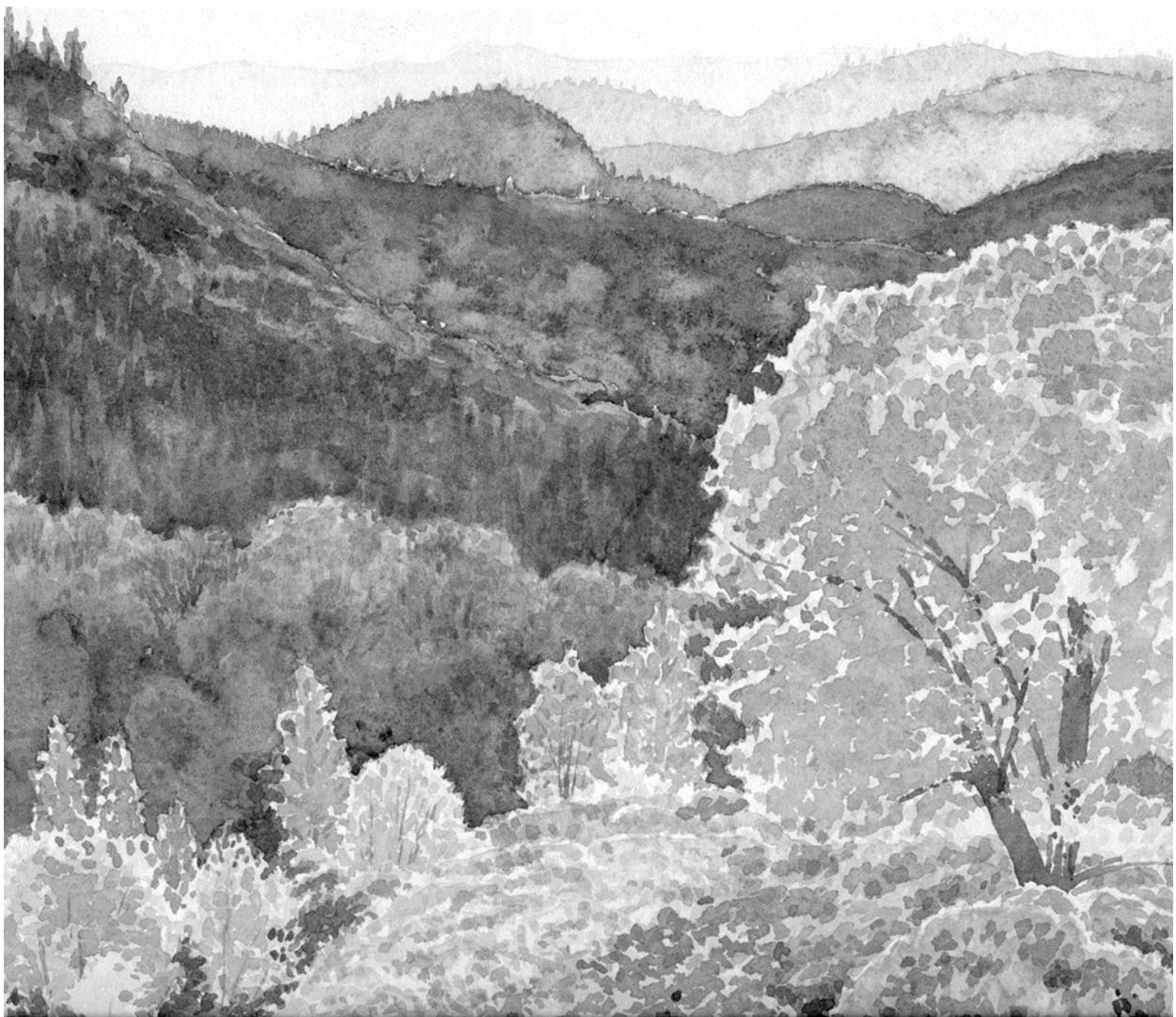


TREE RINGS

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We welcome unsolicited articles, art, letters and notes.

EDITORS' NOTE

By Daniel Nicholson and Corinne Munger, YWI Board Members

Here in the Yuba Watershed, the forest is a playground where we get to be kids again. The forest provides firewood, food, spiritual nourishment, lumber, medicine, and creative inspiration. The forest is habitat, the precious home to human and non-human neighbors alike. The forested watersheds of the Sierra Nevada contain the natural and human-build systems that capture, filter, and convey 60% of the state's developed water supply. In this edition of *Tree Rings*, our contributors explore the forest as source of connection with nature, recreation, energy production, tranquility, water supply, habitat, and inspiration.

At a time when our forests are overgrown and susceptible to disease and catastrophic wildfires, how do we promote healthy forest

ecosystems to ensure that the Sierra Nevada is able to continue providing these benefits?

At the YWI we are actively trying to find solutions to this question. Through our cooperative management agreement with the BLM, we work to promote the establishment and restoration of an old growth forest component in the 'Inimim Forest. Our understanding of the complexities of forest management has deepened and evolved since the establishment of this cooperative agreement in 1990, and we will continue to adapt our management approach based on ongoing research in the Sierra Nevada and perspectives from scientists, naturalists, and experts from agencies and academia. We invite you to participate in this process.

WILDFIRE NEWS

By Gary Snyder

YWI Cofounder and Former Board Member



For millions,
For hundreds of millions of years
there were fires. Fire after fire.
Fire raging forest or jungle,
giant lizards dashing away
big necks from the sea
looking out at the land in surprise —
Fire after fire. Lightning strikes
by the thousands, just like today.
Volcanoes erupting, fire flowing over the land.
Huge Sequoia two foot thick fireproof bark
fire pines, their cones love the heat
how long to say,
that's how they covered the continents
lakhs of millenia or more —
I have to slow down my mind.
Slow down my mind.
Rome was built in a day.

THE PROMISE OF BIOMASS

By Chris Friedel, YWI Board Member

In 2013, I spent half of the year in the southern African country of Namibia, where it is said there are more cattle than people. On the country's surprisingly smooth highways, one can travel for long distances without seeing any sign of human settlement, only the densely vegetated scrub of the Kalahari basin stretching like a green carpet to the horizon. Up close, the landscape is a winding maze of game tracks through thorny shrubs and small trees, mostly different species of *Acacia*. During my first weeks living at a wildlife conservation center deep in the Namibian bush, the air filled with insects and birds, the ground dotted with tracks and scat from the region's many types of ungulates, I felt like I had arrived in some a kind of primeval African landscape.

It was not long before I learned otherwise. The *Acacia* scrublands of the northwest Kalahari, I was told by researchers at the center, had historically

been remarkably productive grasslands, subtropical savannas nourished by seasonal pulses of rain and drought, flood and fire. The expansion of large cattle ranches, which now cover about a third of the surface area of this vast, dry country, had effectively ended the pattern of seasonal fires, while the grasslands were overgrazed during periodic droughts. Both forces led to the proliferation of thorny shrubs, which previously had been kept in check by the fires and thick grasses. The loss of grasslands has taken its toll on both cattle ranching and populations of wildlife, like the cheetah, that evolved in the open savanna.

In southern Africa, many people believe the solution to so-called "bush encroachment" lies in harvesting woody shrubs for energy production. One pilot project turns this "excess biomass" into compressed wood briquettes, which are sold to fund grassland restoration efforts. Other projects are investigating the feasibility of turning biomass into electricity. After learning about these projects, I returned to California's Sierra Nevada inspired about how habitat restoration could be funded by turning "problems" into products.

The Sierra Nevada coniferous forests, like the Namibian savanna, are landscapes that have evolved with fire. Early Euro-American explorers and settlers remarked on the "park-like" feel of the forest, with large trees spaced widely apart and plenty of room for people and wildlife to move through the sparse understory below. This was the signature of regular fires, either caused by lightning or by intentional burning by California Indians, which cleared out brush and small trees. Today, as a result of fire suppression and the impacts of industrial logging, many of these same forests are dense with saplings and undergrowth, which has contributed to the large wildfires we have seen in recent years.

Throughout the Sierra Nevada, as in Namibia, efforts are underway to turn this excess biomass



Devil's Canyon
Daniel Nicholson

into a useful product. Examples include the “community-scale” biomass-to-energy facilities that have been proposed for Camptonville, in Yuba County, and Grass Valley, in Nevada County. If built, these plants would generate about 3 megawatts of renewable energy each, which is enough to power about 5,000 homes. The plants would be fueled by forest biomass generated from nearby timber harvests, forest thinning activities, and fuel reduction projects.

Creating local markets for this underutilized material would give forest managers another disposal option besides open pile burning, which creates air pollution and comes with the risk of escaped burns. Utilization of forest biomass could also help to create jobs, restore overcrowded forests, and reduce the risks that high-intensity

wildfire poses to communities in the wildland-urban interface. Many people around the state, from community groups to government agencies to academic researchers, have recognized these multiple benefits and have become proponents of small-scale biomass energy solutions.

There are many technical, financial, political, and regulatory hurdles to overcome before these projects are built, but if we can realize the promise of small-scale biomass energy here in the communities of the Sierra Nevada, we may end up with solutions that could be applied in other areas of the world with “excess biomass.” These solutions might even end up benefitting my friends in Namibia and helping critically endangered wildlife like the cheetah.

A FEW FOR OUR NEIGHBOR

By Steve Sanfield

snake tracks / bear tracks
each brings
a shudder

kneeling to wash
on the opposite bank
a mother and her cub
-Yuba River

in a light rain
she ambles
where she chooses

ah...
the romance of the bear
until it's your pantry

hungry bears
getting fat
at my expense

one bear sauntering
across the meadow
blessing our presence here

ULTIMATE CATCH AND RELEASE FISHING

By Jerry Tecklin, Former YWI Board Member

I just returned from a fishing trip and would like to share with you some new techniques you will want to try to further advance the cause of catch and release.

The spot I fished is just below my house on Spring Creek, about 3.2 minutes downslope from my back door. The creek is dammed about $\frac{3}{4}$ mile upstream and runs dry now until it hits bedrock below my place, where it pools up here and there. One special pool is 25-30 feet long and about 12 wide at the widest point, maybe 2-2.5 feet deep at best and isolated by the low flow of the drought and the season. A few rainbows are trapped in this secluded gem. The largest could be 8 to 10 inches, but looked at through with my binoculars it appears to be at least 16 inches and very thick bodied. When the light is just right, almost overhead at around 1-2 pm, I can sit on a rock outcrop slightly above the pool and watch these fish feed on the insect rain that the wind knocks out of the overarching trees. This is how you catch these lurking lunkers.

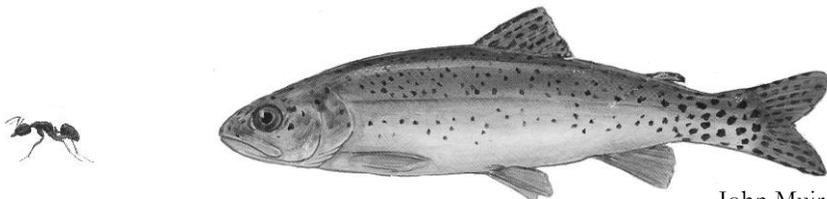
You need to first collect a bunch of carpenter ants (*Camponotus* sp.). This morning I cut some oak rounds for firewood and trucked them in to split. Downed and laid on the ground, with more rot than I should have accepted, a bonanza of ants poured out of them when they split. I had 3 dozen for bait in less than 2 minutes.

Down on the creek, with the light full on the pool, I got up on my rock and loaded my blow pipe. It's 2 feet of $\frac{3}{8}$ inch diameter CPVC, a straight scrap of hot water pipe. I have no idea if it's the right length or diameter; it's what I had. The Big One was there, cruising in circles as usual, the smaller guys hiding

under the rocks in the shallower end of the pool. My ants were in a quart jar so I could shake them up to the lid, reach in a finger to get one out, and quickly clamp the lid back on without the entire army swarming into my lap. I carefully slipped the selected ant into the pipe end, struggling with it to get it to release my thumb held tightly over the opening. It held on with clamped mandibles, every now and then appearing to turn its head sideways to peer down the long tunnel of the blow pipe. It didn't want to let go of my thumb. I mean, would you? Eventually it released its hold and took a few steps into the pipe tunnel. At this point I aimed the pipe to the center of the pool and blasted a full breath through the pipe, shooting the ant about ten feet into the center of the pool. The trout got it just as it hit the water. Perfect presentation.

You'd think I would have stopped after having caught that fish. But I could not. And he was in the same boat. I cast my whole jar of ants and he rose to each that was offered. A couple drifted into the shallow end and were snatched by a minnow-sized trout. In all, I caught 30 fish this afternoon, all of them large and all the same one.

I was also bitten on the lips three times by some pretty hefty carpenter ants who got me just as I pursed to blow, and they hung on until I pulled them off and stuffed them back into the pipe and sent them on their way. They bite and then curl their abdomens around and spray formic acid into the wound, creating a not painful, but palpable pinch and familiar vinegary taste. And just the tiniest touch of a swollen lip. We all have done worse to the fish we've caught and let go.



John Muir Laws



Rim Fire, 2014
Daniel Nicholson

THINNING CALIFORNIA

By Moses Jones

*Remus, blow your horn!
I'm ploughing on Sunday,
Ploughing North America.
Blow your horn!
(Wallace Stevens, Ploughing On Sunday)*

For a Poet of Connecticut

Why Remus why Wallace?
It's Wednesday and I'm thinning
The brush that lines
The dusty roads.

Wallace blow your horn.
I'm thinning California,
Clearing back the brush
Overhanging the gravel roads.

Her Wild I Doubt

Alone, annoyed, she hangs
Strips of surveyors
Tape, pissing on and choosing
That maddened outsider *Cytisus scoparius*.

The red flags hang like
Neo sacred polyurethane prayer
Flags. Is not this dust covered brush
The profane through which

Our sacred machines pass?
The combustion engine ka-klacks,
The wheels whurr, the hanging brush
Coughs and sputters.

The red flags hang, occasionally
Flitting their confused prayers
Down the dusty road; the chain saw
Whurrs, the trunk stands honored and falls
prostrate

We drag the brush by
Their trunks to the fire
Whereby magic engulfs
Their leafy manes.

Tie a red ribbon
Round your special bough, I cut
The trunk that held it,
And burnt it with the rest.

Whose choice is it anyway Wallace?
What is wild? I want it wild she said.
What is not? I don't want it she said.
She says it's sacred, I say its ill-contrived.

Where is one who'll set us straight?
A breeze blows dry deer brush leaves, the buck
Brush stands fast. Open your throttle,
I've come to clear.

I've come to clear. The sun
Is bent behind me, the wind around me.
The rays bake the wool on my
Shoulders. Open the throttle, I'm thinning
California.

A Glimpse

The rain comes down.
The sun hides high.
I sharpen teeth on the chain
Under an umbrella of oak leaves.

These boughs remind of Jupiter
Sending bolts from his mountain,
His great clapping above
Is rooted here in this tree.

Ten fingers almost encircle
The speckled trunk; I walk
To the fire with five about
The saw handle and five held out for rain.

Jupiter! Send your bolts
Of light, fill the naïve
With fear by your clapping.
I'm thinning California,

Weeding out the crowded brush,
Lifting up the skirts of Ponderosa,
Breaking down the dead;
I'm clearing for you.

See that clump,
There- just *Ceanothus*,
The leaved *cuneatus*,
The barren *integerumus*.

To the fire I come bearing
Gifts of bough and limb,
Scotch Broom and Poison Oak,
O fire, billow smoke so I may glimpse

The inflected trace of an uncaused
Cause, something between the womb
Of coals like a child within a belly
And the curling smolders like life itself.

Listen the Chain Saw Quiet

The smoke drifts up and I ask,
Why Remus Why, Wallace?
I tend these forests, weed out brush,
Open crowded understory, clear trails;

These all tasks of tending
A ruined forest returning.
Blow your horn Wallace, I select the
Strongest within a thicket.

Blow your horn in their honor.
Blow the low note of their life,
Let it rumble the centuries they stand,
Let it mutter the squirmish of dry leaves

In the midst of October.
It's Wednesday and I'm thinning
California, blow your horn
Down this dusty road Wallace

SUSTAINABILITY: THOUGHTS FOR ERICKSON WOODWORKING

By Bob Erickson, YWI Cofounder and Board Member

We live in a heavily forested area of the Sierra Nevada. Out the front door of our shop and home there are five species of trees that feed us (lumber for furniture), warm us with their firewood, shade our house, and provide habitat for 28 species of wild mammals.

The 117 acres that we share with four neighbors grow the equivalent of approximately 300 cords of wood each year. Of course most of this is on ecologically important trees we would never cut or trees that would be used for lumber if cut. We use 10 cords of firewood per year for heating our house and shop and for conditioning our furniture wood in the winter in our wood-fired sauna (in the summer we use a solar kiln for this purpose).

Gathering firewood can be a sophisticated management tool when you live in a fire-prone climate like ours. Thinning the species that carry wildfire more readily, like incense cedar, helps us maintain a defensible space around our shop and home. Incense cedar has a very low kindling point of 340 degrees Fahrenheit and ignites more readily than pine or oak. Everything we thin, plus some of the dead trees that annually come down from natural causes, is used for fuel. Selecting, cutting, splitting, and stacking firewood brings great fulfillment to us, and it provides good physical exercise. Seeing where our energy and life support systems come from deepens our sense of sustainability and provides a more clear vision of who we are.

Our business supports local efforts to preserve an old growth forest component on public and private land. We, along with other neighbors, have spearheaded the experimental management of old forest restoration on 2,000 acres of Bureau of Land Management called the 'Inimim Forest. We also pride ourselves on knowing where our furniture wood comes from and how it was harvested. Our Pacific maple is harvested under the Sustainable Forestry Initiative Certification program. Our walnut comes locally from a small boutique sawmill in the

Sacramento Valley. Robert Beauchamp operates this mill and we frequently collaborate with him on the removal of hazard or dead trees from farms and residences.

We have lived in this same place for a long time. We have observed the powerful forces of natural restoration take place after a forest fire burned 16 acres of our land in 1971. We have watched new neighbors move in and log all of the merchantable timber from their land, paying no heed to the warning of this act's impact on the spread of invasive Scotch broom. Sustainability is local for us and stands the test of time.

We're a long way from perfecting this way of living. Although our solar array provides 80% of our electricity, we still use 500 gallons of diesel every year for our generator to power our two wood shops and three houses when sun is lacking. We drive long distances at times to show our work to our clientele, which is necessary yet energy consumptive. We are not "off of the grid" in this sense.

As we learn more we will continue to adapt and refine our practice of sustainability.



Bob Erickson

THE CULVERT

By Bob Erickson

Recent wildlife sightings on the San Juan Ridge include several ringtail observations. Ringtail (*Bassariscus astutus*) are found in forest and shrub habitats in close association with riparian areas, usually not more than one kilometer from water. As part of the YWI's wildlife camera trap program we had only two observations of the ringtail in three years of monitoring a camera trap along Shady Creek in a forest habitat. Since placing a camera trap at a nearby drainage culvert, ringtails have been observed once or twice a week.



MY SOUTH YUBA TRAIL ENCOUNTER

By Tom Van Wagner, YWI Board President

It's nearing dusk and we're half way up the South Yuba Trail, switching back to the west, heading for Trail Head Road on Round Mountain. We're facing up-slope, suddenly frozen on the trail and taut with uncertainty. Above us a glaring sow bear weaves nervously back-and-forth, her two young cubs, both black and about the size of big rottweilers, casting about randomly behind her.

I'm on my mule, Jersey, her body utterly rigid, eyes and antenna-like ears focused laser-like upslope on the scene 150 feet above. In over 30 years of living in the northern Sierra, this is my first encounter with such an ursine grouping. But I'm somehow oddly relaxed considering the implications of the moment, my reins remaining slack. Nonetheless, I unconsciously grab the horn, firmly pulling myself as deep as I can into my slick-fork saddle. This mule I'm astride is in charge now, the survival instincts encoded in her donkey DNA will determine the moment's outcome, the snaffle bit I'm using offering little control or stopping power to overcome millions of years of predator-prey evolution.

How *will* she react? Instantly spin on a dime and run back down the trail toward the Yuba synchronously bucking and farting wildly, likely launching me into the dense, spring growth poison oak? Or worse?



John Muir Laws

Suddenly the sow barks sharply and both cubs obediently shinny up a listing thirty foot Douglas fir snag, flakes of loosened bark raining down as they ascend, the more robust cub ending up stacked above the smaller. More slow motion moments of uncertainty pass.

Jersey stays amazingly motionless.

Then suddenly another bark commands the cubs to dismount the snag. Both then scramble uphill into the densely shrubby, shady draw full of mock orange and dogwood. But mama, holding her ground, continues glaring down-slope at us. Time stands still until finally the sow too scrambles higher up into the understory, disappearing into the incipient darkness.

Jersey and I remain a statue.

The previous two minutes have seemed very long. For some reason the smell of the kit-kit-dizzy seems especially pungent. With a little urging we hurriedly continue higher up the trail, Jersey and I, almost blithely, as if nothing has happened, but nonetheless with a little spring in her step, the roar of the rushing late spring Yuba fading below. As we switch back to the east, angling upward to above the bear draw, Jersey needs a little reassurance. Suddenly she stops, tilts her head sideways and peers intently down into the ever-darkening green gloom below, convincing herself that the bogeywoman and her two kids have indeed departed. As a final exclamation point, she retorts with one impossibly loud, echoing, resonating snort, not a bullhorn but an equally impressive mulehorn.

Days later while riding the Cascade Ditch on Banner Mountain I notice Jersey wanting to stop occasionally and to stare uphill into the dense, dark stand of Douglas firs and black oaks above the channel. Mules have an unfailing memory and an amazing capacity for self-preservation.

DROUGHT

By Steve Sanfield

I

Can you spare some water?
I'm down to rock bottom.
No water for horses.
Can't even begin to think
about keepin' the fruit trees alive.
Never been like this before.
Mid-December and the only fires
on my neighbors' minds
are those that could
scar these hills again.
Crisp clear days
hardwoods aglow
but at night
no fires are needed.
Gardens long ago withered
wells gone dry
high country lakes dead and desolate
drained for the first planting
of winter crops in the valley below.

II

Among the Hopi Indians
when the rain doesn't fall
each man and woman asks
What did I do wrong?
Did I stumble in the sacred dance?
lay down cornmeal with an evil thought?
Many seasons ago when
no rain had fallen
on the land and the spirit
for so long
I set out on a journey
in search of a rainmaker.
(It must be my fault.
It is because of me
the clouds always pass.)
Rabbis reverends roshis

and then atop the high mesas of Arizona
I ask the Hopi elder Grandfather David
what I can do.

A long night in the kiva
the feet of dancing kachinas
shaking the earth
and he says
Return to your home
Purify your heart
Ask nothing for yourself.
Simple and direct.
An impossible task
a quest for heroes
who left our world long ago
but what else to do?

III

Now years later
so many lives bone dry
dreams crushed by reality
visions incomplete
anger and bitterness seeping in
through the fault lines of the heart
and still no rain.
I search the radio dial
for a hopeful sign
and hear Smokey the Bear
died in a cage in Washington D.C.
He was 25 years old.
Discouraged but undaunted
I consult the Talmud at random
and find: 'The rain falls from above
but it begins below.'
As always
It comes down to
letting the rain fall.
Dear friends,
please do what you can.

BOOK REVIEW

The West Without Water

B. Lynn Ingram and Frances Malamud-Roam

U.C. Berkeley Press, 2013

Reviewed by Kurt Lorenz, YWI Board Member

Just think about parched California, despite a rainy day or two, and allow the title of this book to sink in. We can't say that this book has made a splash, but rather a dusty dry thud as it fell close to hand.

Here is the basic premise of this fascinating volume. The science of forensic climate research, "paleoclimatology," has reached the point that we can now determine with some accuracy the overall climate patterns in what is now California, going back tens of millions of years.

We are able to explore climates of the distant past thanks to current methods of paleoclimatology research, which this book describes in very technical, but interesting, detail. It explains how we can trace the balance of fresh and salt water in San Francisco Bay by examining the chemistry in

sediment cores. Faint deposits of charcoal in high Sierra lakes tell us about local fire history. Mollusk shells develop and retain data about oxygen isotopes that in turn tell us about rates of evaporation. The Pacific Ocean yields clues to ancient La Nina and El Nino episodes, and the Pacific Decadal Oscillation. Fossilized pollen grains tell about plants living near water in different climatic periods. The ancient lakeshore high-water marks so easy to see in Nevada valleys and basins record very wet periods. Ice cores provide proxy data for the earth's climatic history at a planetary scale. When these and other clues are examined together, a pattern emerges.

The news isn't very good for those of us riding on the western North American plate in this lifetime. Our myopic memory and very short inhabitation of this place means



Merced River
Daniel Nicholson

that we may think we live in the “normal”, but we don’t. As Ingram and Malamud-Roam put it: “The message of past climates is that the range of ‘normal’ is enormous – and we have experienced only a relatively benign portion of that range in recent history... As we continue with an unsustainable pattern of water use we become more vulnerable each year to a future we cannot control.”

Reading this book requires that you adjust your sense of time to the geologic scale and become comfortable with sentences that inform us that “... we live in a relatively cool period that began about 40 million years ago.” And that now we are in a relatively warm period that began roughly 20,000 years ago as the last great ice sheets retreated. We have enjoyed the Holocene epoch for about 11,000 years, but warming trends may now be accelerating due to human intervention. Average temperatures in California have varied by as much as 18 degrees Fahrenheit in just the last 20,000 years. Flora and fauna, including humans, have adapted to climatic variability over millennia, but for most of our history as a species we humans have had much smaller populations, had generations over which to adapt, and led more portable lives than we do now.

These reflections on the West’s long-gone periods of climate extremes place our recent drought in context where, for example, the driest year in California history for 500 years was the winter of 1976-77, and the floods of 1861-62 were Biblical. There have been many long climatic periods in the past that were much drier than the west we live in today. There were also much wetter times, but by and large the European development of California happened in unusually damp

years, and we cannot expect that this moist largesse will continue, even without the stressor of carbon-induced climate change.

In relatively recent California history, we have created a vast system of plumbing to move water from the north state to the south, and from the Sierra to major cities. We are pumping ancient ground water at an absurd rate, and millions of people have settled in deserts and in areas prone to catastrophic flooding. However, it seems inevitable that “the days of water ‘on demand’ will surely end in the West, replaced by desperate efforts to capture and control what water is left.” Environmental risks, like loss of topsoil and fracking, are not even mentioned, and neither are rivers and reservoirs polluted with mercury and agricultural chemicals, nor polluted ground water in some areas.

After reading this book, it is easy to imagine a California that can simply no longer support the demands of its human population. We don’t need the big earthquake to end it. We may just dry up and blow away.

There isn’t space to discuss all the fascinating details that Ingram and Malamud-Roam packed into this book, but if you would like to feel your awareness of your surroundings and time stretched and pummeled about, and are willing to ask some hard questions about human limitations, then you should pick up a copy of The West Without Water and settle in for a challenging read.

Readers should also grab Wallace Stegner’s Beyond the 100th Meridian about the life and times of John Wesley Powell and the late 19th century selling of the American West, as well as Cadillac Desert, by Marc Reisner, and Imperial San Francisco, by Gray Brechin.



SHARE THIS SILENCE

By Jason Danielson

Before leaving the ridge I often sit for a few minutes and just listen as intently as I can, soaking up the calm so that I can share it with people.

This silence, soaking me up for an instant
Tease it out to all whom I meet

California woodpecker repetitively doing nothing
but banging his beak into broken bark

Unseen songbird swooping through clearing and calling her mate

Sugar pine, unseen, hiding from fire and logger for 400 years

Pine snag, hollowed, home to millions -
Majestic in its last seasons

North slope, still, before up-mountain breeze
white-noises through ten thousand pines

Old-growth cedar siding still aging on long-abandoned cabin

1930s tractor, rusting, having hauled its last load decades ago

Buddha, stone, sitting zazen under tree

What is the sound of two lips touching?



Sunny Kahl

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The YWI welcomes new members and volunteers. We need your support and involvement. Members receive *Tree Rings* and discounts to YWI events and activities. While donations of any size are welcome, annual membership dues are:

\$100 Forest Steward or Business Membership

\$50 Families

\$35 Individuals

\$20 Low Income and Students

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or send your check, made payable to the YWI, to

P.O. Box 2198

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