproduction, and survival, across all 16 long-term study areas throughout their range, including three study areas in California. According to the study, northern spotted owls are declining at a rate of nearly four percent per-year, and that rate of decline is accelerating.

With an even less-friendly President and Congress giving away anything and everything it can to extractive industries and interests, and a new and much more top-heavy agency control policy being handed down by the President, Interior Secretary Zinke, and Congress, it has become clear that the only way to protect, restore and recover threatened and endangered fish and wildlife, like the northern spotted owl, is to focus on what can be done right here in California.

Now, with the U.S. Fish and Wildlife Service completely abandoning the spotted owl in California, our State wildlife agency, the California Department of



The Northern Spotted Owl PHOTO MICHAEL NICHOLS, NATIONAL GEOGRAPHIC

Conservation Partner Organizations at Work

Fish and Wildlife, is ready to step-up and step-in to ensure spotted owls are not only protected, but also hopefully conserved and recovered in the State.

The California Department of Fish and Wildlife will now be the defacto lead on protection, enhancement, restoration, and recovery of the northern spotted owl in California. The challenges to this are many and seem quite daunting: past and ongoing habitat loss, continued expansion and competition from barred owls, increasing risk of second-hand toxicant exposure, climate change, small, and isolated and fragile remnant populations all demand a holistic view, and approach to spotted owl management and conservation in California that does more than focus on the tired, old question of “to take or not to take.”

In 2018, EPIC will be pressing the California Department of Fish and Wildlife to create a Recovery Strategy for the northern spotted owl in California that addresses threats

to the species and the opportunities for conservation and recovery on a holistic and state-wide programmatic basis.

🌲 You can follow our spotted owl advocacy efforts at: www.wildcalifornia.org.

Here Comes The Post-Fire “Salvage” Logging Bonanza...Again

**Klamath National Forest
Proposes Clearcutting
the Siskiyou Crest Mountain Range
Klamath Siskiyou Wildlands Center**

By George Sexton

It's Groundhog Day for timber planners in the Klamath National Forest—the annual ritual following summer wildfires, in which the Forest Service throws out the rulebook and proposes widespread clearcutting of post-fire recovering forests in old-growth

“Late-Successional Reserves.” This time they are targeting steep slopes in one of the most beloved botanical hotspots in the region in Cook and Green Pass on the Siskiyou Crest Mountain Range near the California-Oregon border.

The Klamath National Forest's continued obsession with clear-cut salvage logging undercuts the significant efforts of many stakeholders to develop a more sustainable fire policy. Fire-scientists, ecologists, foresters, and many federal timber sale planners have come to acknowledge that unlogged post-fire forests provide significant and important wildlife habitat and watershed values. Burned dead trees called “snags”: retain soil, steep slopes allow for nutrient cycling, provide habitat for a slew of cavity nesting wildlife species, and protect the next generation of trees as they develop.

In contrast, when Klamath National Forest timber planners clear-cut recovering post-fire forests, fragile soils are further disturbed, wildlife habitat is removed, sediment delivery to streams increases, and natural conifer establishment is delayed.

The Klamath National Forest is an Outlier

The 2017 Abney Fire (part of the “Miller Complex”) burned how wildfires have always burned in the Siskiyou Crest Mountain Range—in a mix of low, moderate, and stand replacing severity. It is this variety and heterogeneity of fire effects that has contributed to the renowned biodiversity and complexity of the Klamath forests that contain everything from rare Siskiyou cypress and Brewer spruce to towering ancient sugar pines and Douglas-firs. It is a fire-evolved and fire dependent forest ecosystem like no other on Earth.

To their credit, Forest Service timber planners in Rogue River-Siskiyou



View of mixed fire effects near the Red Buttes in the Siskiyou Crest Mountain Range.
PHOTO BY KS WILD



Groundtruthing post-fire forests proposed for logging near the Pacific Crest Trail in the Siskiyou Mountains. PHOTO BY KS WILD

National Forest on the north side of the Siskiyou Crest Mountains recognize the ecosystem benefits of recovering post-fire forests and are wisely focusing their restoration activities on removing burned roadside hazard trees, while protecting recovering backcountry forest stands.

In contrast, as directed by their leadership in the Yreka California Supervisor's Office, timber planners on the Klamath National Forest generally see post-fire forests as an opportunity to slick-off otherwise protected late-successional forest stands in the backcountry. In the case of the Siskiyou Crest Mountains they hope to clear-cut old-growth "reserve" forests that are designated as critical habitat for the survival and recovery of northern spotted owls. Worse yet, the forests proposed for clearcutting are on steep unstable slopes in the headwaters of Seiad Creek, a major tributary to the Klamath River.

There Is a Better Way

Unlike Klamath National Forest timber planners who come and go as they move up the logging career ladder depending on how much timber volume they deliver to the timber industry, the people of the Karuk Tribe have lived with fire in these forests for thousands of years. The Karuk Department of Natural Resources recommends that the Forest Service protect wildlife, watersheds, and fisheries by retaining, instead of clearcutting, post-fire forests in the Seiad Creek headwaters.

Through the "Karuk Alternative" roadside hazard trees would be removed, fuels around homes and communities would be treated, and prescribed fire would be utilized over time to retain forest conditions that allow for fire to play its natural role in these fire evolved forests.

Rather than clearcutting post-fire forests on steep slopes, the Karuk Department of Natural Resources (like the Rogue

River-Siskiyou National Forest) advocate for watershed and forest restoration. This can be contrasted with the intention of the Klamath National Forest to increase future fire hazard by converting post-fire forest stands into flammable tree plantations in an attempt to maximize timber volume production.

The Siskiyou Crest Mountains are a Special Place

In their zeal to slick off Late-Successional Reserves, Klamath National Forest timber planners may have bitten off more than they can chew. The Siskiyou Crest Mountains are justifiably beloved by thousands of public lands advocates and opposition to the proposed clearcutting is widespread.

Located in a hub of botanical hotspots, the forests, lakes, meadows, and creeks-- the proposed timber sale units are currently a recreational and biological haven. Some people first come through the area while hiking the Pacific Crest Trail from Mexico to Canada. Others first fall in love with it when seeing the Red Buttes while boating on Applegate Lake. However, once one first finds the forests of the Siskiyou Crest, the outcome is almost invariably the same: thankfulness that such an astoundingly beautiful and intact portion of the Klamath National Forest remains part of our natural heritage.

For more information:
www.kswild.org



Spotted owl PHOTO BY DOUG THRON

Golf Ends, But Recreation and Restoration Continues

Salmon Protection and Watershed Network

On January 1, 2018, the San Geronimo Golf Course ceased operations and shortly thereafter the 157-acre property ownership was transferred to the Trust for Public Land (TPL), who brokered the deal on behalf of the Marin County Parks department, which aims to take ownership over the next couple years.

In the meantime, the Marin County Parks department will manage the property on behalf of TPL for recreation while it begins a public “visioning” process to determine the property’s final management plan.

The visioning, designs, and fundraising to complete the purchase is estimated to take up to two years, and the County has signaled its interest in maintaining golf operations during that two-year period and is considering bids from golf management companies who may wish to take over operations.

Simultaneously, Turtle Island Restoration Network is continuing to maintain and complete its many restoration activities on the property through its Salmon Protection and Watershed Network (SPAWN) program. We’re moving forward with our recently funded \$3 million projects to remove the fish migration obstacle at Roy’s Pools, create backwater channels and other “refuge habitat” so juvenile salmon can survive high flows during storm events, and stabilize banks and prevent erosion along the half-mile stretch of the San Geronimo Creek.

Meanwhile, golf advocates and members of the San Geronimo Stewards have sued



The San Geronimo Golf Course in Marin County from up on high.
PHOTO BY DAVID BASELT / REDWOOD HIKES PRESS

the County and groups are lobbying for the land to be used for agriculture or proposed affordable housing.

Turtle Island Restoration Network will continue to push for re-wilding the land to promote the ecosystem services wildlands provide in terms of improved water and air quality, reduction of flooding downstream, carbon sequestration to fight climate change, and enhanced wildlife habitat, especially for endangered coho salmon, but also benefiting a wide array of species from migratory songbirds to bobcats and otters.

To re-wild is to return land back to its natural state. By removing the fill that created the golf course, but destroyed the historic floodplains and creeks that now lay buried beneath, the San Geronimo Creek could once again meander across the valley floor as it had done for thousands of years, giving refuge to baby salmon who need slow, quiet waters to survive storms.

Today, Marin’s salmon and steelhead populations hang on by a thread—teetering

on the edge of extinction. This golf course is one of the last nesting grounds for endangered coho in the Bay Area.

Why? Because it is one of the few places where we haven’t developed right up to the water’s edge.

For two decades, Turtle Island Restoration Network has worked with golf course owners’ permission to repair these salmon-bearing streams, as long as we didn’t interfere with golf operations. While perfectly reasonable, this effectively eliminated important and necessary actions needed to restore critical fish habitat and improve water quality.

We remain committed to work with the county, other government agencies, and all others who share the goals of protecting and recovering endangered salmon, and a healthier environment for current and future generations.

🌲 To learn more about the SPAWN program, please visit: seaturtles.org/salmon.

Fisheries Restoration Grant Program Awards SRF a Planning Grant for Flow Enhancement Design Project in Redwood Creek, South Fork Eel

Salmonid Restoration Federation

March 5, 2018—Salmonid Restoration Federation was recently awarded a planning grant from the Wildlife Conservation Board's Streamflow Enhancement program to conduct a feasibility study and 100% engineered designs for a project to enhance streamflows in Redwood Creek in the South Fork Eel watershed. Under the California Water Action Plan, the South Fork Eel River is considered one of five priority watersheds in the state for flow enhancement projects. This innovative planning effort represents one of the most ambitious projects to date in a key tributary that suffers from legacy impacts of logging, rural sub-divisions, and unregulated water diversions.

Redwood Creek is a critical tributary for juvenile salmonids in the South Fork Eel watershed that once supported coho, steelhead, and Chinook salmon. Since 2013, Salmonid Restoration Federation (SRF) has been conducting low flow monitoring in order to understand the low flow patterns and prioritize water conservation efforts in this impaired watershed that is home to hundreds of residents as well as threatened species like coho salmon.

Stillwater Sciences conducted a feasibility study in a segment of the watershed that helped to identify priority projects that could improve summer flows. Stillwater Sciences prepared conceptual designs for off-channel rainwater catchment ponds that could improve water security for

individual parcels but would require wide and coordinated participation in order to measurably improve flows. After much research and reconnaissance, the SRF and Stillwater project team determined that the greatest opportunity to improve streamflows was to work cooperatively with long-term stewards who own and manage the largest private parcel in the watershed.

The Marshall Ranch where the proposed project is situated is a rare example of a large, contiguous land in the Redwood Creek watershed. The 2,942-acre ranch comprises 34 legal parcels all under one family ownership, which has been managed sustainably for timber production and livestock since the 1880s while also providing extensive habitat for fish and wildlife as evidenced by the presence of coho, Chinook, and steelhead.

Currently, the Marshall family is spearheading an effort to place a conservation easement on this 2,942-acre

multi-generational family ranch. The easement will prohibit sub-division and marijuana cultivation, greatly restrict development, and permanently protect land and water resources, including salmon-bearing headwater streams. Traditional uses such as grazing and timber production will continue and the land will remain in private ownership.

"Salmonid Restoration Federation is excited to be a part of this groundbreaking project that could measurably enhance flows in Redwood Creek and improve watershed conditions for imperiled species," stated Dana Stolzman, long-term resident of Redwood Creek and Executive Director wof Salmonid Restoration Federation—a California non-profit organization dedicated to recovering wild salmon populations and restoring habitat.

🌲 For more information:
www.calsalmon.org



David Sanchez, property manager of the Marshall Ranch, leading a tour of the Marshall Ranch property in Redwood Creek. This unique property has been in family ownership since the 1880s and the Marshalls (Elizabeth Marshall is in the foreground) and their restoration partners are currently engaged in setting up a conservation easement and a flow enhancement planning project. PHOTO BY DANA STOLZMAN

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- WENDELL BERRY, THE ART OF THE COMMONPLACE: THE AGRARIAN ESSAYS

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