

NEWS CLIPS

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**Resource Conservation and Public
Outreach**

Organized by date

Crews start emergency levee repairs near Oroville

ASSOCIATED PRESS

LA Times 8/04/2017

YUBA CITY - Work crews with heavy machinery started emergency repairs Thursday to a levee downstream of Northern California's battered Oroville Dam, part of millions of dollars in damage after this winter's spillway failures at the tallest U.S. dam.

State and federal authorities pushed through permits and funding to carry out the \$28.5 million in Feather River levee repairs by December, which falls in the first weeks of California's next rainy season. The repairs will strengthen three miles of levee that protects 75,000 people in and around the Feather River town of Yuba City.

Both spillways at the more than half-century-old Oroville Dam started washing away in February, forcing officials to order the evacuation of nearly 200,000 people downstream for several days. Additionally, authorities had to push large amounts of water downstream when the dam filled to the top, and farmers and others blamed the water surges for damage to their property.

California's Department of General Services as of Thursday

had received at least 80 claims from individuals seeking compensation for alleged financial harm stemming from the Oroville Dam crisis, agency spokeswoman Monica Hassan said. The state will consider claims ranging from hotel bills for evacuated families, farmers with damaged crops, or businesses that had to close briefly, Hassan said. The deadline for the claims is Aug. 11.

Claims so far include one from walnut farmers who say water releases because of the Oroville crisis destroyed part of their farm.

California walnut farmers file claim

Two seek \$15 million, saying they lost trees as result of Oroville reservoir crisis.

By Joseph Serna
LA Times 8/04/2017

Two Butte County farmers have filed a \$15-million claim against the state of California, claiming they lost valuable walnut trees as a result of the Oroville reservoir crisis in February.

The claim, a precursor to a lawsuit, was filed Wednesday with the state Department of General Services. In it, JEM Farms and Chandon Ranch allege that they lost dozens of acres of walnut tree farmland because state officials were negligent and ignored structural issues at Oroville Dam.

The farmers say they lost \$1 million worth of land, and \$14 million in projected revenue over the next 50 years.

“There was a certainty of failure,” attorney Niall McCarthy said of the reservoir. “It wasn’t a matter of if; it was a matter of when.”

It was during one of the biggest storms of the winter that the reservoir’s main flood-control spillway fractured and crumbled. In a bid to assess the damage, engineers with the Department of Water Resources closed the spillway gates. As the reservoir continued to fill, water spilled over and onto an emergency spillway, which also was damaged.

The farmers claim the resulting surge in water in the Feather River flooded their farms.

The state should have addressed the many documented issues with the reservoir long before February, the claim states.

In a report released by a panel of engineering experts in May, the spillway’s failure was found to involve two dozen potential design and maintenance problems, including thin concrete, inadequate steel reinforcement and weaknesses in the foundation.

The Department of General Services declined to comment on the claim Thursday.

Roughly 80 claims have been filed against the state in connection with the Oroville crisis.

Why toilet-to-tap when there's water aplenty?

On a recent family trip to Northern California, Whiskeytown Lake and reservoir and Shasta Lake are full to the max, up from record low levels.

The water flowing from the eastern Sierras is like flood conditions, with the Owens River at the top of its banks, and even the historically dry Owens Lake is at a level that we have not seen during fishing or skiing trips in the last 30 to 40 years.

There should be no drought conditions this summer or next, even if we do not have another record rain and snow fall in the mountains.

Surely water will taste better and be contaminant-free, not like the toilet-to-tap recycled water facility being forced on us at a cost of millions of dollars.

Jim Ruddy
Westlake Village

Letters
The Acorn 8/03/2017

WATER QUALITY YOU CAN TRUST!



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SCIENCE FILE

A far-off food source for Sierra forest

The global jet stream deposits nutrient-rich dust from Asia in Yosemite, study says.



HALF DOME as seen from Glacier Point in 2015. Researchers say dust from the Gobi Desert is deposited atop Yosemite's granite bedrock. (Brian van der Brug Los Angeles Times) PLUMES of dust are blown out of the Gobi Desert in 2012. The dust is carried over the Pacific for several days, according to a student who worked on the study. (NASA)

JOSEPH SERNA
LA Times 8/03/2017

What does the Yosemite National Park forest have in common with the Amazon rainforest? A food supply from a far-off place.

During California's rainy season, climate scientists say, dust from as far away as the Gobi Desert in Asia is carried by the global jet stream and deposited on top of Yosemite's granite bedrock, where microscopic material within the dust feeds the vast forests of the Sierra Nevada.

The process has been going on for hundreds of thousands of years, but not until recently did scientists aim to understand the impact of that relationship in the Sierra.

In general, plants are supplied nutrients as bedrock is converted into soil, a process that helps regulate life across much of the Earth's surface. But where that process is lacking — such as in the granite mountains of Yosemite National Park, or the Amazon, where constant rain and flooding wash away nutrients — desert dust can make all the difference.

The Amazon relies on the Sahara Desert in Africa for much of its nutrient supply, and scientists suspected that the Sierra Nevada conifers relied on a similar relationship.

So last year, scientists from UC Merced, supported by the National Science Foundation, examined Yosemite's dust and confirmed their theory in a study published in March. They found that some of it was composed of material from the Gobi Desert in China and Outer Mongolia mixed in with dust from California's own Central Valley.

But after California's five-year drought was washed away by the wettest winter in a decade, researchers want to see how the weather has changed the trees' menu and said they plan to revisit the same test sites in Yosemite next spring.

The research will not only help answer experts' questions on how bands of conifer forests filled with sequoias and pines in the Sierra managed to grow for hundreds or thousands of years on nutrient-poor granite, but how they may respond to climate change.

"As you get more warm storms and fewer colder storms, you will see changes just like this hot, drought-caused tree mortality," said Roger Bales, a UC Merced engineering professor and director of the Sierra Nevada Research Institute.

As it turns out, the last few years were a good time frame in which to examine how climate extremes can affect California's mountainous ecosystems. UC Merced ecology professor Stephen Hart said that was because it included an average year for precipitation tucked between historically dry and wet years.

The team's research, published in *Nature Communications*, showed that during the peak of the drought, the forests in the Sierra Nevada foothills and low elevations were fed by dust from the San Joaquin Valley, where withering fields turned brown, lakes evaporated and the earth literally sank due to groundwater pumping.

That dust was chock-full of nutrients like phosphorous, calcium, magnesium and potassium and stood in stark contrast to the material stored in the granite that characterizes Yosemite, which is relatively young and helps shape the older valley floor, Hart said.

The earth that once covered Yosemite's granite peaks was worn away long ago during mountain formation. Much of that matter was washed downhill during storms — which is why the Central Valley is such a fertile breadbasket, Hart said.

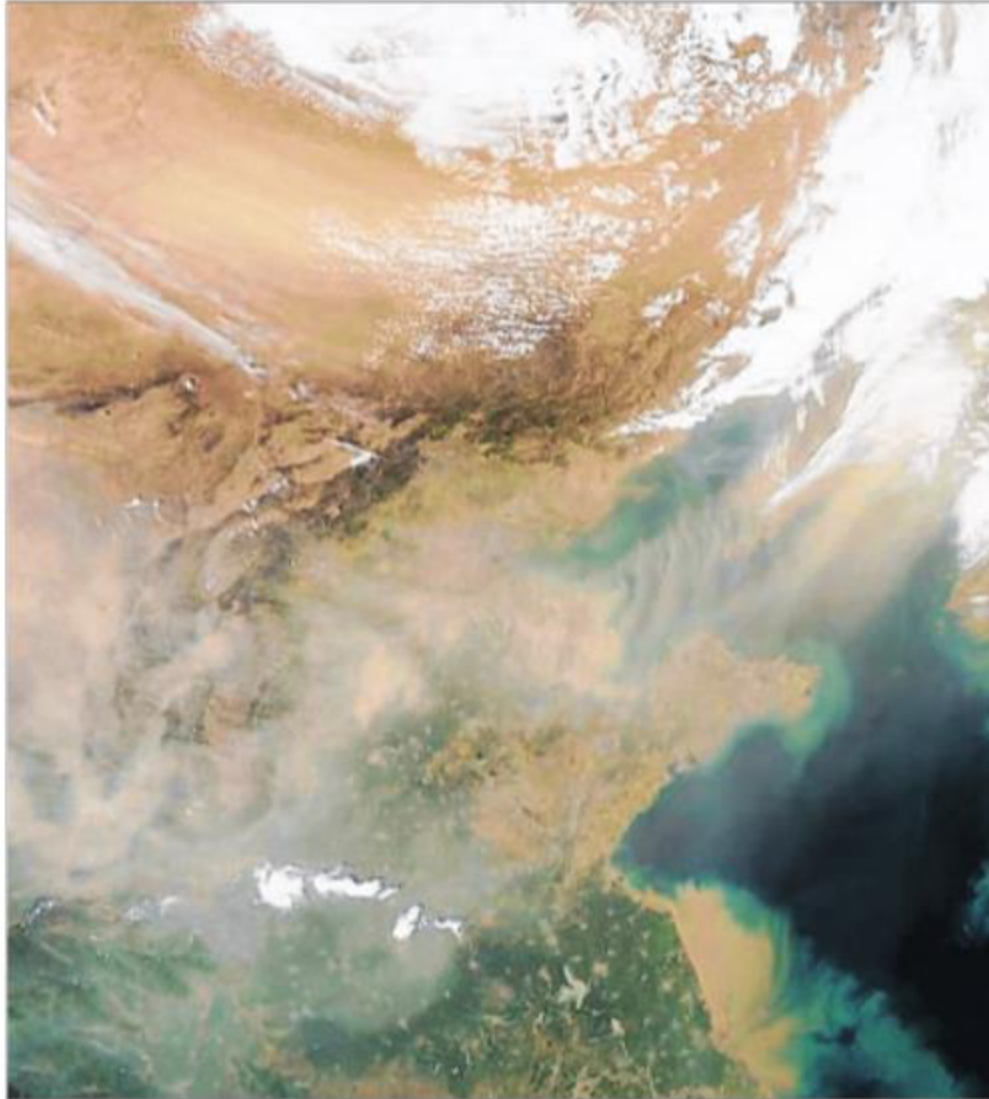
So researchers were not only surprised to find nutrient-rich dust at the mountain's higher elevations, they were also surprised to find that it came from another continent.

The team collected the dust from marbles that were left on an elevated bundt pan. After the marbles had collected a layer of dust, they were rinsed with distilled water and that water was then analyzed.

Up to 45% of the dust at the highest elevations in Yosemite was from Asian sources, said UC Merced graduate student Nicholas Dove, who worked on the study. Study authors said they were able to identify the dust's region of origin by analyzing its chemistry, geologic age and isotopic content.

Sand storms in the Gobi Desert lift the dust into the sky, where it is carried thousands of miles over the Pacific Ocean for several days, according to Dove. When it reaches the United States, the air carrying it is squeezed like a dirty sponge against California's mountains, and the dust is deposited along with rain or snow.

"People have known that's occurring for quite a while, they just didn't know how important it was to the ecosystem," Bales said.



NASA

PLUMES of dust are blown out of the Gobi Desert in 2012. The dust is carried over the Pacific for several days, according to a student who worked on the study.

Leave the water umpire alone

LA Times 8/03/2017

As California water becomes an increasingly precious and contentious resource, the state needs an umpire with the power to enforce laws against illegal diversions and protect the rights of the public and others with enforceable claims to state water. That decisionmaker must be both muscular and fair.

There is indeed such a water umpire in California. It has the rather cumbersome title of State Water Resources Control Board, and although for many years it was quite lax in its approach to enforcement, the long drought has roused it from its slumber and it has begun to show its potential. That's a welcome development for most of the state's water users and rights holders.

But not for all. Some of the private businesses and even public agencies that sell water to farms and other users have gotten quite used to marginal oversight by a sleepy water board that barely frowned at water theft or misuse. Some have prevailed upon Assemblyman Adam Gray (D-Merced) to carry a bill to undermine current the enforcement process, and the entire Assembly has signed on — apparently in the mistaken belief that the board has a built-in conflict of interest that can best be remedied by adding additional layers of bureaucracy and returning to the days of more plodding oversight.

AB 313 is the latest in a series of attempts by water agencies to get the board off their backs by gumming up the enforcement process. Proponents of the bill may have gotten as far as they have because the mechanics of administrative law are so obscure to the average Californian, and apparently to the average lawmaker. In fact, the current process follows time-tested and court-tested standards and works just fine as it is.

Like many oversight agencies, the water board is made up of gubernatorial appointees who are vetted and confirmed by the state Senate. The board divides its staff into two parts that operate independently of one another, as befits their particular tasks.

A prosecutorial team vets complaints and brings the most serious ones to the board for adjudication. A separate staff of water engineers, scientists and other experts then assists the board in its hearings. The board can dismiss the complaint, assess a fine or order the water user to stop doing whatever it's doing. A user that is unhappy with the board's decision can seek review in superior court.

This is the process that other state agencies use to, for example, suspend liquor licenses or curb contracting abuses. It's the way the water board has operated for

years, although the prosecutorial staff has brought too few actions and the board has been too content to ignore unlawful water diversions.

Now, though, a host of water agencies is complaining that the water board is both prosecutor and judge and that its process is beset with biases and conflicts of interest.

No, it's not. A state agency with quasi-judicial powers necessarily has distinct prosecutorial and adjudicatory components. The state Supreme Court already has concluded that the water board's structure adequately protects due process.

The supposed improvement offered by the bill is to take the hearings away from the water board and assign them to a panel of administrative law judges — with no particular expertise in water law and without a staff of engineers, scientists and water experts at its ready disposal — in a different state office. This panel wouldn't make the final ruling in a case, however. Instead, it would make a recommendation — to the water board.

So the initial review would be backed by less subject-matter knowledge, but the board's staff would still prosecute and a different part of the board's staff would still offer expertise. The board itself would still render a decision. All the bill offers is an extra hoop through which everyone must jump.

That means extra time, and that's probably the point. In a drought, when water is in short supply and a season's worth of the stuff could mean the survival of one crop versus another or versus a salmon run, the water board needs to be able to act not just fairly and decisively but swiftly. The proposed change in the process takes California in the wrong direction.

Ice, heat and flooding drive up the stakes for Sierra Nevada hikers

A wet winter blanketed the Pacific Crest Trail in snow, making excursions in California's backcountry more risky than usual



WESLEY TILS crosses a snow-covered trail near Kings Canyon National Park on June 7. Hikers on the Pacific Crest Trail have been avoiding the Sierra portion this year because of persistent snow and raging creeks. (Jake Gustafson Via Associated Press) **JAKE GUSTAFSON** crosses a creek along the Pacific Crest Trail on June 6. “We’re considered the daredevils,” said Gustafson, who sends a “Not dead yet” message by satellite to his mother each night. (Wesley Tils Via Associated Press)

By Meg Bernhard
LA Times 8/02/2017

Waist-deep in a swift, frigid creek, Indigo Catton lost her footing. Behind her, hiking partner Caitlin Olson was too far away to help.

They’d had a long day hiking through the snow-covered Sierra Nevada on the Pacific Crest Trail, had already crossed two difficult creeks and were rushing to get to the next mountain pass by nightfall.

By the time the exhausted pair had made it to the third creek, around 7 p.m., the water was swollen with meltwater from a mid-June heat wave.

Instinctively, Catton lunged forward and grabbed onto reeds hanging off the side of the bank to keep from falling into the current.

“I didn’t have time to think,” said Catton, a recent college graduate. “It was scary when I look back at it.”

This winter’s heavy rains buried the Sierra Nevada with snow, blanketing trails and flooding rivers — making summertime hikes in California’s backcountry more treacherous than usual.

The stories are harrowing. Some hikers have slipped into fast-moving creeks and been swept away by the current; a few have drowned. Others have slid down steep, snowy slopes packed white with ice far later in the season than in typical years.

Some segments of the Pacific Crest Trail — the iconic 2,600-mile route that runs up the West Coast and draws thousands of long-distance hikers each year — are so obscured by snow that hikers have lost their way and spent hours trying to recover ground.

On July 24, the body of a 32-year-old hiker from Japan, Rika Morita, was recovered from the Kings River after she disappeared nearly a month ago.

Over the weekend, Yosemite rescuers recovered the body of Chinese national Chaocui Wang, 27, from a river in Kerrick Canyon.

In June, 31-year-old Anya Sellsted fell into a raging creek in Yosemite National Park while crossing over a log, and rescued herself by grabbing hold of branches hanging over the bank. Frightened by the experience, Sellsted left the Sierras for a month before attempting them again.

In early July, seven hikers in Yosemite wandered from the trail, hidden under thick snow, and spent hours lost as darkness fell.

While many long-distance hikers have not been deterred, hundreds of others have skipped the Sierra range this year to pick up the trail on easier terrain.

In a post to a 15,000-member trail Facebook group in June, Pacific Crest Trail Assn. information specialist Jack Haskel warned hikers to be careful.

“Really, it’s dangerous out there. Don’t underestimate it,” he wrote. “I’m worried that someone will die. It’s no joke. Be safe. Do you have the fitness and skills to do this type of stuff safely? Most people should wait for much of the snow to melt.”

Rivers across the Sierra Nevada have flooded and swollen to treacherous levels, killing swimmers and prompting officials to close trails. About a dozen people have drowned in the Kern River alone this year.

Haskel and other trail officials believe the worst of the danger is over, with creek and river flows peaking in mid-June, and most northbound through-hikers now out of the Sierras.

But hazards remain. “Extensive snow” will linger on the trail well into August, Haskel predicted.

“We are past peak danger, but it is still challenging and risky to be out there,” Haskel said.

In mid-June, Ying Tan was increasingly uncertain about her ability to forge through the rest of the Sierra Nevada. Tan, who started her trek in late March from Mexico, had heard that other hikers were struggling with river crossings ahead of her. And a heat wave was expected in Southern California, ensuring that more snow would melt and creeks would become even deeper and faster.

When snow fell on the night of June 10, the 33-year-old heeded the ominous signs and decided to skip the High Sierra and pick up the trail 280 miles north.

“The water crossing was getting bad,” Tan said, acknowledging the decision to bypass part of the trail was difficult to make. “People were falling into the streams. I don’t want to be in their situation.”

Resting off the trail in Independence, Calif. in mid-July, Will Hiltz was preparing to leave his hiking partner, girlfriend Stacy Kellogg, behind. She at times felt unsafe crossing fast creeks, so she planned to skip the next section and meet him in Mammoth about a week later.

“The velocity and the amount of gallons that are zooming by per second is pretty astounding,” said Hiltz, who hiked the trail 10 years ago. He recalled one spot on the Southern California portion of the trail where he and Kellogg crossed “a churning, crazy rapid.”

“Almost something that you can usually splash over without even getting your feet wet was chest-deep at least on me — I’m 6’3” — and flowing at an incredible rate.”

Hiltz said he has been traveling more slowly than he normally would, spending extra days searching for safe spots along creeks — a fallen log, shallower water — where he could cross. While he hadn’t considered skipping any part of the trail, he knows other hikers who avoided the Sierras.

The snowy year has also produced unexpected problems, such as increased risk of sunburn from the snow.

“It’s hot as hell,” said hiker Annie Varnot, who suffered mild burns from the bright sun reflecting off the icy trail.

Despite the dangers, hikers this year have marveled at the transformed Sierra landscape, with meadows lush and blooming after years of crippling drought.

Sellsted returned to California in mid-July after she spent a month away from the Sierra hiking on a portion of the trail in Washington.

The creeks were lower, and Sellsted felt safer than she had before. The log she fell from in June is no longer there. She thinks it was washed away by the current.

For Sellsted, the Sierra Nevada had been “an obstacle that was impossible.”

But the insatiable itch to hike, and the sheer beauty of the Sierra peaks — from glassy lakes to snow-covered canyons — left her pining.

“Now,” Sellsted said, “I just miss them.”



JAKE GUSTAFSON crosses a creek along the Pacific Crest Trail on June 6. “We’re considered the daredevils,” said Gustafson, who sends a “Not dead yet” message by satellite to his mother each night. (Wesley Tils Via Associated Press)

With prospects, they're panning like it's 1849

A new gold rush is on, thanks to a record snowmelt



ROBERT GUARDIOLA, a member of a prospecting association known as the Delta Gold Diggers, pours gravel into a pan as he searches for gold in Eagle Creek. “Everything begins and ends with a pan,” he says. (Gina Ferazzi Los Angeles Times)

By Thomas Curwen reporting from Columbia, Calif.
LA Times 7/30/2017

The state's historic drought has ended. Riverbeds, once dry, are torrents, and California's Gold Country is living up to its reputation.

Standing on a narrow bridge over Eagle Creek, weeks before the Detwiler fire ravaged the foothills to the south, Robert Guardiola watches nearly 40 miners spread out. Wearing kneepads and waders, they have begun to organize their equipment — buckets and classifiers, hog pans and cradles — along the edge of the stream.

Some cut into sandbars with their shovels; others adjust their sluices half in and out of the flowing water. A few have begun swirling mud in their gold pans.

“Everything begins and ends with a pan,” says Guardiola, pleased with the activity. He helped organize this outing, a monthly foray for a local prospecting association known as the Delta Gold Diggers.

Settled in a nearby folding lawn chair, Russ Tait is doing his part. A latte-colored slurry circles the perimeter of his emerald-colored pan.

With a floppy hat, ponytail and a white beard that hasn't been trimmed in 18 years, the 72-year-old looks like a refugee from Knott's Berry Farm. Even his blue eyes behind silver frames have a bit of a twinkle.

Tait has bone cancer, so getting down to the creek isn't easy. But even if his days are numbered, he isn't above dreaming. He peers into the murky solution, hoping to glimpse something shiny.

"I guess you call it gold fever," he says. "You get out there, and there's times where you get tired and you don't want to quit."

For years, especially during the drought, Tait and his friends stood on the riverbanks of California's Mother Lode alone with their obsession. Now, as record snowmelt scours these watersheds, washing gold into streams, that's seldom the case.

More and more strangers are out on these rivers and streams, looking for that sparkling metal.

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Since it was first smelted almost 6,000 years ago, Au 79 — one of the 118 elements on the periodic table — has inspired an enduring madness.

Ovid tells the tale of Midas, John Huston of a similar malady in the mountains of Mexico, and television cameras bring home the frenzy on the Bering Sea.

But gold is admired not just for its beauty and worth. In a chaotic world, it speaks with evangelical zeal to values less ephemeral. Populists and politicians champion it as a stabilizer for the dollar. Survivalists see salvation in its worth when civilization collapses.

But on the banks of Eagle Creek, the talk is more about the poison oak, twining its way through the brush, as unwanted as the mining regulations that have come out of Sacramento.

In 2009, the miners complain, a state judge issued an injunction that placed a temporary moratorium on the use of motorized equipment near the state's rivers and streams, putting an end to dredges that suction rocks, sand and pebbles from the bottom of a creek and pumps that circulate water into sluices located high on river banks.

A coalition of tribal, conservation and fisheries representatives said such practices compromise riparian habitat, and the judge ordered the matter to be studied. A final ruling has yet to be made.

But what regulations have prohibited, nature has allowed, and with all the water blasting through these mountains, prospectors have a new kick in their step.

Geological gumshoes, they search for ancient rivers, for rounded boulders tumbled together, for orange soil tainted by rusted iron and veins of quartz hiding gold.

They read streambeds, imagining how the current flowed during floods, hunting for any irregularity — a riffle, a ledge, a waterfall — that could create a backward eddy for the gold to escape the water's momentum and drop to the floor.

Heavier than most metals, gold, they say, has arms and legs for its propensity to climb deep into bedrock where it lies trapped.

Late afternoon, after nearly an hour in the water, Guardiola totes two five-gallon buckets up from the creek. One contains trash collected from the shallows: a spark plug, a shotgun shell, a square-headed nail, a spatula and part of a car door.

The other contains his concentrates, less than a cup of dark sand sloshing about in water.

Panning it, he separates the lighter material from the heavier to reveal a few gold specks, each no bigger than a fat flea.

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What could possess a man to stand for an hour in snowmelt with a shovel and gold pan for the sake of a few microns?

Every miner has an answer, and Guardiola's reply comes two days later on his personal claim, some 20 miles south of Eagle Creek near the town of Moccasin.

California's Mother Lode is a lonely place — twisting roads, tall grass, ancient oaks — haunted from the days of 1848, when the Argonauts panned out from Sutter's Mill. Gold littered the ground like potatoes, then like marbles, and finally a dust they called flour, all totaled: \$2 billion extracted by 1852.

Their legacy lies not only in the rusted debris and flattened mountains they left behind, but in the blackberries, the fig and apple trees they planted, still growing in these forests, vestiges of their dream.

Guardiola, 52, purchased the right to mine these 20 acres in 2001. When he first walked out on this property, he knew he could be happy here. Ten deer, two bucks and fawns browsed beneath the oaks. A stream — Grizzly Creek — cut through the property, which already had two mines on it, always a good sign.

Seven years later, after losing his equipment rental store in Modesto to a broken plumbing pipe and a slow insurance settlement, he began to work the claim more seriously.

Prepped for the cold — insulated waders, booties, wool socks and sneakers — Guardiola wades into a pool of 55-degree water as deep as his thighs.

“We’ll see if Mother Nature was kind and restocked my bank,” he says.

Above him, the stream cascades over a rocky shelf, creating a small waterfall. The sun plays peek-a-boo behind the clouds.

Two years ago, the stream was dry. Last year it was a trickle. But this winter brought a torrent of water, and with it, nearly 2 feet of new rock and gravel deposits, called overburden, into the pond, and the water has not stopped flowing.

With his face right up against the surface, he muscles a submerged boulder aside — 200 pounds, by his estimate — to get at the deeper material. With a choked grip on a short-handled shovel, he fills his gold pan and examines each scoop.

His T-shirt is drenched, his hair plastered to his scalp. Mosquitoes land on his neck, and suddenly he flinches as if a pulse of electricity had passed through him.

“That’s what it’s all about,” he said, surprised by a decent-size nugget, a little smaller than a pea, shining up at him.

An hour later, shaking from the cold, he wipes his eyes and gathers up his gear in the waning light.

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Historian H. W. Brands, in his account of the Gold Rush, “The Age of Gold,” writes that the epic quest shaped history “so profoundly because it harnessed the most basic of human desires, the desire for happiness.”

Not everyone found it, he adds, but that democratic vista has left its imprint on today’s miners.

On the South Fork of Stanislaus River, Tom Mutschelknaus confesses to taking home buckets of concentrate and just letting them sit in the yard.

“As long as I’m not sure what’s in the bucket,” he says, “I have hope.”

In a former life, Mutschelknaus worked on the kill floor of a meatpacking plant in South Dakota, then as a cross-country truck driver. At 63, he is living his “dream come true,”

caretaking 160 acres, a place called Italian Bar, owned by a national prospecting group, the Lost Dutchman Mining Assn.

A few miles west of here in the 1970s, one especially lucky miner, George Massie, pulled nearly 800 ounces out of the ground and went on to extol recreational gold mining to the rest of the country.

Surrounded by live oak, cedar and sugar pine, Mutschelknaus stands in Silver Creek, having reduced three gallons of material to 1 1/2 cups that he swirls in his pan. On his right hand is a ribbon tattoo in memory of his first wife, who died of breast cancer in 2011.

The afternoon breeze wafts through the canopy overhead, white clouds, blue skies. Mutschelknaus stops panning to listen to a robin. He saw a mountain lion on the road the other day.

“When I’m around the sound of water like this,” he says, “I can be feeding my sluice and actually fall asleep.”

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Once trapped inside the Earth, gold made its way to California when the Pacific plate crashed into the North American plate, heating up layers of sediment, liquefying rocks and creating a soup that flowed to the surface carrying the gold.

One ounce — which would almost fill a lipstick case — is worth more than \$1,200, and at 49er Mining Supplies in Columbia, Rob Goreham is always in the market.

“I’d be stupid not to,” he says. Buy low, sell high is his mantra, his hedge against financial uncertainty.

Goreham pulls out his purchase tray. A stack of \$100 bills lies on top of the zippered baggies and black-lid vials filled with gold: crystalline gold, leaf gold, placer gold, lode gold and gold dust, fine as sand. He’s quick to mention that he doesn’t keep it all on site and what’s here is secured by a .45 semi-automatic loaded with hollow points.

His purchases are made from prospectors who scour the nearby hills: plumbers, roofers, air conditioning workers, bank managers, U.S. Forest Service employees, chiropractors and a few who live off the grid.

But, Goreham says, it’s a mistake to put all your faith in gold. When strangers call looking for advice, saying they quit their day job in the hope of striking it big, he can only despair.

“Looking for gold,” he says, “is no different than playing a scratcher — if you don’t have the knowledge.”

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Before Shannon Poe started prospecting, he did his homework.

Poe, 55, quit his job in 2009 as the director of loss prevention for a few retail businesses in the Bay Area. Tired of corporate politics, the suit and the traffic, he turned to the Sierra, and after researching the equipment, talking to a few old-timers and putting in five days a week, he made in one year a little more than \$150,000.

But when the ban on dredging was passed, his income dropped to \$25,000, and Poe started the American Mining Rights Assn. (“fighting for your right to mine”).

In his company, gold mining seems less a get-rich-quick scheme than a libertarian impulse, an exercise in independence and self-determination as much a part of the American heritage as the rights guaranteed by the Constitution.

Ask him what his political party is, and he’ll say he is neither a Republican nor a Democrat.

“We are more constitutionalists than anything else,” he says.

Eager to show what the winter storms did to his claim, Poe leaves his SUV — plastered with its appliques of an American flag, an eagle, the Constitution and a gold pan — in the parking lot, and he and his mining partner, Don Siegel, pile into their so-called scratch truck, better suited for whatever pin-striping the brush might add to the paint job.

“I think you’ll be interested,” he says. “It’s not like anything I’ve seen.”

Bounding on a dirt track outside of Greeley Hill east of Coulterville, they enter the woods and take Old Yosemite Road.

The scratch truck rocks and rolls over ruts filled with water and mud. Rising above Lewis Gulch, Poe glances at the exposed rocks in the distant creekbed.

“That’s what we call yum-yums,” he says, imagining the gold beneath them.

Just when the road grows impassable, Siegel stomps on the brakes and cuts the engine. Bull Creek, a braided stream flowing into the Merced River, spreads through a tumult of fallen trees and new and dying vegetation.

The streambed, however, is stripped clean, water coursing over smooth rock faces.

In early January, says Poe, the vegetation here was so thick that you couldn't walk through it, and the overburden took two days to dig through.

But when the storms arrived, the beetle-infested trees in the area fell, creating small dams, and when the dams broke, the water ripped through the canyon, sweeping the riverbed to bedrock.

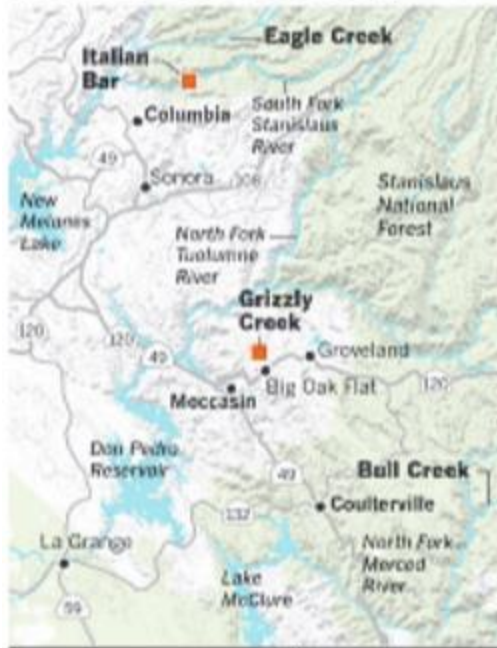
"Mother Nature did what we would normally do with a shovel," says Poe. "All these cracks hold very good gold."

Crossing to the opposite bank, he starts digging where the stream eddies around a small ledge. He calls Siegel, and they push a boulder aside and begin filling a bucket and sandbags with the mud.

Running it through their sluice, they watch as the gold accumulates in its riffles, a good sign for just 45 minutes of work.

"Holy cow," Poe says. "Whatever that was just lit the box up."

Mother Lode country



Sources: Mapzen, OpenStreetMap

Los Angeles Times



ROB GOREHAM of 49er Mining Supplies in Columbia says it's a mistake to put all your faith in gold. "Buy low, sell high" is his mantra, his hedge against uncertainty.



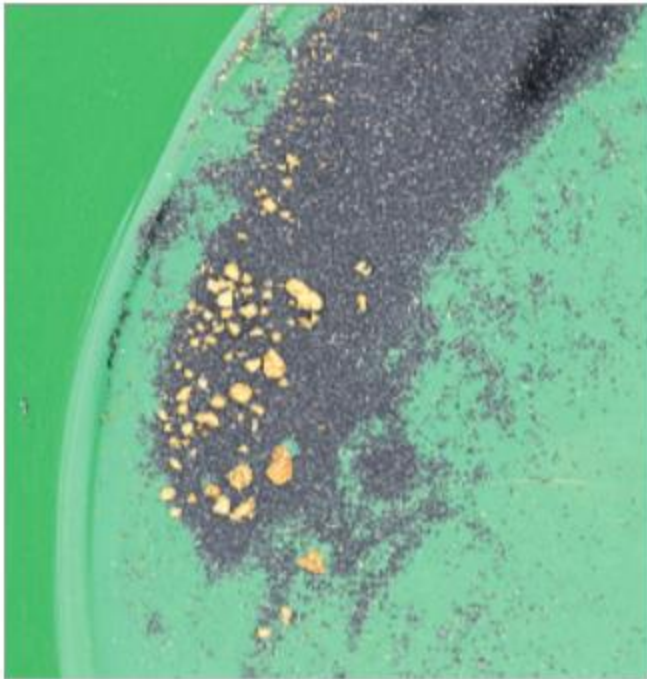
ROBERT GUARDIOLA uses a magnifying glass to look for gold in his pan. His personal claim is 20 miles south of Eagle Creek near the town of Moccasin.



JIM CARTER of Stockton pans for gold in Eagle Creek near Columbia, Calif. Since it was first smelted nearly 6,000 years ago, gold has inspired an enduring madness. Photographs by **GIINA PERAZZI** Los Angeles Times



TOM MUTSCHELKNAUS uses a sluice box on the South Fork of the Stanislaus River. At 63, he is living his “dream come true,” caretaking 160 acres.



GOLD NUGGETS sparkle in a pan amid black sand found in the bedrock in Bull Creek near Coulterville.

Giving dams a closer look

93 spillways need further inspection before next flood season, state says.



THE CONCRETE spillway at Oroville Dam crumbled under heavy use this year, leading to a review of more than 100 other spillways also considered vulnerable. (Marcus Yam Los Angeles Times)

By Joseph Serna
LA Times 7/30/2017

The state agency responsible for managing the safety of 1,250 dams in California has identified 93 that require a “comprehensive” assessment to be sure they can last through next year’s flood season, officials said.

After the concrete spillway at Oroville Dam crumbled under heavy use this year, the Division of Safety of Dams decided to review more than 100 dam spillways that were considered vulnerable to similar issues because of their age and capacity and the size of the communities they protect, the agency said.

On Thursday, the DSOD released a list of the 93 dams that it concluded need further inspection.

“These assessments may require acquiring additional information to adequately evaluate the spillways’ ability to perform satisfactorily during a flood event,” the agency said.

“It will not be known which spillways, if any, will need repairs until the comprehensive assessments are completed and reviewed by DSOD.”

More than a dozen dams in Southern California are on the list, including Pyramid Dam in Castaic, Cogswell Dam near Devil’s Canyon and Puddingstone Dam in San Dimas.

When reservoir levels are high, dam spillways allow the highest volume of water to be released at one time. In dry times, reservoirs can typically manage water levels through adjacent hydroelectric plants or natural evaporation.

In Oroville’s case, the spillway was needed in February to rapidly drain water after heavy rains pushed the reservoir’s level up to capacity. The main concrete spillway crumbled and led to a cascading set of problems that resulted in a partial failure of the dam’s emergency spillway and more than 100,000 Butte County residents downriver being temporarily evacuated .

The DSOD’s call for reassessments comes as state officials are still trying to determine precisely what caused the failures at Oroville Dam . The dam was built five decades ago, but officials noted that other dams in the state are much older.

The average age of dams in California is 70, the agency said.

The state wants local operators to review each structure’s original design and building materials, its repair history for recurring issues, its drainage system and retaining walls, and the geological makeup of its bedrock, among other elements, said Daniel Meyersohn, the DSOD’s supervising engineer.

The moon's insides could hold bounty of water

USA TODAY

Ventura County Star 7/29/2017

The moon might contain vast sums of water beneath its surface, scientists say, a potential boon for lunar explorers.

Satellite data studied by Brown University scientists revealed unusually high amounts of water trapped in volcanic deposits across the moon's surface, suggesting ample amounts of water within its depths.

Scientists thought the moon's interior was largely waterless until 2008, when researchers discovered trace amounts of water in volcanic glass beads retrieved from the moon during Apollo missions in the 1970s. Later study suggested the moon might contain more water than thought.

If that's the case, it could change how we understand the moon's origin. Scientists think the moon came from the debris of a massive, Mars-sized object that crashed into Earth. The heat from such a collision should have eliminated any hydrogen needed to make water.

What's more, the water within the moon's deposits might be extractable, said Shuai Li, who co-authored the research, which could save lunar explorers from needing to bring "lots and lots of water from home."

A Free Family Adventure!

Take a recycling and watershed tour Saturday, August 5

When you send water down the drain, we go to work, safely returning it to the environment. You'll learn how we fulfill that mission.

On this free bus tour, you'll visit Malibu Creek, a Water Reclamation Plant, a regional Composting Facility and learn more about our precious water resources.



Saturday, August 5, 2017
from 8:45 a.m. to 1:00 p.m.

Tour begins promptly at 8:45 a.m. ending at 1 p.m.

Space is limited, pre-registration is required (walk-ins cannot be accommodated).

A complimentary continental breakfast and light lunch will be provided.

Register online at: www.LVMWD.com/QuarterlyTours

Moderate walking and stairs are part of the tour, close-toed walking shoes are recommended.

Reservation preference is given to customers of Las Virgenes Municipal Water District and Triunfo Sanitation District.

Children under 18 must be accompanied by a responsible adult.



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Las Virgenes-Triunfo Joint Powers Authority

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When is the **best time** to water?

Water **early** for the best results.

Watering in the early morning (between 4 a.m. and 8 a.m.) saves money and water, while keeping your grass, plants and trees healthier.

Watering early when the sun is low and winds are calm:

- Helps reduce water loss from evaporation due to heat and wind.
- Improves soil absorption so water and nutrients get to plant roots, where it's needed most.

Remember, no watering between 10 a.m. and 5 p.m. in the LVMWD service area. Visit www.smartirrigationmonth.org for more smart ideas to save water and dollars.

www.smartirrigationmonth.org



www.LVMWD.com/Irrigation-Efficiency



Free Water District Tour Offered

The Las Virgenes Municipal Water District will offer a free recycling and watershed tour of their facilities on Saturday, August 5.

Learn how when you send water down the drain, they safely return it to the environment. On the tour you'll visit Malibu Creek, a water reclamation plant, and a regional composting facility.

The tour begins promptly at 8:45 am and ends at 1 pm. Continental breakfast and light lunch will be provided.

Registration is required at www.lvmwd.com/quarterlytours.com.