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Using AI & Tech to Fight Wildfires

Securing
Our Water
Systems

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### FIRE AND WATER

A supplement to Gold Mountain California News Media in partnership with Placer County Water Agency

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#### Message from Andy Fecko, PCWA General Manager

It is my pleasure to welcome you to the 2025 edition of Fire & Water.

This annual publication. produced by Placer County Water Agency (PCWA) in collaboration with Gold Country Media, highlights

the challenges—and growing opportunities of natural resource stewardship in our region.

The theme of this year's edition is resilience.

Across these pages, you'll find stories of collaboration and innovation-efforts to strengthen water systems, restore forests, harden homes, create fire-wise, water-wise vards, and prepare for the future.

We are proud to partner with local agencies, utilities, fire districts, and citizen groups who are leading the way in this work.

#### Very special thanks to our contributors.

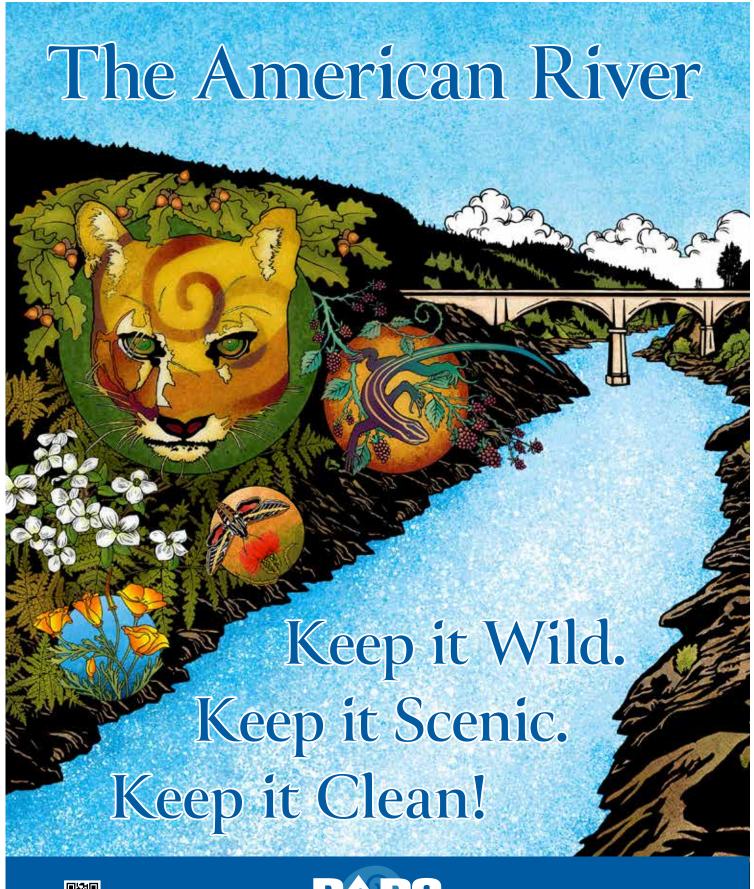
We hope these insights prove useful for your home, farm, or business—and inspire continued resilience across our communities.

Enjoy the 2025 edition of Fire & Water.



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#### Protecting Placer: Water, Fire, and Community Safety

Placer County is no stranger to wildfire. That's why PCWA and local fire departments—from foothill communities like Colfax to growing cities like Rocklin—work together year-round to plan, prepare, and protect.

In the new Fire & Water: Protecting Placer video. Fire Chief Brian Estes and Fire Chief Reginald Williams speak on behalf of fire districts across Placer County, sharing what real-time coordination looks like across the region. Alongside them, PCWA General Manager Andy Fecko offers insight into the infrastructure design, operational readiness, and coordination that support fire response every day. They share how PCWA designs its water system with firefighting in mind, how fire departments across Placer County tailor response to different landscapes, and how defensible space and fire-wise landscaping make a difference at the home level.

Scan the QR code to see how local agencies are working together to protect Placer County—and how you can be part of the effort.















pcwa.net/protecting-placer-video

## **HELP SHAPE** PLACER COUNTY'S LOCAL HAZARD MITIGATION PLAN

Placer County is updating its 2026 Local Hazard Mitigation Plan - our roadmap for protecting the community and guiding state and federal support.

## WHY IS THE PLAN **IMPORTANT?**

The plan helps us reduce the impact of disasters—like wildfires, floods, drought, and more—while keeping us eligible for critical federal and disaster relief funding.

# HOW TO GET INVOLVED

- Take Our Online Surveys
- Attend Public Meeting & Workshops
- Review the Draft Plan
- Stay Connected with Engage Placer







#### LEARN MORE & TAKE OUR SURVEY

Scan the QR code for an in-depth look at the Local Hazard Mitigation Plan, survey, timeline, FAQs and more.





#### **Turning Organic Waste** into Local Power.

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Urban - yard trimmings, construction wood, non-recyclable organics



Forest - sawmill byproducts, harvested undergrowth, and fire-fuel clearing

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#### Pioneer's Role in Advancing Biomass

#### **Local Contracts**

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#### **State Policy Leadership**

Pioneer co-sponsored AB 843, helping expand access to biomass programs across California.

#### **Project Innovation**

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### **Protecting Lincoln: Collaboration for Community Safety**





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**Lincoln Public Works Department** 



### **Burned Black or Thriving Green:**

## The case for proactive forest management and collaboration for the health of our shared watersheds

In the Sierra Nevada, forests and water are closely connected. These mountain headwater watersheds provide clean, reliable water to our communities. But this balance is increasingly threatened by large-scale wildfires that are becoming more frequent and destructive due to climate change and dense, overgrown forests.

Wildfires don't just burn trees—they destabilize entire watersheds. Ash, sediment, and debris wash into rivers and reservoirs, degrading water quality and complicating treatment. Protecting forest health is essential to safeguarding water supplies.

The Nevada Irrigation District (NID) has seen firsthand the difference between prevention and restoration. On one hand, the District is rehabilitating land devastated by the 2021 River Fire along the Bear River. On the other, it's proactively managing forests around Jackson Meadows, Scotts Flat, and Rollins reservoirs through thinning and fuel reduction. The takeaway is clear: prevention is less costly and more effective than post-fire recovery.



An NID vegetation management worker plants a seedling in the burn scar of the River Fire.

#### Restoration of a blackened forest

The River Fire ignited at the Bear River Campground in Placer County on August 4, 2021, and burned 2,619 acres before being fully

contained on August 13. In its wake, the landscape was reduced to ash and blackened trees stretched for miles.



NID's Bear River Recovery Project: in the aftermath of the wildfire (2021) and post-restoration (2025).

"There is an emotional, visceral feeling when you stand in a burn scar," said Neysa King, NID's Environmental Resources Administrator. "This was once a living forest—home to oaks, pines, and bay trees."

NID is restoring 180 acres between Chicago Park and Lake of the Pines. Much of this work is being

done manually on steep slopes, supported by significant grant funding from the Sierra Nevada Conservancy (SNC). Regeneration is now visible, with underbrush and oak saplings returning.

"The forest will recover naturally, but our project accelerates that process," King said. Restoration here has averaged \$5,000 per acre.

#### Improving the health and resilience of a green forest

By contrast, just 19 miles away, NID has proactively treated over 500 acres near Scotts Flat Reservoir. Tree thinning and fuel reduction have created a shaded fuel break, improving fire resilience and watershed health. This proactive work cost about \$2,500 per acre—half the cost of post-fire restoration.

"Being proactive saves money and protects our water sources and communities," King said. "Water comes from watersheds, so we must prioritize their health."

About 95 percent of wildfires in California are human-caused, according to the California Department of Forestry and Fire Protection (CAL FIRE). This includes unattended campfires, vehicle sparks, discarded cigarettes, and arson. Combined with climate stress, the need for active forest management—like thinning, defensible space, and prescribed burns—has never been more urgent.

SNC has played a pivotal role in supporting NID's forest health efforts. This includes \$570,000 in 2022 for the Bear River Wildfire Recovery Project and \$981,000 in 2018 for Scotts Flat forest treatment.

More recently, SNC awarded \$1.27 million for 400 acres of thinning around Jackson Meadows Reservoir. In partnership with the U.S. Forest Service, NID is also planning to treat an additional 3,500 acres, supported by a \$386,100 planning grant.

"In the coming years, we look forward to improving watershed conditions in the Middle Yuba River headwaters," King said. "There's no single



The Scotts Flat Fire Fuels Removal Project focused on forest thinning for fire safety.



In 2022, the dense forest in and around the Aspen Group Campground at Jackson Meadows Reservoir was identified for remedial work to reduce the fire risk.

solution—but the toolbox includes fuels treatment, selective logging, prescribed fire, reforestation, and retreatment."

Ultimately, protecting our forests means protecting our water—and our communities.

## CAL FIRE'S CUTTING-EDGE **TECHNOLOGIES IN WILDFIRE RESPONSE**

INNOVATION FUELS RESILIENCE: CAL FIRE's cutting-edge tools enhance firefighter response optimizing suppression efforts and safeguarding communities in the face of wildfire emergencies.

#### **Unit Chief and Placer County Fire Department Chief Brian Estes**



As your Unit and Fire Chief, I am proud to present an overview of CAL FIRE's innovative technologies here locally in our region. These advances are helping transform our approach to wildfire prevention, suppression, and response. These advancements enhance our ability to protect lives, property, and California's natural resources amid increasingly severe wildfires.

Our Intelligence, Surveillance, and Reconnaissance (ISR) program, exemplified by our Intel 641 Reconnaissance aircraft platform, is a cornerstone of our strategy. Equipped with advanced sensors, these aircraft capture real-time images and heat data, mapping fire perimeters through smoke. This critical information is relayed to incident commanders, enabling informed decisions that optimize fire suppression efforts. By providing a clear picture of fire behavior, Intel 641 enhances

firefighter safety and operational efficiency. underscoring CAL FIRE's commitment to leveraging technology to keep Californians safe.

At our California Aviation Training Center in McClellen, CA., our new fixed winged, helicopter and rescue hoist

simulators are revolutionizing training. These state-of-the-art systems offers realistic, risk-free scenarios for our crews. Aviation crews have praised its high-quality imagery and ability to simulate real California landscapes, including mountains, valleys, and lakes, while factoring in variables like wind and terrain. The simulator allows pilots and rescue hoist crews to practice critical maneuvers, enhancing preparedness for real-life emergencies. Soon, the helicopter and hoist simulators will be linked, enabling joint training for fully simulated rescue missions. The simulator complements real-world training is an invaluable tool for both new and experienced pilots. with over 300 crew members across 11 bases set to benefit.

The ALERTCalifornia program further strengthens our capabilities through remote sensing and

"BY INTEGRATING CUTTING-EDGE TOOLS WITH OUR FIREFIGHTERS' EXPERTISE, WE ARE BETTER EQUIPPED TO COMBAT WILDFIRES, PROTECT COMMUNITIES, & PRESERVE CALIFORNIA'S ECOSYSTEMS."



advanced data mapping. High-resolution LiDAR and imagery data inform fuel reduction efforts year-round and support efficient firefighting during peak fire season. ALERTCalifornia's high-definition cameras, capable of 360-degree sweeps every two minutes, provide 24-hour monitoring with near-infrared night vision. These cameras, which can see up to 60 miles by day and 120 miles by night, enable rapid fire confirmation, resource scaling, and enhanced situational awareness for evacuations. Integrated Forward Looking Infrared (FLIR) camera technology allows firefighters to see through smoke, improving resource allocation and safety.

Our Artificial Intelligence (AI) fire detection tool, developed in collaboration with Digital Path, is a game-changer. Deployed across all 21 CAL FIRE 911 Dispatch Centers since September 2023, this AI analyzes camera feeds to identify potential fires, alerting firefighters with a certainty percentage and estimated location. By reducing false positives and detecting fires in their incipient phase—often before 911 calls—the AI enables rapid response, particularly in remote areas and at night. This public-private partnership mitigates fatigue and enhances our ability to extinguish fires before they escalate.

These technologies—ISR aircraft, advanced simulators, remote sensing, FLIR cameras, and AI, represent CAL FIRE's forward-thinking approach. By integrating cutting-edge tools with our firefighters' expertise, we are better equipped to combat wildfires, protect communities, and preserve California's ecosystems. Our ongoing investment in innovation ensures we remain at the forefront of wildfire response, safeguarding the state now and in the future.

We look forward to these valuable advancements benefitting us here in Placer County and our surrounding region as we double down on our commitment to aggressive initial attack on new fires and the protection of our communities and the people who call our region home.







### CAL FIRE is Using Augmented Reality Technology to Train Flight Crews for Life-or-Death Emergencies

The new helicopter and hoist simulator, located at McClellan Air Base, offers hands-on training without the real-world risks. "It did feel really realistic," said Captain Matt Lane of the Hollister Helitack crew. "The quality of the imagery is all very good." The simulator allows crews to experience real-life emergency scenarios, practicing critical maneuvers without stepping into a helicopter. "It gives us that opportunity to think through the stuff we talk about a lot but don't always get to practice," Lane explained. "Now, we can actually do it."

The simulator also models real California landscapes, mountains, valleys, and lakes, while factoring in unpredictable challenges like wind. "It shows how the aircraft reacts to weather conditions," Lane said. "It's a really good realistic tool for us to work with." The helicopter simulator and the hoist simulator operate separately. But soon, they'll be linked to allow pilots and hoist crews to train together in fully simulated rescue scenarios.

Battalion Chief Aaron Smith says the simulator won't replace real-life training, but it's a valuable new tool. "It adds value for both our new pilots and our experienced pilots training on hoisting," Smith said. With 11 Cal Fire bases and over 300 crew members across the state, teams will now be able to travel to McClellan for this cutting-edge training. With the frequency and severity of wildfires increasing at an alarming rate in California, remote sensing has become essential to developing effective and time-critical plans for wildfire prevention, protection, mitigation and response. New high-resolution LiDAR and imagery data are also instrumental in the study of fuels and fuel regrowth models.

Through the use of advanced data mapping techniques, the ALERTCalifornia program is creating a virtual dashboard to inform fuel reduction efforts year-round and more efficient firefighting during peak fire season to save lives as well as protect habitats and infrastructure.

# LEARN MORE ABOUT CAL FIRE'S AUGMENTED REALITY TECHNOLOGY

#### **CAL FIRE's UAS Program**

High above the fire line, a specialized aircraft captures real-time images and heat data to support the fight on the ground. Part of CAL FIRE's Intelligence, Surveillance, and Reconnaissance (ISR) program, Intel 641 uses advanced sensors to map fire perimeters through smoke and relay critical information to incident commanders.

This technology helps us keep Californians safe by allowing us to make better informed decisions in fire suppression efforts. It's another example of CAL FIRE's ongoing commitment to innovation in wildfire response.





#### **CAL FIRE Collaborates with ALERTCalifornia**

## Monitoring From the Ground: Fire Cameras

ALERTCalifornia's high-definition cameras are able to pan, tilt, zoom and perform 360-degree sweeps approximately every two minutes with 12 high-definition frames per sweep. The cameras also provide 24-hour monitoring with near-infrared night vision capabilities. Each can view as far as 60 miles on a clear day, and 120 miles on a clear night. Using the cameras and associated tools, first responders with the California Department of Forestry and Fire Protection (CAL FIRE) can rapidly confirm fire ignition, quickly scale fire resources, support evacuations through enhanced situational awareness and monitor fires through containment.

#### Infrared FLIR Camera Technology

This advanced camera technology allows firefighters to see fire through smoke, enabling better real-time resource allocation and enhancing firefighter safety. FLIR stands for "Forward Looking Infrared," and refers to the thermal imaging technology used to create an infrared image of a scene without having to "scan" the scene with a moving sensor, an advancement over older models. FLIR technology is typically used on military and civilian aircraft, and is now being incorporated into ALERTCalifornia's network.

#### Artificial Intelligence (AI)

ALERTCalifornia collaborated with the California Department of Forestry and Fire Protection (CAL FIRE) and industry partner Digital Path to create a fire detection AI tool with the goal of improving firefighting capabilities and response times. The value of this public-private partnership is the development of AI to aid firefighters, mitigate watchstander fatigue, reduce false positives, and confirm fire incidents in the incipient phase.

When the AI spots a potential fire on ALERTCalifornia's network of cameras, the system alerts firefighters and provides a percentage of certainty and estimated location for the incident. If the incident is vetted and confirmed by trained watchstanders, firefighters respond quickly to extinguish the fire at the incipient phase. The camera network is also used to provide actionable real-time data to quickly scale fire resources, help evacuations through enhanced situational awareness, and monitor fire behavior.

Early detection and rapid response allow firefighters to combat fires before they grow. The AI tool became available to all 21 CAL FIRE 911 Dispatch Centers in September 2023. This new tool is especially effective in spotting anomalies in remote locations and is proven effective at night, even alerting firefighters before 911 calls.

#### **LEARN MORE:**

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Facebook: Greater Auburn Area Fire Safe Council



## GAAFSC Greater Auburn Area Fire Safe Council

is comprised of eight community citizens with four (4) volunteers from the City of Auburn and four (4) volunteers from Placer County. Our council promotes safe practices, defensible space, home hardening through educational outreach and program development within Penryn, Bowman, Newcastle and the City of Auburn. We work closely with local fire districts to provide residents, businesses and homeowners with educational materials to help keep our communities safe from wildfire.



#### **CREATE A DEFENSIBLE SPACE**

Be informed, sign up for Placer Alert www.placer.ca.gov/2426/Placer-Alert



#### **CHECKLIST**

Research shows taking simple, scientifically proven steps can help reduce the risk of your home and property becoming fuel for a wildfire. Band together with homeowners in your community to follow this list of actions throughout the year.

- Clear ignitable material such as needles and leaves from roof, gutters, eaves, porches and decks.
- Repair any loose or missing roof shingles/tiles and caulk any gaps or openings on roof edges.
- Replace exterior attic vents with 1/8 inch metal wire mesh to under-eave and soffit vents.
- Relocate items kept under decks or porches; swap out vegetation in these areas for rock or gravel.
- Replace mulch with hardscaping, rock, gravel or stone.
- Remove ignitable features within 30' of structures like firewood, propane tanks dry and dead vegetation.
- Protect water dry grass and shrubs, trim brown vegetation and dispose of yard waste.
- Prune low hanging branches (6-10 feet for taller trees, 1/3 of tree height for smaller trees); remove any tall grasses, vines and shrubs from under trees.
- Contact neighbors and create a plan to address shared wildfire safety concerns together.





#### **LEARN ABOUT FIREWISE**

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## **How to Make Your Yard Summer Strong and Fire-Wise**

Wildfires are becoming more prevalent and destructive as our climate changes. Fortunately, there are steps you can take to transform your yard into a beautiful, waterefficient, fire-wise landscape.

#### Create and Maintain a Defensible Space

One of the most important things to do is to create and maintain a defensible space around your home. Keep the five-foot area next to your home free of plants, trees, and grass. Instead, fill this area with gravel, stones, or pavers. Make sure that tree branches and limbs are trimmed back from your house.

Fill the area five to 30 feet away from your house with low-growing plants. If you have trees and shrubs in this space, keep them pruned and trimmed back to maintain space between them. Cal Fire recommends keeping tree branches at least 10 feet away from other trees. It's also important to keep this area properly maintained by clearing away any dead grass, pine needles, leaves, and other combustible materials.

"A critical step homeowners can take is to properly organize and maintain their landscape by creating space between lowgrowing plants, shrubs, and trees," said

UC Landscape Defensible Space Educator Kevin Marini. "When it comes to pruning, prune plants to their natural form rather than hedging or shearing to keep dead material from accumulating within the plant. If you have questions about when and how to prune. consult with an ISA Certified Arborist or a UC Master Gardener."

#### **Keep Your Plants Healthy**

Another critical step is to make sure your plants are healthy by setting up and properly maintaining a water-wise sprinkler system. This can include high-efficiency rotator sprinklers, drip irrigation, and a WaterSense-labeled weather-based "smart" sprinkler timer.



High-efficiency rotator sprinklers deliver multiple streams of water at a slower rate that is more easily absorbed by the soil. This







reduces water lost to evaporation and runoff, allowing more water to reach your plants. They're very easy to install, not expensive to purchase, and PCWA offers rebates to help offset the cost of this and other sprinkler system upgrades.

**Drip irrigation** is a great way to water around your trees and shrubs. Drip irrigation delivers water directly to the soil, resulting in minimal water loss due to evaporation. It's especially good for watering your trees, which need water delivered slowly and deeply near the tree's drip line, the outer edge of the tree's canopy.



And finally, add a WaterSense-labeled, weather-based "smart" sprinkler timer to take the worry and wonder out of running your sprinklers. These timers automatically adjust how long your sprinklers run according to the weather. You can also control them from your phone. The U.S. Environmental Protection Agency's WaterSense program estimates

that the average home could save over 7,000 gallons a year and have a healthier yard by using a smart sprinkler timer.

#### Add Native and Low-Water Use Plants

There are no fireproof plants, but many native plants tend to have a higher water content in their leaves, making them more fire resistant. By incorporating native plants, you can also reduce the amount of water required for your yard and have healthier plants that are better equipped to withstand the hot summer temperatures.

Some of the plants that the University of California Agriculture and Nature Resources

recommends include ground covers such as creeping thyme, wild strawberry, and sedums, flowering plants like yarrow, lupine, poppies, and salvias, and shrubs like butterfly bushes, monkeyflowers, and ceanothus.

And don't forget, PCWA offers rebates to help offset the cost of upgrading your sprinkler system and converting your yard into a beautiful, fire-wise and water-wise landscape. Visit pcwa.net/rebates for more information.



SCAN OR CODE: Find more plant recommendations and learn more about fire-wise landscapes



## **Preserving Our Watersheds**

How Placer County Water Agency is Reducing Wildfire Risk to Protect Water Supplies

Placer County has some of the highest quality water sources that can be found. In the bustle of daily life, it's easy to lose sight of where our water comes from. But it's worth remembering that our water originates in the forests of the Sierra Nevada, where water falls as rain and snow, and then flows down to our reservoirs and groundwater aquifers.

A century of well-intentioned but overzealous forest management, including fire suppression and limitations on timber harvesting, has left our watershed forests too dense with trees. Many trees are unhealthy due to competition for water and nutrients, leaving them ripe for burning. Throw in the growing influence of climate change — hotter summers and more intense storms — and the threat to our watershed is immense.

When a fire sparks in these forests it can easily become catastrophic, destroying all trees and reducing the forest's capacity to store and filter runoff. In addition, post-fire runoff can erode and transport ash, debris, and productive soil into our reservoirs, decreasing water storage capacity and damaging infrastructure.



This is what we saw with SCAN OR CODE: Learn more the King Fire in 2014 and about the French Meadows the Mosquito Fire in 2022, Forest Restoration Project which burned 98.000

respectively. These fires have cost the Placer County Water Agency (PCWA) tens of millions of dollars in cleanup and damages. The King Fire was a historic fire that served as a wakeup call and an indicator of the immediate threat that wildfire presents to our water supply.

acres and 77,000 acres

After the King Fire, PCWA embarked on the French Meadows Forest Restoration Project, an innovative public-private partnership with the U.S. Forest Service, the County of Placer, the Nature Conservancy, the Sierra Nevada Conservancy, the American River Conservancy, and the Sierra Nevada Research Institute at UC Merced aimed at reducing fire risk on nearly 29,000 acres surrounding the French Meadows Reservoir. Now engaged in its seventh season, the partnership has completed more than 80 percent of the planned treatments to thin this overgrown forest through careful logging, hand cutting, and brush clearing.





Complementing the mechanical and hand removal of trees and brush, the Forest Service is implementing prescribed burning to remove excess vegetation as available resources and climate conditions allow. This technique removes flammable material on the forest floor and promotes a healthier ecosystem by mimicking natural fire cycles.

There are numerous challenges to this type of work in remote areas of the watershed. One of the realizations of these projects is that they are not "one and done." For example, French Meadows partners already anticipate the need to maintain the work completed by retreating the lands restored in the first phase of the project five plus years ago. After the initial treatments, shrubs and small trees will regrow and need further attention to keep the fuel load down and maintain the reduced fire risk. While prescribed burns are ideal for maintaining the understory, limitations may require periodic mechanical removal of undergrowth in the future.

While this work is ongoing, PCWA is already planning the next major restoration project in other critical areas of the watershed. The Long Canyon Watershed Protection Project has similar goals: Reducing wildfire risk on 16,500 acres in the Long Canyon Creek watershed, a tributary to the Rubicon River, an essential PCWA water supply.

PCWA recently approved a stewardship agreement with the Eldorado National Forest to conduct ecological thinning, prescribed burning, and reforestation in the Long Canyon Creek watershed. This area of the watershed has become a refuge for owls and raptors due to recent surrounding fires. Planning and

environmental surveys are ongoing to monitor these and other sensitive species during selective thinning to protect and improve the habitat for these important resources. PCWA will also continue to develop partnerships and a grant and funding plan to support the project's implementation in 2027.

Without this work we face increasingly severe wildfires that threaten both our communities and natural resources. By restoring forests to a more natural state, we can reduce the risk of catastrophic fires, improve water and air quality, and even enhance the reliability of our water supply. Healthy watersheds act as natural reservoirs, storing and filtering water for the long-term sustainability of our region.

If you were to look back 20 years, it would seem radical for water agencies to engage deeply in forest management. But today we recognize the inseparable connection between land management and water supply. This is difficult and expensive work. It's also essential for protecting this critical resource from the Sierra Nevada that we all enjoy at our taps every single day.

















## **Strategic Forest Treatment Planning Saves Lives, Land, and Money in Placer County**

**Placer County Builds Wildfire Resiliency Through Strategic Forest Management** 

In the face of increasingly severe wildfire seasons, Placer County is taking bold, proactive steps to protect lives, homes, and critical infrastructure. With hundreds of thousands of acres of forested land stretching from the Sierra Nevada foothills to North Lake Tahoe, the county faces some of the most complex wildfire threats in California. Fully treating the entire landscape would have come at a staggering cost of over \$1.6 billion—far beyond the financial reach of local agencies.

However, using advanced technology and regional collaboration, Placer County is proving that resilience doesn't have to come at an impossible price.

Working with a science-based platform from Vibrant Planet, the Placer County Regional Forest Health Division, County officials and partners from public and private land sectors developed a strategic, costeffective wildfire mitigation program. This innovative tool analyzes forest health, fire behavior, and infrastructure



vulnerability to identify the highest-impact areas for treatment. Through this process, the platform pinpointed 31 specific forest treatment zones covering 20,000 acres that, once addressed, will significantly reduce wildfire threats to the region's most vulnerable assets. These areas were selected not just for their risk, but for their potential to shield communities, utilities, and natural and cultural resources.





Biomass management reduces wildfire risk and improves forest and community resilience to severe, damaging wildfire.

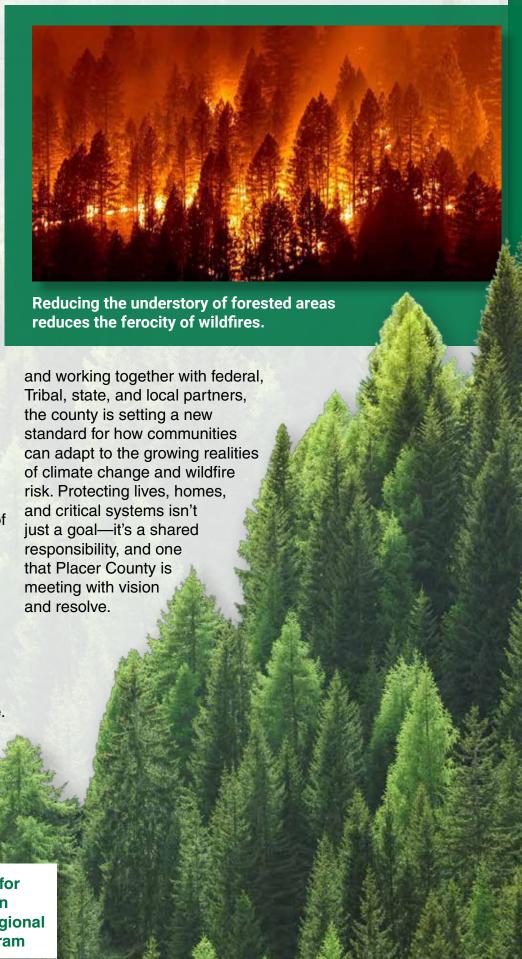
At the heart of this initiative is a commitment to resilience. Local agencies are not just reacting to wildfire threats they are adapting to them. The treatment zones were chosen to safeguard key evacuation routes, water systems, power infrastructure, and residential areas. These efforts represent a shift from piecemeal response to coordinated prevention. By reinforcing natural firebreaks and restoring overgrown forestlands, the county is building a layered defense system that protects human life, environmental health, and community integrity.

This forward-thinking approach also delivers exceptional value. While traditional treatment of the entire county would have cost over \$1.6 billion, the targeted 20,000-acre plan is estimated at just \$49.6 million. For a fraction of the cost, Placer County is poised to mitigate a high percentage of its overall wildfire risk. These investments not only reduce the likelihood of catastrophic fires but also cut future emergency response costs and postdisaster recovery expenses. This is resiliency in action: smart, strategic, and fiscally responsible.

Placer County's wildfire mitigation plan demonstrates the power of collaboration, innovation, and preparedness. By leveraging cutting-edge technology



Scan this QR code for more information on Placer County's Regional **Forest Health Program** 



## Securing Roseville's water future: Innovation, investment, and the people behind every drop

## Ever wonder where your water comes from when you turn on the tap in Roseville?

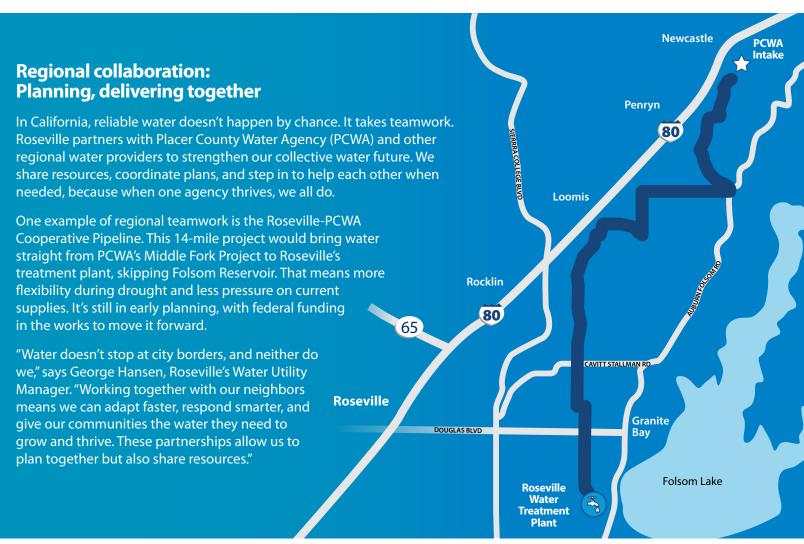
Every time you turn on the tap in Roseville, you tap into a journey that starts high in the Sierra Nevada. Snowmelt and rainfall flow into the American River, collecting in Folsom Reservoir before entering Roseville's system.

The water is carefully cleaned and tested at the Barton Water Treatment Plant to meet strict safety standards. Then it travels through hundreds of miles of underground pipes to homes, schools, parks, and businesses.

It's a simple act—turning on the faucet—but behind it is a team working daily to keep it safe, reliable, and ready for the future.

"This isn't just water. It's our future," said Sean Bigley, Environmental Utilities Director. "We've been planning, investing, and protecting this system for over a century. That commitment only grows stronger with time."

In the early 1900s, Roseville made a bold move by purchasing a private water company to ensure residents had access to clean, reliable water. That legacy lives on today through wise investments, diverse water sources, and strong regional partnerships.



#### Not all water wears the same hat

Think of our water supply like a brilliant retirement plan: diverse, balanced, and built for the long haul. We don't rely on just one source to keep Roseville running. Instead, we use a mix of:

- Surface water from the American River—our primary source—through contracts with the U.S. Bureau of Reclamation and Placer County Water Agency
- Groundwater we store and save for dry spells
- Recycled water, delivering more than a billion gallons annually for landscaping and industrial uses

This three-part strategy allows us to handle whatever comes our way—droughts, smart growth, new regulations—while delivering clean, reliable water daily.



#### Why it matters:

A one-source water strategy is risky today. Droughts are frequent, the weather is less predictable, and communities are growing fast. By planning and using various sources, we can respond quickly, stretch our resources, and stay ahead of challenges, not behind them.



#### The big picture:

Our approach isn't just about solving today's problems. It's about ensuring future generations have the same access to high-quality, reliable water as we do now. When water works, everything else can, too—our economic prosperity, neighborhoods, and way of life.

Water reliability is the backbone of any community, and it's essential for daily life and economic development," says George Hanson, Roseville's Water Utility Manager. "That's why we take a proactive, diversified approach. It ensures we always have a dependable water source ready for our residents and businesses, no matter the conditions."

## **Groundwater banking: Saving water for a dry day**

Think of groundwater as our rainy-day fund. When water is plentiful, we store the extra underground so it's ready when dry years hit.

In 2023, Roseville banked 2,134 acre-feet of water to supply over 6,400 households for a year. While we haven't added more since then, we're working with the U.S. Bureau of Reclamation to create more flexibility at Folsom Reservoir and expanding our system with new wells.

#### Here's how it works:

- In wet years, we store excess surface water in underground aquifers.
- In dry years, we use that reserve to meet demand and ease pressure on rivers and reservoirs.
- Roseville has six active Aquifer Storage and Recovery (ASR) wells, with two more being built.

We're also a key player in the Sacramento Regional Water Bank, a collaborative effort to boost regional groundwater storage.



"Water is too important to leave to chance," said Hanson. "Groundwater banking gives us a buffer against the unpredictable."

With room to store nearly twice as much as Folsom Reservoir, this approach helps ensure water is available when our community needs it, now and in the future.





#### Smarter systems, stronger supply

Having enough water is essential, but it's just the start. True water reliability means managing every drop with purpose and planning. In Roseville, we've built a system that is ready for the future. It's designed to adapt, protect, and perform. That takes smart infrastructure, bold investments, and a team that's always on it, day and night.

Here's how we're turning innovation into resilience for Roseville's water future:

**The RiverArc Project:** A regional partnership that boosts Placer County's water reliability by shifting supply from the American River to the more available Sacramento River. It uses existing infrastructure to access surplus water, supports groundwater sustainability, and allows us to switch sources based on conditions, helping protect the environment and meet future demand.

Sites Reservoir: This off-stream reservoir in Colusa County will be a game-changer for Northern California. While Roseville won't draw directly from it, our partnership in the project supports a more flexible, reliable water system across the state. Sites will take pressure off Folsom Lake, boost environmental flows for fish and wildlife, and help store water when it's plentiful for use when it's needed most.

These investments stretch our supplies, preserve our environment, and prepare us for future challenges.

#### From mountain snowmelt to your kitchen sink

Every drop in Roseville begins in the Sierra. Snowmelt flows into Folsom Lake, then to the Barton Road Water Treatment Plant for treatment and 24/7 monitoring. It travels through 700 miles of pipes—enough to reach San Diego and back—stored in tanks that keep pressure steady and water flowing. But the real strength? It's the people behind it. Meet Dan and Sunny.

#### **Dan, Water Treatment Plant Operator**

With nearly 19 years of experience, Dan is one of the reasons your water is safe, clean, and ready when needed. His day starts before most of us are up, and part of his job includes monitoring tank levels, testing water quality, and ensuring the treatment plant runs like clockwork.

"I came to water because I wanted a job that mattered," Dan says.

"Now I can't imagine doing anything else. It feels good to know my work makes a difference every day."

#### **Sunny, Water Conservation Worker**

Sunny brings over 15 years of experience in irrigation and landscaping, and a passion for helping people use water wisely.

She works one-on-one with residents to troubleshoot leaks, and gives expert advise on how to fine-tune irrigation systems, and convert thirsty lawns into sustainable landscapes.

> "I love helping people see that small changes can make a big difference," she says.

"Every saved drop adds up, and I'm proud to be part of that."



#### Where does your water bill go?

Your monthly bill covers more than what comes out of the tap. It supports the entire system that keeps your water safe, reliable, and sustainable today and in the future.

We plan rates carefully to meet legal and financial obligations, invest in infrastructure improvements, and minimize customer impacts. Every dollar goes directly toward providing service—nothing more.

#### Your bill helps fund:

- Maintenance of 700+ miles of pipes, multiple storage tanks, groundwater wells, and pump stations
- Barton Water Treatment Plant operations the people, the treatment process, the chemicals, and the maintenance
- Upgrades to aging infrastructure
- Rebates, water-wise calls, and customer programs
- A skilled team of operators, engineers, and support staff



"It's not just about covering today's costs," said Shane Whittington, Business Services Manager.

"It's about keeping the whole system strong for the long haul."

#### Saving water is easier than you think

We're building a reliable water future, but it takes all of us. Small changes at home can lead to big savings on your bill and for the community.

#### Roseville makes it easy:

- · Cash for Grass rebates to replace lawns with water-wise landscaping
- Toilet rebates for high-efficiency upgrades
- Free Water-Wise House Calls with personalized tips

"Conservation is a partnership," said Bobby Alvarez, Water **Conservation Administrator.** 

"Every action, big or small, makes a difference—and we're here to help."



#### By the numbers (last year):

2,500+

homes and businesses took part in rebates and water-saving programs



Per-person use dropped to 176 gallons a day—below the state target

#### Want to save water with us? Visit roseville.ca.us/savewater



#### **Explore. Learn. Grow.**

Ever wonder how water gets to your faucet—or what happens after it goes down the drain? At Roseville's Utility Exploration Center, hands-on exhibits, free workshops, and the Inspiration Garden make those systems come to life.

"We like to say the UEC highlights where utilities meet life," said Brayden Mitchell, Utility Exploration Center Supervisor. "When people can see, interact and ask questions about things, that's when they begin to understand the full story."

Admission is free, and there's something for all ages.



Scan here to learn more about the **UEC** or visit roseville.ca.us/explore

## Resilient by Design

How PCWA's Water System Supports Wildfire Response

By Andy Fecko

Wildfire can strike any time anywhere. Are we prepared?

At Placer County Water Agency (PCWA), we've been thinking seriously about wildfire for several years. Our county includes more than 500,000 acres of forest and a growing wildland-urban interface. The 2014 King Fire was a major wake-up call; it directly impacted our operations

in the upper watershed. The deadly 2018 Camp Fire that devastated Paradise really focused our attention.

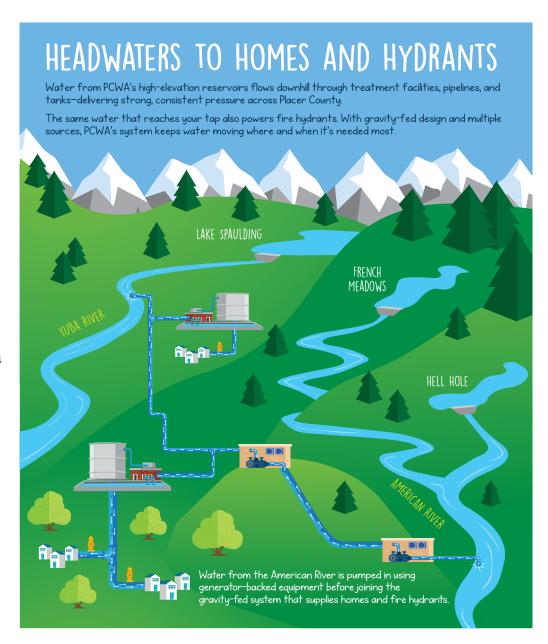
Everyone at PCWA takes the safety of our communities—and the systems that support that safety—very seriously. Wildfire preparedness is vital in every Placer County neighborhood, and it takes more than just access to water.

While our water system wasn't built to fight wildfires, it was designed for reliability—a big plus when planning for the unexpected.

Fortunately, we live in a place with a great and dependable water supply. From our high-elevation reservoirs and treatment facilities along the I-80 corridor, water flows downhill through a network of pipelines and tanks that keep pressure strong across the county.



Our reliable, gravity-fed water system supports firefighting efforts. With consistently strong pressure, our water feeds thousands of fire hydrants, homes, and businesses throughout Placer County. We can deliver 2 million gallons of water per hour. So even if there was a large fire in Granite Bay, we would still have water available in Auburn.



One of our top priorities at PCWA is making sure water is available when it's needed most — to homes and to fire hydrants. The same water that flows to your taps is what charges fire hydrants—it's all part of the same system.

Our community's network of fire hydrants represents a partnership between PCWA and fire agencies. We have cooperative agreements with fire districts throughout the county related to operation and maintenance of hydrants, but more importantly, we are in constant communication with these fire districts during fire emergencies to ensure they have access to our water supply. During the 2021 River Fire in Colfax, PCWA coordinated with first responders to make sure water pressure didn't drop and allow access to alternate supplies from our canal system.

Fire preparedness is a community-wide effort. Homeowners and communities can support fire preparedness by creating defensible space, using fire-resistant materials, and following emergency plans.

Creating defensible space and using fireresistant materials helps slow a fire's spread and gives firefighters critical time to respond. Remember: If evacuated, don't leave on sprinklers – they won't stop a wildfire. When everyone in a neighborhood runs their sprinklers at once, the water system becomes overwhelmed. Turn sprinklers and hoses off so we can maintain water pressure at the hydrants and let the firefighters do their job.

While no system is designed to fight wildfires alone, strong partnerships between PCWA, fire agencies, and our communities help ensure we are prepared.

By working together—maintaining defensible space, conserving water during fires, and staying informed – we can strengthen wildfire resilience and protect our homes, businesses, and water supply for the future.

Learn more about Placer County Water Agency at **pcwa.net** 



# Wildland Tree Specialist, Inc.









#### **Fire Defense services**

- Defensible Space
- Tree Removal
- Brush & Debris Removal
- Wildfire Fuel Reduction
- Forestry Mulching
- Fuel & Fire Break Construction
- Right of Way Clearing
- Egress Widening

#### **Property Maintenance**

- Land Cleanup
- · Land Management / Land Prep
- Chipping
- Mastication
- Blackberry Removal / Brush Clearing
- Tree Pruning
- Storm & Fire Cleanup
- Hazardous Tree Removal
- Field Mowing

