

The Water Report

Water Rights, Water Quality & Water Solutions in the West

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~~~~~ TRACKING WILDFIRE TREATMENTS IN CALIFORNIA'S HEADWATERS ~~~~~

by Bradley Franklin and Kyle Greenspan (Public Policy Institute of California)

Introduction

California has been contending with increasingly frequent and severe wildfires for years, often in the headwater regions where over two-thirds of the state's water supply originates. These headwater regions provide water to more than three-quarters of California's population through state and federal water projects.

Severe wildfires affect all Californians, threaten the state's vital water supply, and cost the state billions of dollars. The numbers bear this out: the amount of California's land burned in severe wildfires each year has tripled over the past three decades—and the annual cost of wildfire damage has more than quadrupled over that same period. A state-led task force has been given the objective of reducing the number of severe wildfires in headwater regions. In a new report titled *Tracking Headwaters Management for Wildfire Resilience in California*, the Public Policy Institute of California (PPIC) evaluates its progress (<https://www.ppic.org/publication/tracking-headwaters-management-for-wildfire-resilience-in-california/>).

California's headwaters—the landscapes in which its streams and rivers begin—store precipitation in snowpack, meadows, and soils, which filter and gradually release water through the spring and early summer. However, decades of land-use change and fire suppression have degraded these landscapes and allowed vegetation to build up, drying out mountain meadows and increasing the risk of high-severity wildfires, creating a situation with major implications for the state's water supply. Severe wildfires in headwater forest areas disrupt the processes that regulate water supply—reducing snowpack, increasing sediment in streams and rivers, and degrading water quality in downstream reservoirs.

To address these growing threats to landscapes and communities, California and the federal government redoubled efforts in the early 2020s to reduce wildfire hazard by “treating” vegetation (i.e., removing or modifying vegetation to help restore forests to a healthier, more resilient state). The state and federal governments set a goal that by 2025, one million acres per year of forests, woodlands, chaparral, and other fire-prone landscapes would be treated (California Wildfire and Forest Resilience Task Force 2022). At the center of this effort is the California Wildfire and Forest Resilience Task Force (the “task force”), which coordinates statewide alignment of wildfire hazard reduction efforts by federal, state, local, Tribal, and community partners, focusing primarily on landscape treatment programs.

Other important work includes efforts to protect communities and critical infrastructure by making homes and neighborhoods more resistant and resilient to wildfire. The new PPIC report focuses on proactive, landscape-scale vegetation management of headwaters—work that is critical for water supply, as well as wildfire hazard reduction.

THE GRADUAL TRANSFORMATION OF HEADWATER FOREST MANAGEMENT

Up until about 150 years ago, most of California's headwater forests experienced frequent, lower-intensity fires that kept understories open, limited the growth of brush, and supported mature, fire-resilient tree species with high, widely spaced canopies.

The Water Report
(ISSN 1946-116X)
is published monthly by
Sky Island Insights LLC

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Email
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Website
www.TheWaterReport.com

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Wildfires & Water

High Severity Burns

These conditions also helped sustain reliable water supplies. Such fires occurred both naturally and through cultural burning by Tribes, who used fire to manage forests and cultivate the foods, fibers, and materials essential to their communities.

In the late 19th century, this regime was disrupted by major changes in forest management, reflecting an emphasis on suppressing fire to protect timber resources and nearby communities. Whereas before 1800, roughly 4.5 to 12 million acres burned annually across California, in the second half of the 20th century, only about 250,000 to 300,000 acres burned each year (Stephens et al. 2007).

As fire was suppressed, forest and woodland areas grew increasingly unhealthy, and there was a shift toward a pattern of fewer but far more severe fires. At the same time, dramatic population growth drove steady expansion of housing into wildland areas—for example, the Inland Empire and the Sierra Nevada foothills—creating today’s wildland–urban interface. As a result, many of the over two million homes in California’s headwater regions are exposed to significant wildfire risk (Cal Fire Fire and Resource Assessment Program 2018; Cal Fire GIS Mapping and Data Analytics n.d.).

By the late 20th century, an emerging emphasis on environmental protection—reinforced by legal requirements to safeguard old-growth forests, clean water, and imperiled species—prompted major changes in federal forest management. Timber harvesting on national forest lands declined, and, in recent decades, policy also began to pivot toward landscape restoration, the renewed practice of cultural burning, and community protection in the wildland–urban interface.

Current and Emerging Threats

The severity of fire impacts has increased in recent decades, causing greater property and ecological damage. A series of severe wildfire seasons in the last decade, including catastrophic events such as the 2018 Camp and Woolsey fires and the 2020 August and North Complex fires, highlighted that California’s existing approach to wildfire management was insufficient in scale and fragmented across landowners (Cal Fire n.d. 2018; Cal Fire n.d. 2020). The January 2025 wildfires in Los Angeles County further confirmed these challenges. Two of these 2025 fires—the Eaton and Palisades fires—killed at least 27 people and caused an estimated \$30 billion in direct property losses (Saleh 2026). Together, these events underscore the need for strategies that prioritize community protection while also reducing fire hazard across diverse landscapes ranging from conifer forests and oak woodlands to grasslands and chaparral.

INCREASES IN CONTIGUOUS AREA BURNED AT HIGH SEVERITY

The area of Sierra–Cascade land burned in severe wildfires each year has tripled over the past 30 years (see Figure 1). Of equal importance is where and how those burns occur. A small number of large, severe fires account for the vast majority of acres burned (Cova et al. 2023). These large patches of high severity burns damage infrastructure and cause erosion when it rains, increasing flood risks and degrading downstream water quality. Severe wildfire can also convert forests to shrublands or grasslands, diminishing the benefits provided by headwater landscapes (McCann et al. 2020).

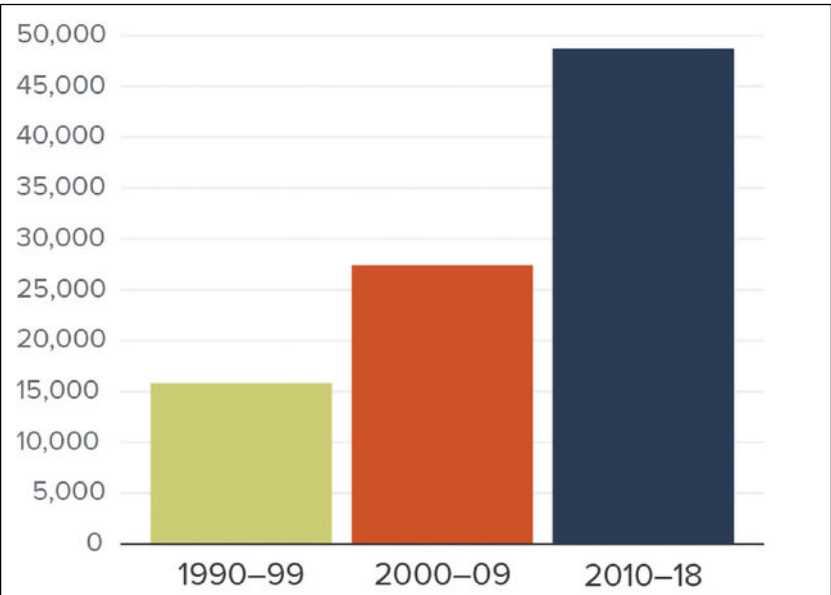


Figure 1. The area of land (acres) burned by high severity wildfires in the Sierra–Cascade region each year has tripled since 1990. SOURCE: High-severity burned area data (Williams et al. 2023). NOTES: Values shown are annual averages within each range of years.

Wildfires & Water

Cost of Damages

Climate Change Impact

Defining Priority

INCREASES IN WILDFIRE DAMAGES

As the area of land burned per year has grown in recent decades, so have the costs incurred by those fires (*see* Figure 2). Annual wildfire damages have more than quadrupled over the past three decades. A key driver of this increase is real estate development—about one million acres of residential neighborhoods were built in or near wildland areas over the same period (Radeloff et al. 2018).

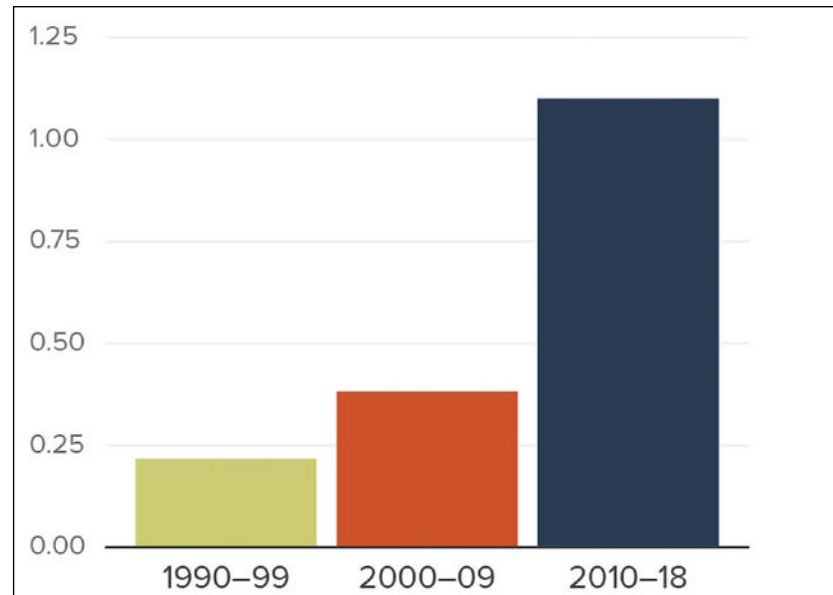


Figure 2. Average annual wildfire damages in billions of dollars since 1990. SOURCE: Wildfire damages data (Buechi et al. 2021). NOTES: Values shown are annual averages within each range of years. Wildfire damages are for State Responsibility Areas, which are primarily privately owned lands where California has responsibility for fire protection. Broader economic impacts such as health care and relocation costs are not included.

The changing climate is intensifying many of the conditions that drive severe wildfire. For instance, warmer temperatures increase the proportion of precipitation that arrives as rain instead of snow, thus leading to earlier snowmelt. As a result, more runoff occurs earlier each year, leaving headwater landscapes drier than usual from late spring to early fall. These drier conditions leave unhealthy forests vulnerable to severe wildfire.

The changing climate is also altering the timing and length of the fire season. The number of days when conditions are sufficiently hot, dry, and windy for wildfires to start and spread—categorized as extreme fire weather days—is increasing (Goss et al. 2020; Rother et al. 2022). As these conditions become more frequent, risks to communities, forests, and water supplies will continue to grow.

Priority Areas for Treatment

Forest managers working across federal, state, Tribal, and private lands must prioritize which areas to treat first. This is a difficult task given limited resources, tens of millions of acres that need treatment, and conditions that vary by location. Therefore, prioritization is key.

The PPIC report *Tracking Headwaters Management for Wildfire Resilience in California* focuses on areas where high-severity wildfire threatens the broader landscape, including water supplies, ecosystems, and communities that live near wildlands. Landscape treatments are most effective when they form a mosaic of treated and untreated areas that slows the spread of wildfire and reduce its severity.

Priority areas are defined as locations that meet one or both of the following criteria:

- **Forested areas in need of treatment.** Forested areas that Cal Fire has determined need treatment due to their potential for severe wildfire (DeLyser et al. 2025). Severe wildfire potential is based on a combination of vegetation conditions and expected fire behavior in a given location (Vogler et al. 2021).
- **Wildland–urban interface.** Areas where wildlands and residential neighborhoods overlap, including forest and non-forested lands. These areas have expanded greatly in recent decades, increasing the potential consequences of severe wildfire. Treatments such as fuel breaks are often needed in wildlife–urban interfaces, though treatment needs vary by location and ecosystem type. Note: PPIC uses the same wildland–urban interfaces as those used by the task force, which were defined by Cal Fire’s Fire and Resource Assessment Program.

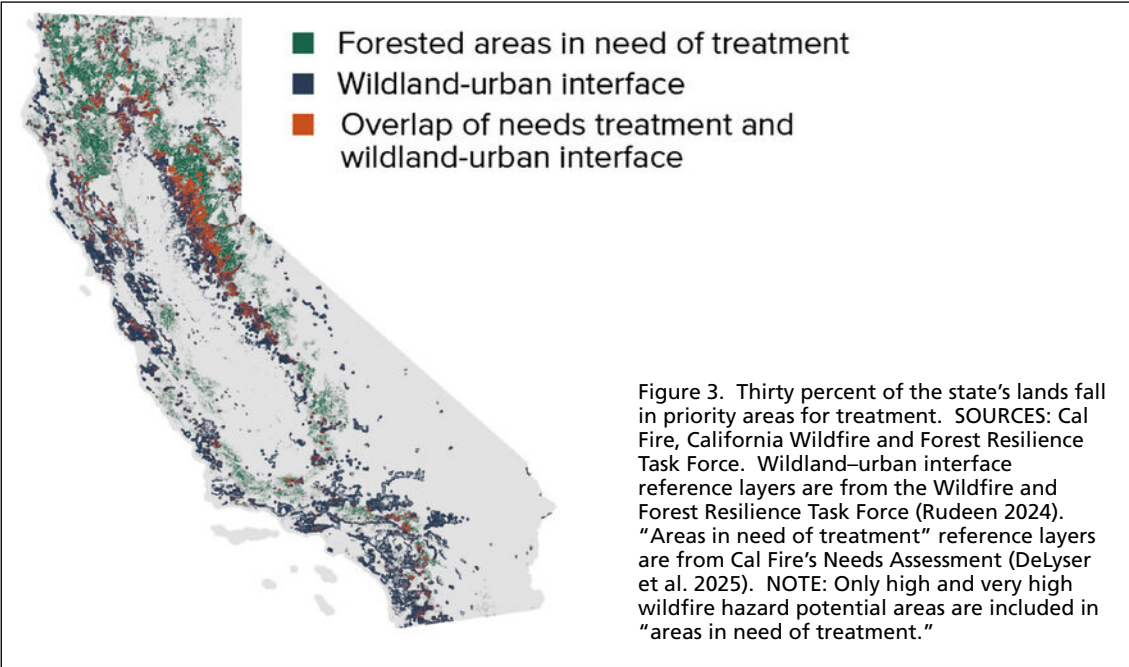
Priority areas cover 30 million acres—around 30 percent of California’s land area and larger than the Sierra–Cascade region (US Census Bureau 2021; Sierra Nevada Conservancy n.d.). (Note: This estimate includes areas with high and very high Wildfire Hazard Potential, a measure used by both the US Forest Service and Cal Fire. A broader definition of “priority area” that includes moderate Wildfire

Wildfires & Water

Treatment Mosaic

Hazard Potential areas would cover about 39 million acres.) Of the total priority area, about 3 million acres (10%) meet both criteria: forested areas with severe wildfire potential in or near communities. This makes them strong candidates for priority treatment. The remaining area includes about 15 million acres (50%) in the wildland–urban interface and 12 million acres (40%) in areas outside the wildland–urban interface that need treatment (*see* Figure 3).

Not all of the 30 million acres in priority areas need to be treated directly. With comprehensive planning based on local needs, a mosaic of treated and untreated lands can effectively protect surrounding areas. While the task force emphasizes reducing wildfire hazard, that is not the only goal. Important ecological areas and culturally important sites for Tribes may never be treated directly, but they are protected by treatments in nearby areas.



Land Ownership

Private individuals and federal agencies own the vast majority of priority areas. Private individuals own nearly half of the land, while federal agencies own a little over 35 percent. The remaining land is split across timber companies, state agencies, NGOs, Tribes, and local governments, each accounting for less than 10 percent of the total.

A Major Effort to Reduce Wildfire Hazard Is Underway

The severity and scale of wildfires in the last decade have created momentum for a more coordinated statewide response. State leadership and interagency collaborations have been the primary drivers of recent progress, supported by more than \$2.5 billion in wildfire resilience investments (CNRA n.d.). Federal agencies have also contributed, with the US Forest Service (USFS) advancing projects on national forest lands as part of an initiative across Western states (USFS 2022).

Actions

- **2020:** The state and USFS signed a shared stewardship agreement committing to treat 500,000 acres each per year by 2025—amounting to a combined goal of treating one million acres annually (“million-acre goal”).
- **2021:** California released the Wildfire and Forest Resilience Action Plan and launched the current task force to coordinate agencies and partners in meeting the million-acre goal.
- **2024:** The state also set broader nature-based solutions climate targets for 2045, including long-term cumulative treatment objectives that complemented the million-acre goal.

Million-Acre Goal

To put the million-acre goal in context, between one and three million acres of California’s forest ecosystems burned each year before 1800, which suggests that a level of treatment covering that area would begin to approach historical levels of fire coverage (Stephens et al. 2007).

Reaching California’s goal of treating a million acres per year will require unprecedented coordination across the state’s forest management efforts. The task force brings together dozens of agencies and organizations that manage different parts of the landscape, including federal forests, state parks, roadside areas managed by CalTrans, Tribal territories, and lands owned by timber companies.

Wildfires & Water

Tracking Treatment

Tree Planting

State and federal agencies account for 80 percent of the treatment records reported, while timber companies account for the rest. Agencies report that some acres have been treated on lands they do not own, including those of private individuals and NGOs.

The task force coordinates planning and implementation around the million-acre goal and develops common tools for tracking progress. As a starting point, it has established a statewide reporting framework centered on the Interagency Treatment Dashboard (“the dashboard”), which is now the state’s primary tool for tracking where projects have been implemented. Maintaining the dashboard requires continually compiling and standardizing data from a wide range of agencies and landowners.

PROGRESS TOWARD TREATMENT GOALS

California is over halfway to meeting its annual million-acre goal. Approximately 591,000 acres on average have been treated per year between 2021 and 2024 (see Figure 4). While four years of data are insufficient to assess long-term trends, the number of acres treated each year is trending upward—approximately 516,000 acres per year were treated on average over 2021–22 compared to 666,000 acres per year over 2023–24.

We estimate that the area treated per year is about 100,000 acres (15%) lower than what the task force reports, primarily because we exclude tree planting activities. While planting trees in burn scars supports long-term forest recovery and protects water supplies, it does not provide the immediate wildfire hazard reduction associated with other treatments included here. Our estimates align closely with the dashboard in most respects, but we refined the data to focus on activities that provide immediate wildfire hazard reduction. We have replicated the dashboard’s footprint calculation method to ensure consistency. Our code is available upon request.

Acres treated reflects contributions from all parties conducting wildfire hazard reduction, including private timber companies, which account for approximately 173,000 acres annually.

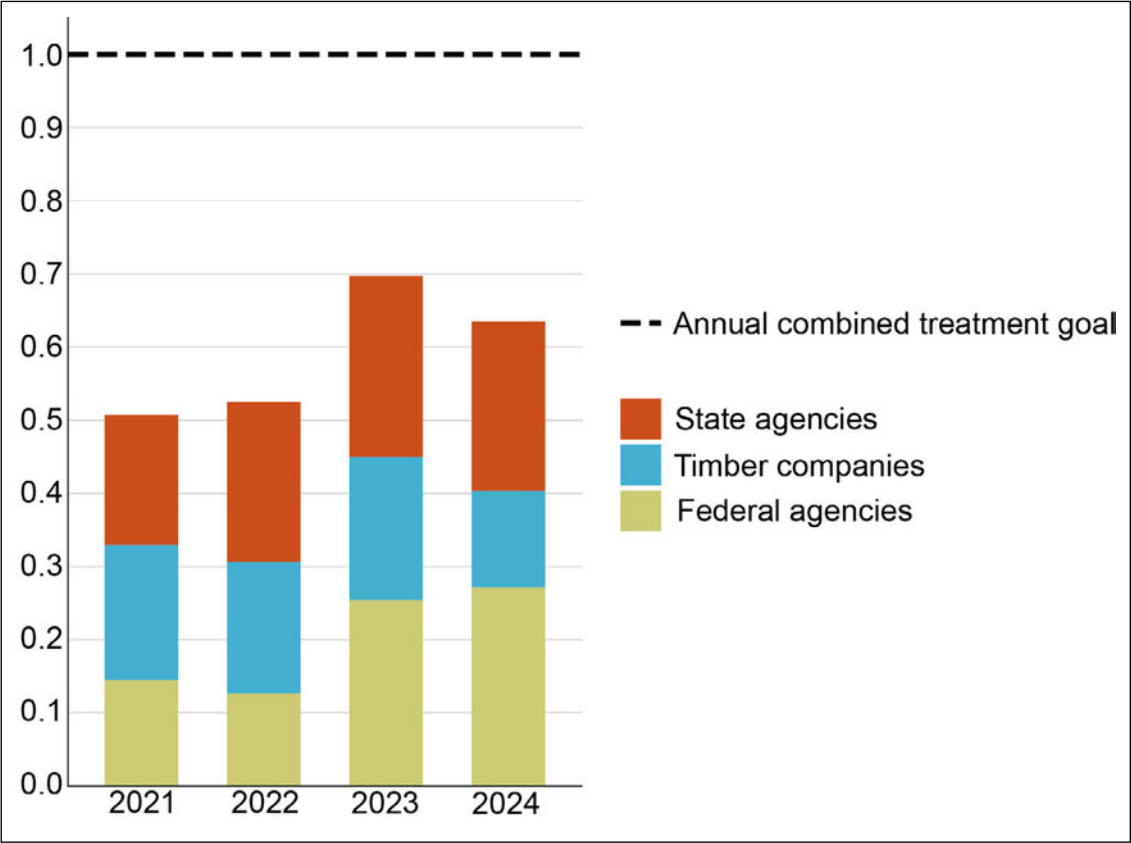


Figure 4. California is treating more acres over time, but it has yet to reach its million-acre goal. The Y-axis shows millions of acres treated (by reporting party). SOURCE: Wildfire and Forest Resilience Task Force Interagency Treatment Dashboard. NOTES: State agencies include the California Natural Resources Agency, the California State Transportation Agency, and their department agencies. Federal agencies include the US Department of Agriculture, the US Department of the Interior, the US Department of Defense, the US Department of Energy, and their member agencies. Agencies report some acres treated on lands they do not own. Estimated acres differ from the dashboard due to the exclusion of tree planting activities. Acres treated are assigned to the agency that reported the largest activity by acreage within each footprint.

Wildfires & Water

While progress toward the statewide goal is encouraging, state and federal agencies have made slower progress towards their individual goals of 500,000 acres per year. Federal agencies treat about 200,000 acres per year (40% of their target), while state agencies, which treat some lands they do not own, average about 219,000 acres per year (44% of their target).

While the use of beneficial fire has expanded in recent years, it remains below the task force’s goal of 400,000 acres per year starting in 2025 (California Wildfire and Forest Resilience Task Force 2022). An average of 155,000 acres were treated with beneficial fire during the study period, though that number does not reflect the increase over time. Beneficial fire nearly doubled from 2021–22 to 2023–24, rising from about 100,000 to 200,000 acres per year.

Measuring Impact

Treatments Differ in How They Reduce Wildfire Hazard

While California has made substantial progress in increasing acres treated, not all treatments contribute equally to reducing wildfire hazard. Precise measurement of the impact of treatment remains challenging, but evidence suggests that some treatments have longer-lasting impacts than others, and combined treatments, such as mechanical treatment followed by beneficial fire, provide the greatest benefit. Disposal of the woody biomass waste that remains after vegetation treatment also affects wildfire hazard. Biomass that is not removed or burned on site can become fuel for a future wildfire. Currently, most woody biomass waste is left on site after treatment.

Treatment Methods

HOW CALIFORNIA REDUCES WILDFIRE HAZARD

Proactive vegetation treatment helps protect communities and reduce wildfire severity. Several treatment methods are used to reduce wildfire hazard.

- **Mechanical treatment** (64% of treatment) involves the use of heavy machinery and hand crews with chainsaws to remove or thin vegetation ranging from grasses and brush to small trees.
- **Beneficial fire** (18% of treatment) uses prescribed fire (planned, controlled burning), cultural burning (Tribal-led fire stewardship practices), and managed fire (wildfire that is allowed to burn). Beneficial fire is often paired with mechanical fuel reduction because it can efficiently remove fine fuels after mechanical thinning.
- **Targeted grazing** (12% of treatment) uses livestock to remove low-to-the-ground fuels and is often applied where beneficial fire is not feasible and grass and other small fuels are the primary hazard.
- **Timber harvest** (6% of treatment) involves work done with the primary objective of harvesting timber to produce wood products. This includes removing small trees while retaining larger, more fire-resilient trees. The practice differs from clearcuts, which remove all trees.

TREATMENT LONGEVITY

The impacts of treatments and the longevity of their effectiveness vary widely by treatment type, intensity, and location—impacts can last from less than a year to multiple decades. The dashboard currently does not reflect this range and could benefit from classifying data based on the expected treatment longevity. Short-lived treatments that target grasses and other fast-growing, low-lying vegetation make up about 42 percent of statewide treatment efforts. Beneficial fire, which accounts for the remaining treatments reported, typically provides benefits up to ten years, but repeating burns at regular intervals can extend benefits further (Keifer et al. 2006).

COMBINED TREATMENT

Many locations require multiple types of treatment to meaningfully reduce wildfire hazard. Yet on average, about 54 percent of sites received a single treatment, while 36 percent received two to four, and about 10 percent received more than four treatments.

The most effective mix of activities depends on local conditions. One broadly applicable, high-impact approach is mechanical treatment followed by beneficial fire, referred to here as combined treatment (Safford et al. 2021). About 47,000 acres per year (just 8% of acres treated) have received combined treatment. These analyses suggest that more intensive, sustained treatment may be needed to comprehensively reduce wildfire hazard.

The million-acre target measures progress by acres treated, regardless of treatment longevity, location, or sequencing of treatment activities carried out on the same land. Counting all acres equally may incentivize spreading efforts over a broader area rather than concentrating durable, high-quality treatments where they are needed most. A statewide target should strike a balance between incentivizing widespread protection and providing long-term hazard reduction in critical areas.

Wildfires & Water

Pile Burns

Treatment Location

MANAGING WOODY BIOMASS LEFT AFTER TREATMENT

How the waste vegetation is handled after mechanical treatment affects wildfire hazard, as well as broader environmental and public health outcomes. Of the non-herbicide treatments included in the dashboard, 38 percent leave woody biomass waste on site, 10 percent process biomass on site, and 52 percent have no information recorded.

Pile burns are a form of beneficial fire in which woody biomass is collected and burned under controlled conditions. Pile burning accounts for about 5 percent of all treatments and, when managed well, effectively eliminates concentrations of fuel. However, it releases greenhouse gases, can pose smoke-related health risks, and can be difficult to undertake in compliance with air quality regulations.

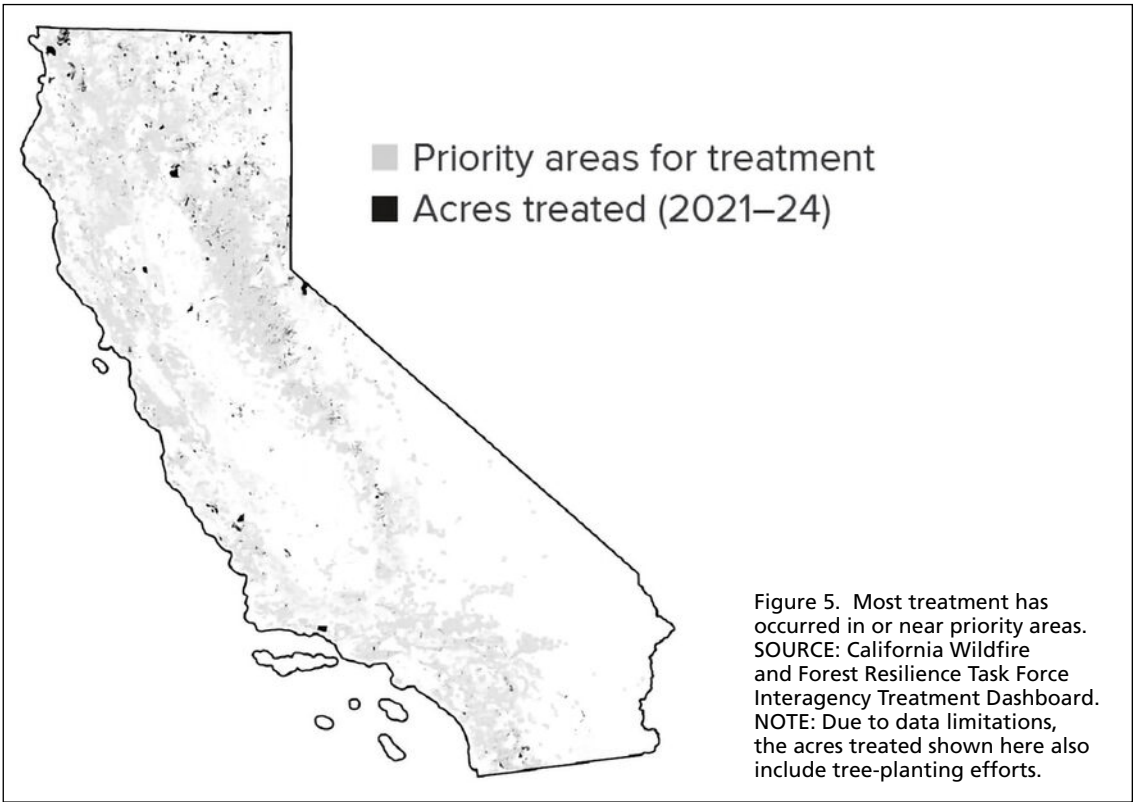
Where Treatment Is Occurring across the State

The effectiveness of California’s wildfire resilience efforts depends not only on the number of acres treated and the quality of those treatments but also on whether the work is concentrated in areas of greatest need from a statewide perspective. The projects reported in the dashboard were designed and implemented to meet local objectives—they were not necessarily intended to align with statewide priorities. In this section, we apply our definition of priority areas to examine how treatments are distributed across headwater regions and land ownership types. This analysis does not evaluate the effectiveness of treatments, but it reveals how the portfolio of projects reported in the dashboard aligns with statewide goals and identifies where additional focus may be needed.

ACROSS PRIORITY AREAS

Most treatment occurs in locations where it is likely to be needed. The majority (83%) of acres treated were located either in a priority area or within one kilometer of a priority area (*see* Figure 5). About three-quarters of these acres are in or near areas that Cal Fire has determined need treatment, and about one-third are located near communities in the wildland–urban interface. Most of the treatments outside priority areas reflect work by Caltrans on reducing roadside ignitions and by the California Department of Fish and Wildlife working on habitat management.

The areas treated align very closely with priority areas, suggesting that much of the work occurring in the state could be meaningfully advancing wildfire hazard reduction goals. However, the priority areas used in this analysis provide only a coarse statewide picture of the areas where treatment may be most needed. Regional and local priority mapping would add to the statewide picture and help to identify whether treatment efforts are reaching the highest-need areas.



Wildfires & Water

Treatment Gaps

Reporting

ACROSS REGIONS

The Southern California, Central California, and North Coast headwater regions receive less treatment relative to the amount of priority area they include (*see* Figure 6). Addressing these gaps is important, as these regions face significant wildfire risks to communities and water supplies. The North Coast and Central California regions had 11 and 18 percent of acres treated, respectively, despite accounting for 16 and 25 percent of priority areas. The gap is largest in Southern California, which received only 3 percent of treated acres despite containing 7 percent of priority areas. In contrast, the Sierra-Cascades accounts for 26 percent of priority acres but had about 29 percent of acres treated—and likely more, as timber companies are disproportionately concentrated there, and their activities may account for many of the treatments that have been reported without defined locations.

Scaling up treatment efforts in headwater regions beyond the Sierra-Cascade region will be challenging due to differences in ecosystem types and treatment methods. For example, the Southern California Mountains region is dominated by shrublands, which require different treatment methods from those applied to forests, such as fuel breaks. Fragmented land ownership in these regions makes coordination and comprehensive data reporting difficult. Treatments reported by private landowners may also be underreported.

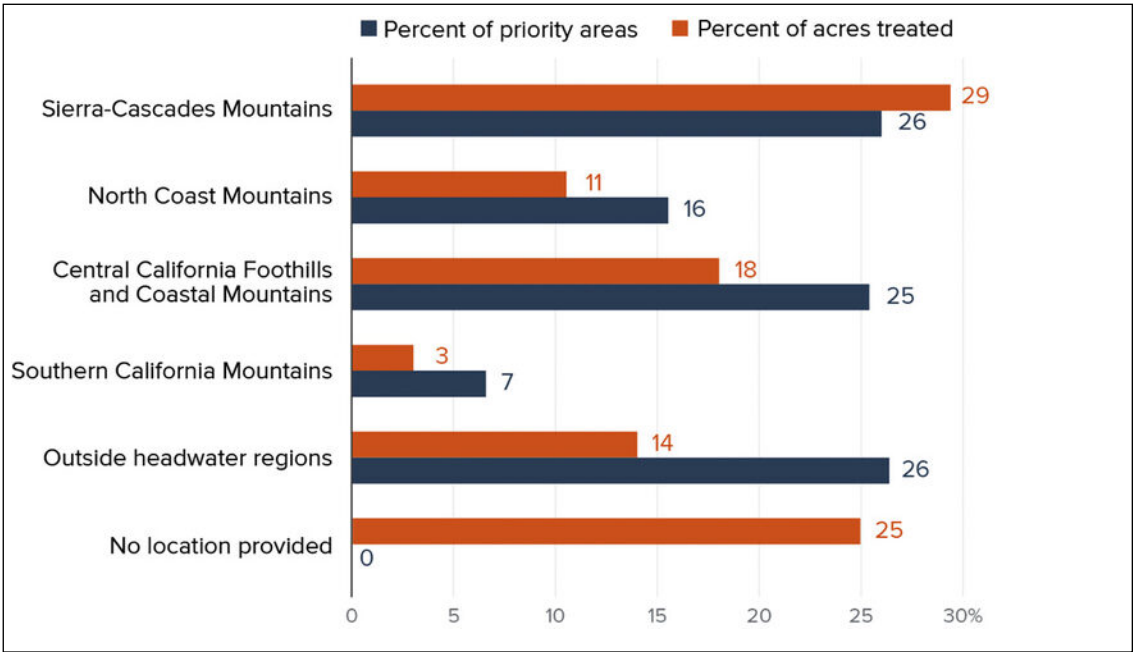


Figure 6. Southern California, Central California, and North Coast headwater regions are undertreated. SOURCE: California Wildfire and Forest Resilience Task Force Interagency Treatment Dashboard. NOTES: “Percent of acres treated” indicates the share of total acres treated in each region. “Percent of priority areas” indicates the share of priority areas that fall in each region. The “no location provided” category includes acres treated with no spatial information. Most data without locations were reported by timber companies, which suggests that acres treated in the Sierra-Cascades and North Coast Mountains headwater regions may be underestimated.

Wildfires & Water

Challenges

Patterns

Improve Reporting

BY LANDOWNER TYPE

Scaling up treatment on lands owned by private individuals will be an important component of reducing statewide wildfire hazard. Reported data indicate that these lands receive relatively little treatment—they account for only 9 percent of acres treated, even though about half of all priority areas are owned by private individuals (*see* Figure 7). Treatment on private lands is likely underreported, too, as some landowners may lack the capacity to report their efforts; therefore, the gap may be smaller than the data suggest. In contrast, state agencies, which own only about 3 percent of priority areas, reported 22 percent of acres treated. Fragmentation of land across many private individual landowners makes coordination difficult, and many of these landowners may lack the knowledge or capacity to carry out effective treatments.

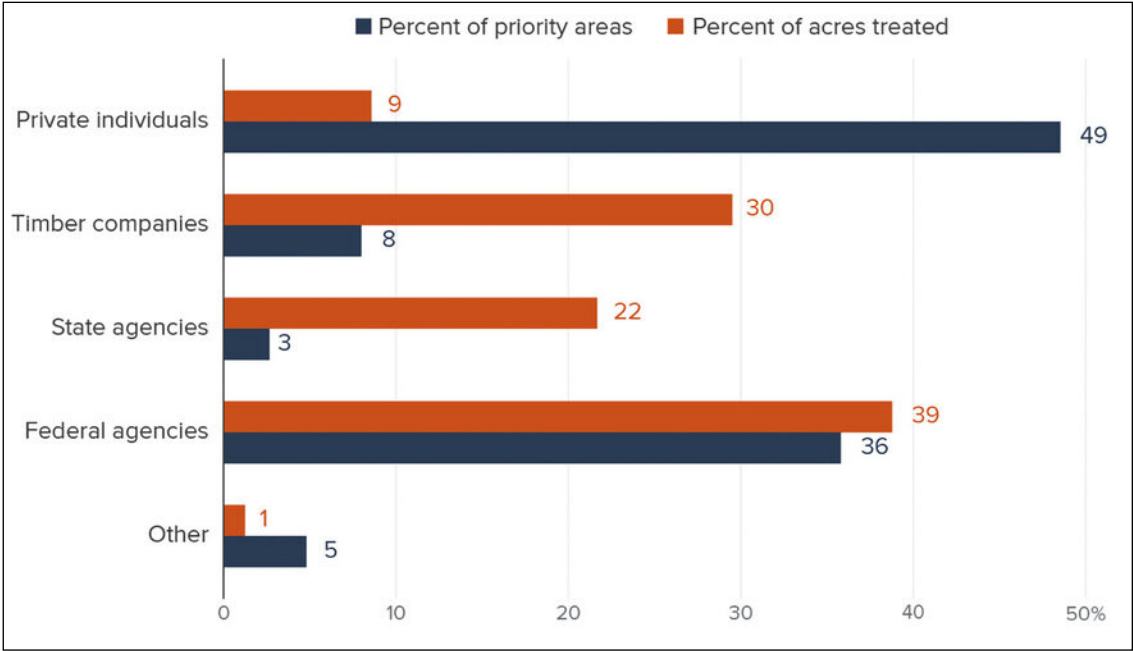


Figure 7. Lands owned by private individuals may be undertreated. SOURCE: California Wildfire and Forest Resilience Task Force Interagency Treatment Dashboard. NOTES: “Percent of acres treated” indicates the share of all acres treated that occurred in each type of land ownership. “Percent of priority areas” indicates the share of all priority areas in each landowner category. Other ownership includes NGOs, tribes, and local governments.

These treatment patterns suggest that California’s efforts are well-targeted but unevenly distributed. Most treatment occurs in or near priority areas, which is encouraging. However, Southern California, Central California, and the North Coast receive less treatment than their share of priority areas may warrant, and lands owned by private individuals are substantially undertreated relative to their share of priority area acreage.

Interpreting these gaps requires caution, as reporting limitations affect tracking across regions, land ownership types, and treatment categories. Better data and strategies that account for differences in ecosystem types, land ownership, and reporting capacity will be needed to determine more accurately where efforts are falling short and how best to address them.

Policy Recommendations

California has made meaningful progress in treating more acreage to reduce wildfire hazard, as well as developing expanded partnerships, data sharing, and coordination. However, as of 2024, the state had not yet met the annual million-acre goal. Opportunities likely remain to better target the areas of greatest need and to distribute and sequence treatments over the landscape. In particular, private lands may have a gap in treatment coverage, though underreporting makes it difficult to assess the full amount of work done on these lands. Headwater regions face some of the highest wildfire hazard in the state, but treatment levels and their effectiveness are difficult to assess with current data. And the current tracking system emphasizes counting acres treated rather than assessing the impact and longevity of the treatments.

Our recommendations below focus on improving tracking and reporting so that treatments can target areas where they are most needed. Improved tracking would also incentivize durable treatment types that build long-term resilience, and they would provide better data to inform future policy decisions.

Wildfires & Water

Since tracking and reporting span multiple agencies, landowners, and funding programs, the responsibility for implementing these recommendations should be shared. The task force is best positioned to play a coordinating role through its member agencies and partners. It could help establish common definitions and reporting expectations, synthesize data across sources, and communicate findings to policymakers.

Priority Areas

- **Clarify and standardize how priority areas are defined.** Are treatments occurring in areas where they are needed most? We define priority areas based on a combination of wildfire hazard and community exposure. If the task force adopted a similar approach, it would be easier to interpret whether reported treatments align with task force objectives. Once defined, the task force could then assess how regional plans align with their statewide priorities.

Long-Term Impact

- **Refine tracking and reporting by treatment longevity.** The current emphasis on acreage targets provides a measure of the scale of effort, but it does not directly indicate progress toward wildfire resilience. Treatments differ in how long they reduce wildfire hazard; however, these differences are not currently accounted for in task force tracking and reporting. Where data allow, the dashboard should distinguish between short-lived treatments, such as mowing, grazing, and herbicide application, and longer-lived treatments, including mechanical thinning and prescribed fire. The dashboard should also make it easier to track combined treatments, which tend to provide the longest-lived wildfire hazard reduction benefits.

Reporting Requirements

- **Require consistent reporting of treatment location.** Inconsistent reporting of treatment locations makes it difficult to assess treatment overlap, intensity, and cumulative impact. All treatment reporting should be required to include a standardized spatial footprint. Additionally, the US Forest Service and Cal Fire should use their timber harvest permitting processes to require spatial reporting from timber companies.

Capacity Building

- **Build reporting capacity for small and underresourced partners.** Our analysis and stakeholder outreach indicate that many small, local organizations, private landowners, and Tribes lack the technical or administrative capacity to report treatment data in the dashboard. As a result, some treatment efforts are underrepresented in statewide tracking. Providing targeted training, technical assistance, or simplified reporting pathways would help improve data completeness and consistency. State and federal funding agencies should provide resources to support reporting through grant programs and other funding streams, including funding for adequate staff capacity within the task force and its member agencies.

Funding

A fundamental challenge lies in identifying sustainable funding for treatment at the pace and scale required to address wildfire risk. While significant progress has been made in a few watersheds, much of the broader public funding in recent years has come from bond measures rather than ongoing programmatic funding, and additional resources are likely needed.

Conclusion

Better Data

As wildfire risk continues to grow, California is working to expand treatment of lands most likely to burn at high severity. Better data on the work being done would help agencies and partners improve the quality, durability, and placement of treatments in the areas that need them most. The recommendations in this article and the *Tracking Headwaters Management for Wildfire Resilience in California* report point to ways to strengthen that data. Recent improvements in coordination and information-sharing show that progress is achievable. With both refined tracking systems and sustainable funding in place, California would be better positioned to reduce wildfire impacts on communities, the environment, and water supplies.

Better data would help policymakers make more informed decisions about related policies, as well as associated funding needs. Vegetation treatment in headwater regions has implications for water supply reliability and quality, and better tracking data would help water agencies and other beneficiaries assess whether landscape treatments are providing the expected benefits.

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Workforce
Workforce Demand
Pipeline
Opportunities

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# CHANGING THE GAME

## HOW THE WATER TOWER IS BUILDING THE WATER WORKFORCE OF THE FUTURE

by Kristan VandenHeuvel and Courtney Lee (The Water Tower)

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Introduction

The water industry finds itself in a pivotal moment. Utilities across the United States are grappling with workforce shortages, impending retirements, and rapidly evolving technology demands, all while the population and infrastructure needs of our communities continue to grow, seemingly exponentially in some places. The pressure to attract and prepare the next generation of water professionals is at an all-time high. At the same time, many students and job-seekers are unaware that the water sector offers meaningful, purpose-driven career opportunities that combine innovation, public service, environmental stewardship, and long-term stability. As the industry prepares for billions of dollars in infrastructure investment through federal and state initiatives, now is a critical time to reimagine how the sector approaches workforce development.

Despite both workforce demand and the availability of capable candidates, the sector continues to struggle to recruit and retain individuals from underrepresented groups. To address these gaps, organizations across the industry are rethinking how to inspire, recruit, train, and support future water professionals in ways that are more inclusive, collaborative, and accessible. Expanding awareness of water careers and creating pathways for participation will be essential to building a resilient workforce capable of meeting future challenges.

At the forefront of this effort is The Water Tower, a nonprofit global water innovation hub located in Gwinnett County, Georgia. The Water Tower is dedicated to providing solutions for the water industry through applied research, technology innovation, workforce development, and cross-sector collaboration. Through hands-on education, industry partnerships, inclusive outreach, and workforce training programs, The Water Tower is committed to transforming workforce development.

The Water Tower’s impact extends across multiple generations and career stages. From introducing K–12 students to STEM and water careers, to supporting university students, emerging professionals, utility workers, and seasoned industry leaders, The Water Tower creates opportunities for engagement, learning, and professional growth throughout the entire workforce pipeline. Its programs emphasize practical experience, industry connection, and real-world problem-solving, helping participants better understand both the importance of water and the breadth of opportunities available within the sector. In addition to technical and workforce training, The Water Tower actively fosters a more inclusive and connected industry culture through networking initiatives, leadership development programs, and events that elevate underrepresented voices in water.

WHY WORKFORCE DEVELOPMENT MATTERS

Water is essential for every aspect of life. Yet despite that importance, the water sector is often referred to as the “invisible industry” because many people are unaware of the critical role water professionals play in maintaining safe and healthy communities. Unlike other industries, such as healthcare, engineering, or information technology, careers in water are not always introduced to students and job-seekers as visible or attainable career pathways during their education and career exploration. As a result, many talented individuals never realize the breadth of opportunities available within the sector.

Many students and emerging professionals would be surprised to learn that the scope of today’s water workforce extends beyond traditional utility operations. Modern water systems increasingly rely on advanced technologies and interdisciplinary expertise, including smart infrastructure, data analytics, automation, robotics, cybersecurity, artificial intelligence, and digital asset management. As utilities continue to modernize and respond to evolving environmental, operational, and infrastructure challenges, the need for a highly skilled and adaptable workforce continues to grow.

The future of the water sector depends not only on filling open positions but also on recruiting, training, and retaining individuals with diverse experiences, perspectives, backgrounds, and skillsets who can help utilities innovate and adapt to rapidly changing demands. Therefore, effective and sustainable workforce development requires a comprehensive approach centered on accessibility, awareness, engagement, and advancement. It also requires intentional efforts to ensure that individuals from historically underrepresented or overlooked communities are aware of and supported in pursuing careers in water. The Water Tower has developed multiple integrated workforce strategies designed to address these challenges by introducing water careers early, expanding access to opportunities, and creating

Workforce
Equity-Focused Approach
Quarterly Reception
Activities

meaningful pathways into the industry. By increasing awareness and creating more accessible entry points into the industry, The Water Tower is helping build a stronger, more innovative, and more inclusive workforce prepared to meet the future needs of water utilities and communities alike.

Empowering Women in Water

Overall, men occupy 79% of water utility jobs, and they fill 78% of engineering roles and 76% of manager positions in the water sector (World Bank, Women in Water Database, 2024). Moreover, 40% of utilities report difficulties in attracting women to technical positions (Baywork, 2021). Increasing the participation, advancement, and visibility of women in water careers is especially critical at a time when the demand for skilled utility workers is at an all-time high. Addressing these workforce challenges will require a comprehensive, equity-focused approach to water workforce development.

Building a more inclusive workforce requires intentional outreach, clear and visible leadership pathways, and supportive environments where women can see themselves succeeding in technical, operational, and leadership roles. Programs such as those developed by The Water Tower help foster this environment by creating tailored networking opportunities, elevating and celebrating women in the industry, and providing forums to discuss challenges unique to women in the water workforce. Together, these efforts create supportive spaces that encourage professional growth, connection, and long-term career advancement.

MEANINGFUL NETWORKING OPPORTUNITIES

Like many industries, developing key professional skills such as networking is vital for personal and career growth in the water sector. Networking creates valuable opportunities to build relationships, gain industry insights, access mentorship and guidance, and discover new career pathways. With an estimated 50–70% of available jobs filled through networking rather than online postings (CNBC, 2020), access to intentional networking opportunities is critical for both career entry and long-term advancement. In an industry facing workforce shortages and increasing demand for skilled professionals, creating welcoming spaces for connection and relationship-building is more important than ever.

The Water Tower addresses this need through its quarterly networking receptions, aptly named “Women, Water, and Wine,” which are designed to support women and allies in the water industry. These receptions are purposefully casual and welcoming, creating a low-pressure environment where attendees can form meaningful professional connections and build confidence in networking settings. While the format of each quarterly reception varies to accommodate the interests and comfort levels of participants, every event includes an interactive activity to encourage conversation.

For example, research suggests that when people sit or stand at an angle or beside one another, conversations can feel more natural and comfortable. With this in mind, attendees who may not yet feel confident approaching unfamiliar people or groups may benefit from collaborative, low-stakes activities, for example, making water-themed friendship bracelets, that will allow them to connect while working creatively alongside one another. Similarly, activities such as Networking Bingo, which encourages attendees to search for individuals who match specific prompts or characteristics on their bingo cards, provide attendees with a structured and approachable reason to introduce themselves to new people. These exercises help foster authentic communication and create connection points that they may not have discovered otherwise.

In addition to fostering connection, these receptions provide meaningful professional development opportunities. Activities such as vision board workshops encourage participants to reflect on and set goals for the coming year, while featured expert speakers provide insights on relevant topics such as industry trends, emerging technologies, and roadmaps for advancement in water careers. These discussions often spark continued dialogue among attendees and help participants feel more connected to their peers, the industry, and their own professional aspirations.

The receptions also help increase visibility for women already working in the water sector by creating opportunities to share experiences, celebrate accomplishments, and serve as relatable examples for others entering the field. This visibility is especially important for students and early-career professionals who benefit from seeing successful women represented across technical, operational, and leadership roles. To reduce barriers to entry and ensure the networking series is free to attend, The Water Tower works with sponsors to host the events.

SUPPORTING WOMEN DURING ALL PHASES OF THEIR CAREERS

In addition to events such as Women, Water, and Wine, which provide a forum for participants of all ages and career stages, from students to retirees, The Water Tower offers programs specifically designed to support women throughout every phase of their professional journey. By creating opportunities for connection, mentorship, and visibility, these programs encourage a stronger sense of community while encouraging women to pursue advancement in water industry roles.

Workforce

Recognition & Visibility

National Engagement

Leadership Development

Role Models

Intentionally highlighting women in water is an important step towards increasing visibility, celebrating accomplishments, and demonstrating diverse career pathways. “Women Leading Water: A Women’s History Month Celebration” was launched in March 2026 to recognize and amplify the contributions of women across the water sector while providing an opportunity for attendees to network with their peers. The month-long program offered participants multiple opportunities to hear from prominent industry leaders, engage with peers, and participate in conversations centered around leadership, innovation, and career growth.

Women Leading Water featured several interconnected efforts throughout the month of March, including a hybrid kickoff event, an expert panel and networking session, and a social media interview series spotlighting women working across different areas of the water industry. Designed to maximize accessibility and participation, the program extended beyond Buford, Georgia, home of The Water Tower’s campus, by offering engagement opportunities in West Palm Beach, Florida, Chino, California, Washington D.C., St. Cloud, Minnesota, and virtually. This multi-location, coordinated approach allowed participants from across the country to connect, share experiences, and learn from one another.

The events highlighted locally and nationally recognized leaders making significant contributions to the water sector. The March 2, 2026, kickoff event featured presentations by women representing organizations including the United States Environmental Protection Agency, the Metropolitan North Georgia Water Planning District, and the South Florida Water Management District. The March 16 Evening Networking Event featured a panel of women water experts who are driving innovation at the F. Wayne Hill Water Resources Center, a world-renowned water reclamation facility in Gwinnett County, Georgia, and their male manager to discuss leadership dynamics and challenges. The event concluded with a fireside chat featuring women water leaders who shared reflections on their career journeys, leadership experiences, and lessons learned. Discussions on topics such as balancing career growth and motherhood, overcoming barriers to career advancement, building confidence in leadership roles, and defining what success means to them provided attendees with related, real-world perspectives that resonated across generations and career stages.

INTENTIONAL PROGRAMMING DESIGNED BY WOMEN, FOR WOMEN

The Responsible Succession Leadership (RESOLVE) program was developed for experienced women leaders in the water sector who are committed to creating a stronger working environment to support the next generation of women leaders in water, their peers, and themselves. Focusing on leadership development, mentorship, and long-term workforce sustainability, the program encourages participants to reflect on how they can help shape a more inclusive and resilient industry culture.

Hosted annually at The Water Tower, RESOLVE brings approximately 30 leaders together to focus on important topics such as work-life integration, allyship, well-being, leadership transitions, and strategies for retaining emerging talent. The format of the program allows participants to engage in candid conversations, share personal experiences, and build lasting professional relationships.

To extend the impact of the in-person workshop, RESOLVE is supplemented throughout the year with webinars, networking, and other events that provide continued learning, connection, and support. These ongoing touchpoints help participants to maintain momentum and continue important conversations around leadership, workplace culture, and advancement for women in water.

Programs such as Women Leading Water and RESOLVE not only celebrate the accomplishments of women currently shaping the industry but also help inspire the next generation of water professionals by demonstrating that leadership in water can take many forms. By creating spaces where participants can hear authentic stories, build relationships, and see themselves reflected in successful industry leaders, these initiatives contribute to a more inclusive, connected, and resilient water workforce.

Opening Doors to Water Careers through Early Engagement

Early exposure to potential career pathways plays a critical role in shaping how students and young professionals perceive future opportunities. By introducing water careers early and in engaging, accessible ways, The Water Tower helps demystify the industry and highlights the wide range of roles available within the sector. These early touchpoints are especially important in an industry where career pathways are often not widely known or actively promoted in traditional education settings.

One effective strategy for engagement that is employed by The Water Tower is wastewater facility tours led by women working in the water industry. These monthly tours not only provide an inside look at the operations of water and wastewater facilities, but they also intentionally elevate visible role models in technical and leadership positions. Seeing women leading tours and explaining complex systems in real time helps participants connect expertise with representation.

Workforce

Creative and community-centered entry points are used to spark curiosity and broaden awareness of water careers. Events such as The Water Tower's annual "H2GO Run Like Water 5K" provide informal, high-energy environments where water career education can be woven into activities people already enjoy. These experiences help introduce the importance of water systems in everyday life while creating positive, memorable associations with the industry. By meeting people where they are and connecting learning to real-world experiences, these creative engagement strategies will help inspire the next generation to explore more deeply the possibility of pursuing careers in water.

INSPIRING FUTURE WATER LEADERS THROUGH THE SUMMIT

According to the Department of Education, early exposure to science, technology, engineering, and math (STEM) positively influences learning across all areas of education. Although the connection is not always considered, STEM skills apply directly to water careers, from operators to management and everything in between. In a world where student awareness of water career opportunities is lacking, early exposure to STEM and water-related jobs can inspire future water leaders.

High School Summit

Each year, approximately 150 Georgia high school students from local public schools, private schools, and home school programs attend the Student Water Innovation and Leadership Summit (Summit) on The Water Tower campus to learn how they can "make a splash" with a career in the water industry. The Summit is designed to raise awareness of the wide array of career opportunities the water industry has to offer and help students envision themselves in future roles.

During the event, students in grades 9 to 12 engage with water-related businesses, utilities, and other organizations through keynote speakers, a panel of water professionals, and a career expo that highlights career journeys. Students experience interactive learning stations that introduce real-world applications, such as treatment plant operations, water sampling and lab analysis, pipe system design and engineering, stream restoration, wildlife assessment, robotics in water.

Developing Skills

In addition, the Summit emphasizes the development of essential professional and life skills including leadership, communication, strategic thinking, teamwork, and networking. The overarching goal of the Summit is to generate excitement for the water industry, foster environmental stewardship, and connect students with career opportunities they may not have otherwise realized were accessible to them. Now in its fifth year, the Student Water Innovation and Leadership Summit has hosted over 600 students in the North Georgia region, continuing to expand awareness of water careers and strengthen the future talent pipeline.



Figure 1. Student Water Innovation and Leadership Summit.

Workforce
WTR Hub Model
Train-the-Trainer
Whitepapers
Representation

Expanding Access and Strengthening Communities

The Water Tower is expanding traditional water workforce development approaches to help water utilities address critical staffing shortages while strengthening the communities they serve. Through funding by the US Environmental Protection Agency, The Water Tower launched the Water Workforce Training and Recruitment Hub (WTR Hub), which expands access to water careers through trusted community partnerships and audience-specific messaging. Complementing this work, a non-traditional training model provides an engaging curriculum with authentic learning experiences for trainees, providing the instructional support they need to succeed. Additionally, a Train-the-Trainer certificate program equips experienced utility staff with the pedagogical tools needed to deliver high-quality instruction. Together, these efforts demonstrate how utilities can build a resilient and sustainable talent pipeline through innovative training and recruitment strategies.

A key feature of the WTR Hub is a recruitment model for reaching populations that are not traditionally aware of water careers. The Water Tower has partnered with local and national social-service nonprofits to develop whitepapers on target audiences, specifically looking at best practices for recruitment, training, and retention. Key community groups include Latin communities, justice-impacted individuals, unaccompanied youth, youth in Career and Technical Education programs and home school programs, and women entering or re-entering the workforce. The whitepapers highlight the unique value each group brings to utilities and the broader workforce. They also identify cultural sensitivities, interests, and values that should inform recruitment and retention efforts. The whitepapers are meant to support utilities as they define their workforce strategies; by understanding the dynamics of social groups, the utilities can design campaigns that accommodate community needs without reinforcing stereotypes.

A whitepaper developed by WaterRising Institute, titled “*A Guide to Recruiting and Retaining Talent in the Water Sector*,” examined how workforce practices from other industries could inform the water sector, common barriers women face when entering the workforce, and specific recommendations for engaging sub-target groups. As noted in the whitepaper, “a resilient water workforce is essential for public health, environmental protection, and community sustainability. By adopting strategic approaches to recruitment, professional development, and workplace culture, the water sector can better address workforce challenges and ensure long term success. Leveraging the full spectrum of talent—including women and other underrepresented groups—will drive innovation, improve operational efficiency, and build a more adaptive and dynamic workforce.”

To translate the whitepaper research into a comprehensive outreach strategy, The Water Tower partnered with Bā Agency, a water industry–focused marketing firm. The research was translated into culturally responsive recruitment materials tailored to each audience while supporting the unified national message of “Water Needs You.” The messaging was designed to meet people in real-world decision environments, such as workforce centers, community organizations, transit corridors, and support programs, and it consistently directed them to a single action: visit WaterNeedsYou.org. In addition to the website, the messaging was used to develop flyers, outreach materials, and digital assets such as social media campaigns, and each of these was tailored to a priority audience. Overall, the Water Needs You initiative relays the concept that there is a place in water for everyone in the community. The accompanying messaging for women highlights flexibility, balance, and advancement, presenting water careers as accessible, family-supporting, and future-focused.

Positive Impact, wrote a whitepaper, titled “*A Guide for Employing Homeless Youth and Youth Transitioning from Foster Care as Certified Water Operators*.” It accurately captured the WTR Hub recruitment goals when stating: “Thinking about recruitment differently means investing in your future operational success, while also investing in the broader societal good, exemplifying leadership in creating meaningful change and resilient communities.”

Women-led Training for Water Careers

Women-led training programs play an important role in creating a more inclusive and supportive pathway into the water sector. Representation among instructors and trainees increases comfort, visibility, and confidence for women entering the industry, helping participants envision long-term career success. At The Water Tower, women leaders are involved with all skilled-trade training classes, as well as hosted industry events such as Water 101, “lunch-and-learns,” and conferences such as Demo Day and National Backflow Prevention Day Celebration.

For the skilled-trades courses, both women and underrepresented community groups were considered when developing the unique training approach. A key component of this program is that training is provided to the community at no cost to the individual. The WTR Hub project covers the costs associated

Workforce**Flexibility****Testimonial**

with personal protective equipment, textbooks, classroom materials, state exam fees, and wraparound services such as transportation and childcare. Classes are also formatted with a mix of synchronous and asynchronous assignments, with in-person and online components, providing flexibility for individuals seeking a career change but who are still working during the transition, thus increasing accessibility into the industry. The flexible training model adheres to state training guidelines while also embracing a broad range of instructional strategies for effective teaching and learning, supporting family life, and providing hybrid courses to support existing work schedules. Furthermore, The Water Tower team works closely with trainees to arrange job-shadowing opportunities near their homes, allowing them to fulfill licensure requirements, while strengthening connections to local utilities and career opportunities and reducing transportation burdens. By designing a course structure that is inclusive of the community, the water industry becomes more accessible, with feasible entry points.

The impact of this project can be seen on the individual level. Zeta enrolled in the Wastewater Operator course during the Fall 2025 cohort because she was searching for a stable and meaningful career pathway. She was hired by Augusta Utilities Department during her training. She states: “This program has truly been a blessing. It has opened the door for me to start working in an industry that I genuinely do care about by giving me both the information I need to pass the exam and the real-world experience and connections needed to really break into the water industry.... I feel very prepared to start in this industry, and I even have some pending job offers as a result! I’m excited for what my future holds in this field, and I’m extremely grateful for this opportunity.”



Figure 2. Zeta in the Women Led Training for Water Careers section.

Workforce**Targeted Strategies****Building the Future of Water Together**

The water workforce challenge will not be solved by a single program, platform, or organization. Moving the needle requires an integrated ecosystem of awareness, accessibility, inclusion, and innovation. The future of the water industry will depend on its ability to attract new talent, expand access to opportunity, and inspire the next generation of leaders. Without targeted strategies, the water sector risks missing critical opportunities to build a resilient, representative workforce. Through initiatives focused on early exposure to water jobs, tailored recruitment campaigns, inclusive training programs, and forward-thinking partnerships, The Water Tower is helping redefine how the industry works. These efforts emphasize the importance of focusing not solely on filling vacancies but also on building a stronger, innovative workforce. By connecting people with purpose-driven careers and creating pathways that did not previously exist, The Water Tower is helping to ensure that the future of water will be both resilient and representative of the communities it serves.

For Additional Information:

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Kristan VandenHeuvel has over 14 years of experience in the water industry and nonprofit sector, specializing in program development, stakeholder engagement, project management, and strategic collaboration. In her current role at The Water Tower, Kristan leads marketing and communication strategies to elevate visibility and impact, develops meaningful partnerships to foster collaboration, drives fundraising efforts to support our mission to provide innovative solutions for utilities, and directs programming to engage stakeholders, students, and industry professionals.

Courtney Lee has over 10 years of experience working in curriculum design, science instruction, and community engagement in public school settings. At The Water Tower, she directs Continuing Education courses and coordinates training events with key partners, collaborators, and members of the community. Courtney's expertise also involves developing and executing outreach programming to connect new talent to skilled trades, support utilities with workforce transitions, and guide the next generation of water professionals.

Insurance

~~~~~ POLICY OPTIONS FOR A NATURAL CATASTROPHE INSURANCE PROGRAM ~~~~~

by Peter Waggoner, Public Policy Director (Greater New Orleans, Inc.)

Introduction

In early 2026, urged by empirical evidence and external research that demonstrates a disaster-driven strain on homeowners insurance affordability and availability, the Coalition for Sustainable Flood Insurance (CSFI) authored a whitepaper on *"Policy Options for a Natural Catastrophe Insurance Program."* This article consolidates this whitepaper in a format suited for The Water Report.

The whitepaper considered potential programs that could cover flood, windstorms, wildfires, severe convective storms, and earthquakes concurrently. While developing the whitepaper, CSFI convened a "NatCat Working Group" of experts and interested parties. Partners that participated in the Working Group included Insurance for Good, InnSure, United Policyholders, Greater New Orleans Housing Alliance, BuildSOS, Gulf Coast Bank & Trust, Standard Mortgage Corporation, and PETERMAYER. Stakeholders ranged from academics, consultants, economists, economic developers, elected officials, engineers, floodplain managers, home builders, insurance agents, lobbyists, mortgage brokers, scientists, and small business owners. The pros and cons of specific federal policy options were considered, and policymakers were encouraged to study these options and their projected impacts. See the full whitepaper for additional policy analysis details and appendices: <https://csfi.info/wp-content/uploads/2026/01/CSFI-Policy-Options-for-a-Natural-Catastrophe-Insurance-Program-FINAL.pdf>.

Natural Catastrophe Insurance Program

Private insurers are facing multiple challenges contributing to unaffordable premiums, more restrictive coverage, and declining availability for policyholders. Issues affecting the insurance market include rising construction costs, rising labor costs, risk concentration, reinsurance shocks, legal abuse,

Stakeholder Engagement

Insurance Insurance Gap Role of Government Risk Mitigation Implications	inconsistent regulation, and natural catastrophes that are more frequent, severe, and widespread. In 2025, the United States experienced a billion-dollar disaster every 10 days, totaling \$115 billion in damages. Simultaneously, the insurance gap for American policyholders is growing, as 1 in 8 American homeowners have forgone homeowners insurance entirely. In 2026, the Trump Administration has acknowledged a priority of “pricing” and bringing down costs for Americans, including the pursuit of the “most aggressive housing reform plans” in US history. Currently, the only federal program that supports natural catastrophe coverage is the National Flood Insurance Program (NFIP). NFIP itself is troubled and requires a long-term reauthorization for its own stability. During the 2025 Hurricane Season, NFIP lapsed for 43 days, preventing the program from writing policies. From 2009-2025, NFIP enrollment has dropped by over one million policies. With more uninsured or underinsured Americans, the federal government will be expected to pay more in post-disaster relief through the Fixing Emergency Management for Americans (FEMA) Act, the US Housing and Urban Development (HUD), and Small Business Association (SBA) Programs. These programs can be expensive to administer and slow to distribute assistance. Alternatively, governments at all levels could make coordinated, cost-effective pre-disaster mitigation investments that reliably lower insurance premiums and promote insurance uptake for all Americans. This paper explores public policy options for national programs intending to: (1) mitigate risk exposure; (2) improve risk distribution; and (3) reduce reinsurance costs. Specifically, we outline multi-peril program models that would maximize nationwide participation, hypothesizing that mitigation measures are scalable across correlated perils and that market failure is best avoided by addressing uncorrelated perils together. Moreover, expanding the pool of policyholders across the country and across perils could counter adverse selection and allow for smoothing of premium increases. Although policy reform may stabilize the insurance market, the true solution to the nation’s natural catastrophe risk is risk mitigation. In order to be successful, any insurance program must be tied to significant and consistent investments in resilience, limiting losses to individual property owners and taxpayers at large, while preventing loss of life for all. These investments should include both individual property-level adaptations (such as FORTIFIED roofs, dry floodproofing, and fire-resistant building materials) and community-level projects (such as armored levees, marsh restoration, and combustible materials clearing). Today, every state is subject to natural catastrophe risk, whether from floods, hurricanes, wildfires, severe convective storms, earthquakes, or other perils. While California, Louisiana, and Florida have received attention from high-profile insurer withdrawals, natural catastrophe risk and insurance availability are significant issues across the country, as evidenced by flooding in Kentucky; hurricanes and wildfires in North Carolina; and wildfires, hurricanes, and winter storms in Texas. The states with the greatest increases in homeowners premiums from 2021-2024 were Utah (59%), Illinois (50%), Arizona (48%), and Pennsylvania (44%). Certain counties in Colorado, Florida, Louisiana, North Carolina, New York, and Wyoming now have average premiums above \$5,000. Rising insurance premiums have major implications for the stability of the mortgage market, real estate transactions, state and local tax collections, and the broader economy. When insurance becomes unaffordable or unavailable, homeowners and renters alike may be priced out of their neighborhoods, pushed farther from their employers, and forced to sell their homes at steep discounts. Over the last three months of 2025, home values fell by 1.3%, and by 4% in major markets like Houston and Tampa. Already, home values are suppressed by \$43,900 in the top 10% of risk-exposed ZIP Codes. Growing risk and associated costs could result in a \$1.47 trillion reduction in unadjusted real estate value over the next 30 years. Bankers, agents, elected officials, and employers across all industries will be disadvantaged. Natural catastrophe risk creates enormous liability for the federal government, which has historically provided emergency assistance and taxpayer dollars when disasters occur. Rising mortgage delinquency rates, corresponding with increasing insurance premiums, would also have fiscal implications for the federal government, which backs a large portion of the mortgage market. State and local governments will become more dependent on federal support, as their tax bases erode and property values decline. Industrial facilities, manufacturing hubs, and port complexes will struggle to find employees and may consider offshoring. These exposures will only continue to grow as more working communities and their working-class families are affected. Homeowners insurance market volatility raises questions about the greater role of government in ensuring the availability and affordability of coverage for a wider range of natural catastrophes. Other countries, from Spain to New Zealand, have taken control by creating multi-peril programs that may serve as models for a US program. To recover from 2025’s Hurricane Melissa, Jamaica received two payouts—one for wind and one for flood—totaling nearly \$100 million from a multi-country, multi-peril risk pool in place since 2007.
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Insurance	Recommendations	To prevent an insurance market failure and systemic consequences as seen in the 2008 Great Financial Crisis, we urge policymakers to take immediate action in studying potential solutions. We encourage consideration of new policy options for providing multi-peril coverage, including: 1. A new federal reinsurance program for natural catastrophes, structured as a private-public pool or a large-loss backstop, like the Terrorism Risk Insurance Program. 2. A new government-sponsored enterprise offering natural hazard insurance policies based on a property’s exposure to the specific hazards and creating a secondary market for private investment in natural hazard risk transfer securities. 3. A cabinet-level FEMA administering a substantially reformed and modernized NFIP with expanded mandatory purchase requirements and expanded coverage for additional perils.
		At minimum, a study commission involving experts across sectors should be authorized by Congress to evaluate all options and formally recommend an appropriate intervention. The Government Accountability Office (GAO) can also analyze options by updating their 2007 report on “Natural Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance.” Any formal evaluation of multi-peril solutions should build upon a multi-year NFIP reauthorization, providing reliability for existing policyholders and all program stakeholders.
	Multi-Peril Program	Any multi-peril program should aspire to provide more than an insurance product and preserve the dual purpose of NFIP, established by Congress in 1968. Building upon NFIP’s proven floodplain management foundation, a multi-peril insurance program could provide the national risk-reduction infrastructure needed to connect mapping, mitigation, and management through consistent standards, community accountability, and sustainable financing. Ultimately, a natural catastrophe insurance program could be the backbone of a market-driven, risk-resistant nation, supporting the financial security of the federal government, private insurers, and the American people. For now, CSFI will describe a framework for the aforementioned policy options, while acknowledging their foreseen advantages and disadvantages. CSFI appreciates all subsequent efforts of academic institutions, research organizations, think tanks, and individuals to assess these options through proposals, projects, or pilots and to answer our enumerated “questions for further exploration” (<i>see full whitepaper</i>).
Australian Model	Program Options OPTION 1: A NEW FEDERAL REINSURANCE PROGRAM 1A. Federal Reinsurance Pool A federal reinsurance pool, structured as a private-public partnership, could provide the primary layer of reinsurance for natural catastrophe risk. All insurers offering homeowners coverage would contribute to a “National Catastrophic Reinsurance Pool,” funded through risk-based assessments on each policy written. In exchange for federal reinsurance, insurers would be required to provide all-perils coverage as part of standard homeowners policies, and all homeowners with a federally backed mortgage would be required to purchase natural catastrophe insurance. Those who do not satisfy purchase requirements could be barred from receiving any other federal disaster relief. The federal pool would only provide reinsurance coverage up to a certain level, based on the size and risk profile of individual participating insurers. Individual insurers would have the option to purchase private reinsurance for any losses above that level. The federal pool may invest balances not required for immediate distribution or expenditure in interest-bearing obligations, with earned interest being redistributed to policyholders to undertake mitigation measures. The Australian Reinsurance Pool Corporation (ARPC) Cyclone Reinsurance Pool, launched in 2022 by the Australian Government, shows early signs of stabilizing insurers’ reinsurance costs and policyholders’ premiums. Without seeking to make a profit, the cyclone pool is funded by reinsurance premiums charged to insurers, while offering discounts to properties that mitigate cyclone and related flood risks. Shortfalls in the pool’s reserves would be paid for through a government guarantee of \$10 billion AUD, which is reinstated automatically each year. 1B. Federal Reinsurance Backstop The Terrorism Risk Insurance Act (TRIA), enacted in 2002, created the Terrorism Risk Insurance Program (TRIP) to stabilize the terrorism insurance market and counter a retraction in availability. Overseen by the US Department of the Treasury, TRIP acts as a public-private risk-sharing program that provides a federal backstop for large insured losses resulting from certified acts of terrorism. Although there is no upfront cost for insurers, they are required to offer terrorism coverage to commercial clients.	

Insurance
TRIP Model
Natural Hazard Insurance Corporation
Special Hazard Areas
Credit Risk Transfer Model

The federal government could apply the TRIP model to natural catastrophes, thereby providing a backstop only for the most extreme losses. Private insurers, required to offer natural catastrophe coverage as part of standard homeowners insurance, would continue to buy private reinsurance but have assurance of a federal backstop for exceptional events or years with exceptionally high aggregate losses.

Private insurers would be fully responsible for claim payments up to a clearly defined trigger. Thereafter, private insurers would continue to pay claims under whatever terms are in place under existing policies, but the federal government would share 80% of the balance of claims, up to an aggregate cap, via reimbursements. As such, triggers could be set based on the largest individual event or annual aggregates for covered losses (adjusted for inflation). For illustration, the costliest natural catastrophe event in US history was Hurricane Katrina, resulting in \$65 billion in insured losses in 2005, which would be approximately \$106 billion when adjusted for inflation. The “peak year” for insured losses was 2017, which included losses from Hurricanes Harvey, Irma, and Maria totaling \$131 billion, or approximately \$171 billion when adjusted for inflation.

Like TRIP, the federal government would cover 80% of losses once the trigger is reached. Insurers would continue to pay claims to policyholders and then submit these claims to the federal government for partial reimbursement. To limit exposure to taxpayers, the federal government could be required to recoup some or all of the reimbursements to specific insurers by placing a premium surcharge on all the insurers offering covered insurance.

OPTION 2: A NEW GOVERNMENT-SPONSORED ENTERPRISE

Dr. Clifford Rossi, Professor at the University of Maryland’s Robert H. Smith School of Business, has proposed the creation of a new government-sponsored enterprise (GSE), the “Natural Hazard Insurance Corporation (NHIC).” The NHIC would carve out natural hazards from other aspects of homeowners policies, offering a separate policy based on a property’s exposure to the specific natural hazards in that location. Homeowners would purchase two policies: a standard homeowners policy through the private market and a natural hazard policy through the NHIC. The standard homeowners policy would continue to be underwritten and sold by insurers, and there would be no role for the NHIC in that market.

The NFIP would be transferred from FEMA to the NHIC, which would operate as a public-private partnership, with private insurers distributing and underwriting the natural hazard policies, like current Write-Your-Own (WYO) participating private insurers. Similar to NFIP’s mandatory purchase requirements applying to federally backed mortgages in Special Flood Hazard Areas (SFHAs), homeowners would face mandatory purchase requirements based on their exposure to the NHIC’s covered perils. Developing maps to determine Special Hazard Areas (SHAs) and models to assess and price risk would require a significant investment in technology and staff expertise at the NHIC, including actuaries and scientists beyond those who are currently in-house at the NFIP. These resources could also be applied to guide mitigation investment and future development, stemming from NFIP’s role in flood risk management.

In addition to the creation of the NHIC, a primary feature of the proposal is the development of a secondary market for natural hazard risk transfer securities (NHRTs) that would allow insurers, reinsurers, and other private investors to purchase tranches of natural disaster risk consistent with their risk appetite. NHRTs are modeled after Fannie Mae and Freddie Mac’s credit risk transfers (CRTs). Similar to CRTs, NHRTs would feature a sequential loss payout structure with multiple tranches, with the NHIC providing a catastrophic backstop. Monthly policy cash flows would provide ample liquidity given the NHIC’s scale, making NHRTs attractive to investors. Such structures would also provide insurance and reinsurance companies with greater cash flow stability. The loss of market share to the NHIC would be ameliorated by allowing companies to participate in the backside of the market.

Policymakers would need to wrestle with the question of whether the NHIC’s debt would receive explicit or implicit backing from the federal government (i.e., taxpayers). Alternatively, policymakers could consider establishing a cooperative-style, private model inspired by Federal Home Loan Banks (FHLBs). That model, where insurers and reinsurers capitalize the NHIC, would require significant industry buy-in to provide adequate coverage at the scale needed.

OPTION 3: A CABINET-LEVEL FEMA

Another option to address natural catastrophe insurance would be to revamp the NFIP and expand it into a broader “National Catastrophe Insurance Program (NCIP).” The NFIP could be transferred from FEMA to a different federal agency with more capacity, or the NCIP could exist within a reorganized FEMA that is properly elevated and empowered to meet its mission of “helping people before, during and after disasters.” Congress could enact the model offered in the Fixing Emergency Management for

Insurance

The commission would be created legislatively, setting a clear deadline for delivery of its report to Congress. In the interim, the GAO could also be tasked with studying these options through an update to their 2008 precedent, entitled “Natural Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance.”

In this report, GAO examined: “(1) the rationale for and resources of federal and state programs that provide natural catastrophe insurance; (2) the extent to which Americans living in catastrophe-prone areas of the United States are uninsured and underinsured, and the types and amounts of federal payments to such individuals since the 2005 hurricanes; and (3) public policy options for revising the federal role in natural catastrophe insurance markets.”

Proposed Bill

Editor’s note: Since the publication of the whitepaper, the “Commission on Natural Disaster Risk Management and Insurance Act” (Commission) has been introduced as H.R.8439. The bill was sponsored by Rep. Salud Carbajal (D-CA) and a bipartisan, bicoastal group of original cosponsors in Rep. Troy Carter (D-LA), Rep. Gabe Evans (R-CO), and Rep. Mike Ezell (R-MS). The proposed nonpartisan Commission would “examine the risks posed to the United States (both nationally and to individual States, localities, tribes and other geographic areas) by natural disasters and means for mitigating the risks and financial costs associated with losses caused by natural disasters.” Specific to the National Flood Insurance Program (NFIP), the Commission would assess “methods to promote the take-up of flood insurance policies through the National Flood Insurance Program to reduce financial losses caused by natural disasters in the uninsured sectors of the population of the United States.” Within two years of enactment, the Commission would produce a report containing “any recommendations for legislative, regulatory, administrative, or other actions at the Federal, State, or local levels.”

ADDITIONAL POLICY OPTIONS

- Federally authorized industry natural catastrophe insurance pools, like the pool authorized through the National Flood Insurance Act of 1968
- Federal lending to private insurers for the purpose of claims payment
- Federal reinsurance for state catastrophe funds
- Federal lending to state catastrophe funds
- Insurance company catastrophe reserving
- Homeowner catastrophe savings accounts
- Favorable tax treatment for catastrophe bonds
- Favorable tax treatment of, or otherwise incentivizing, private investment in risk mitigation
- Other options as determined appropriate by the commission

Conclusion

CSFI continues to prioritize the long-term reauthorization of the NFIP and commends all efforts of Congress, including the Senate Banking Committee Working Group, to advance this priority with urgency. As a part of a multi-year NFIP extension, CSFI believes that multi-peril insurance program models – inspired by legislative precedents, leading academics, and active international models – should be formally evaluated. A natural catastrophe program should strive to ameliorate private insurers’ and policyholders’ cost burdens simultaneously.

The options articulated above may serve to: (1) mitigate risk exposure; (2) improve risk distribution; and (3) reduce reinsurance costs. Importantly, we foresee that multi-peril approaches would maximize participation and reduce the insurance gap. These hypotheses should be verified by actuarial, economic, and predictive modeling, and benefit-cost analyses should be conducted on all options. For any option to be successful, input and expertise from a variety of stakeholders (insurers, reinsurers, regulators, floodplain managers, insurance agents, real estate agents, lenders, bankers, and more) would be required in assessing program feasibility, determining program design, and delivering program implementation.

A natural catastrophe insurance program should clearly incentivize risk mitigation through premium reduction. Moreover, NFIP’s precedent of comprehensive risk management could be preserved or even expanded. For example, the CRS program for communities could be elevated to cover multiple perils, and the proposed Disaster Resiliency and Coverage Act could enact tax credits and award multi-peril mitigation grants for households. If connected with complementary management and mitigation programs, a natural catastrophe insurance program could catalyze unprecedented, concerted investments that make our nation resistant to risk and affordably insurable for generations ahead.

Reducing Insurance Burdens

Incentivize Risk Mitigation

Insurance

Acknowledgement

The Coalition for Sustainable Flood Insurance (CSFI) was founded in 2013 by Greater New Orleans, Inc. (GNO, Inc.) to support the reauthorization and reform of the National Flood Insurance Program (NFIP). CSFI has grown to reach over 900 contacts across over 35 states, from Florida to Alaska. CSFI originally served as a unified voice in response to the Biggert-Waters Act and is credited as driving force behind the passage of the Homeowner Flood Insurance Affordability Act (HFIAA) compromise legislation in 2014. Since Risk Rating 2.0's implementation in 2021, CSFI has educated NFIP policyholders about the new pricing methodology, while working with congressional offices towards a program that offers affordable coverage, minimizes the insurance gap, and incentivizes risk mitigation.

For Additional Information:

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WATER BRIEFS

CO RIVER FUNDING WEST \$2 BILLION REQUEST

A broad group of organizations from throughout the Colorado River Basin (Basin) is urging Congress to provide at least \$2 billion in new federal funding to begin to address the region's escalating water supply crisis. The group includes more than 70 signers from Arizona, California, Colorado, New Mexico, Utah, Wyoming, and Tribal Nations.

The request reflects growing consensus among traditionally diverse interests that immediate federal investment is needed to reduce drought risks, protect critical infrastructure and preserve the long-term reliability, value and stability of Colorado River water for all Basin communities and Tribes. The requested funding would support near-term drought mitigation programming that builds on the Bureau of Reclamation's existing investments to address urgent water supply risks and position the Basin for longer-term resilience.

This year, the Upper Colorado River Basin experienced the lowest snowpack totals in recorded history. The call for action comes as the Colorado River system faces acute stress from the poor snowpack, along with exceptionally low runoff and depleted reservoir storage. Lake Powell is now approaching a critical threshold that puts hydropower at risk—prompting immediate drought response measures involving Flaming Gorge Reservoir and reduced releases from Glen Canyon Dam. Together, these conditions threaten drinking water supplies, agricultural production, reliable hydropower generation, fish and wildlife habitat, outdoor recreation economies, and critical water delivery infrastructure for more than 35 million Americans.

The breadth of organizations demonstrates that securing the Colorado River is not a narrow sector issue—it is a shared regional and national priority tied to food security, water reliability, trust responsibility, affordable energy, economic stability, and ecosystem health.

The group emphasized that this near-term bridge funding should be paired with a durable, long-term federal funding mechanism to support voluntary conservation efforts across sectors. Long-term federal investment is essential to help address impacts to Tribal and other affected

water users and secure the engineered and natural infrastructure necessary to stabilize the Colorado River system, advance innovative water savings solutions and evaluate opportunities to augment supplies.

Click below to see the request and full list of signing parties.

FOR INFO: https://www.nature.org/content/dam/tnc/nature/en/documents/f/i/FINAL-CO-River-funding-letter_May-13-1.pdf

PFAS RESTRICTIONS US PROPOSED RULE CHANGES

On May 18, the US Environmental Protection Agency (EPA) announced two proposed rules for public comment that uphold the National Primary Drinking Water Standards for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) while enhancing practical implementation and proposing to correct potential failures of the Biden-Harris Administration to follow the clear requirements of the Safe Drinking Water Act (SDWA).

A drinking water standard only protects Americans if it can actually be implemented by the nation's water systems and survive legal challenge. When a Maximum Contaminant Level (MCL) is rushed, it minimizes the opportunity for meaningful public comment, or fails to follow the statutory process Congress laid out in the SDWA, utilities face years of uncertainty, ratepayers face avoidable costs, and public health protections can be delayed or undone in court. The Trump EPA's approach is straightforward: follow the law, follow the science, and give water systems standards they can build their compliance programs around with confidence. The first proposed rule, if finalized, would continue supporting the health-protective federal drinking water standards for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) while strengthening practical implementation by establishing an opt-in process through which eligible drinking water systems may apply for up to two additional years—until 2031—to come into compliance with enforceable limits.

Under the agency's proposal, the extension would not be automatic. Drinking water systems that wish to receive additional time would need to affirmatively seek the extension and meet specific criteria EPA will set out in the final rule. Systems that do not

opt in would remain subject to the original 2029 compliance deadline. This design ensures that systems prepared to meet 2029 are not slowed down, while systems facing legitimate implementation hurdles have a transparent, accountable path to additional time.

Allowing drinking water systems to seek additional time for this work could also allow the cost of PFAS removal technologies to come down through technological advancements and production efficiencies. Continued federal investment, paired with a growing market for treatment technologies, is already driving costs down, better informing water utilities about what works, and expanding the toolkit available to remove PFAS in its various forms. That means lower water bills for Americans and more durable public health protections.

The second proposed rule, if finalized, would address some stakeholders' legal concerns related to the Biden Administration's failure to follow statutory requirements articulated in the SDWA when establishing regulations for perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly referred to as GenX chemicals), and the hazard index of these three plus perfluorobutane sulfonic acid (PFBS).

The SDWA requires a sequential approach to regulation, where the EPA must first propose to regulate a particular drinking water contaminant and seek public comment on whether a regulation would be appropriate. Only after the public has had the opportunity to comment on that proposal and when the EPA has finalized a determination to regulate may the EPA publish a proposed regulation of that contaminant. Instead of abiding by that process set out in the SDWA, the Biden EPA combined steps simultaneously, which is not permitted, denying the public a chance to weigh in on the threshold question for PFHxS, PFNA, HFPO-DA and the Index PFAS, prior to locking in the new standard.

The proposed rule takes comment on whether the previous regulation did not adhere to the procedural and substantive requirements the statute imposes, leaving it legally vulnerable and creating implementation uncertainty for water systems.

Following the second proposal, if finalized, the Trump EPA would deliver on its commitment to evaluate these PFAS for regulation under the SDWA and do it correctly by supporting transparency and following gold-standard science. While EPA cannot pre-determine the outcome of the rulemaking, it is possible that the result could be more stringent requirements addressing these PFAS in drinking water.

The two proposed rules will be published in the Federal Register with a 60-day public comment period, and EPA will hold a public hearing on July 7, 2026. EPA encourages robust participation in this process as we work together to protect Americans from PFAS exposure in the most effective way possible.

FOR INFO: <https://www.epa.gov/sdwa/proposed-pfas-rescission-rule>

GRANT FUNDING US SALMON RESTORATION

NOAA Fisheries announced up to \$99 million in funding through the Pacific Coastal Salmon Recovery Fund for conservation and recovery projects that support Pacific salmon.

The funding supports Administration priorities by improving habitat and other actions to increase the production of salmon and steelhead that contribute to US fisheries. Stronger fisheries make the US seafood sector more competitive, as described in the Executive Order on Restoring American Seafood Competitiveness. Competitive fisheries create jobs and put more domestic seafood on American dinner plates.

The application process will prioritize projects that meet the mandates of the Executive Order on Gold Standard Science. Applicants are encouraged to submit interdisciplinary budgets and adopt open-data protocols that facilitate independent replication and improve public trust, as required by the Executive Order.

The funding will go to projects that provide demonstrable benefits for West Coast salmon and steelhead. The projects provide jobs while underway, often in rural areas where the projects also provide business for local contractors. Funding from base appropriations and the Infrastructure Investment and Jobs Act are included within this funding opportunity announcement.

Research has found that most protected salmon and steelhead that have been the focus of habitat improvements have

increased in number, reflecting the benefits of habitat restoration. For example, improvements in river habitat for Oregon Coast coho salmon have helped strengthen the coho population enough to support a popular recreational fishery. This has increased economic activity in coastal communities.

These projects and activities are necessary for:

- Conserving salmon and steelhead populations listed as threatened or endangered, or identified by a state as at-risk to be listed
- Maintaining salmon and steelhead populations necessary for exercise of tribal treaty fishing rights or native subsistence fishing
- Conserving Pacific coastal salmon and steelhead habitat

NOAA will accept proposals for funding of up to \$25 million from eligible applicants from Alaska, California, Idaho, Nevada, Oregon and Washington, and federally recognized tribes of the Columbia River Basin and Pacific coast (including Alaska).

The application deadline is June 29, 2026. Recommended proposal selections are expected to be announced in September 2026.

FOR INFO: <https://www.fisheries.noaa.gov/grant/>

<https://www.fisheries.noaa.gov/grant/apply-pacific-coastal-salmon-recovery-fund>

SALTON SEA CA CONSERVANCY MEETING

May 14, 2026, marked the first board meeting of the new Salton Sea Conservancy, the first conservancy established in California in over fifteen years and a recognition of the importance of the state's largest lake. Convened by Joe Shea, Assistant Secretary for Salton Sea Policy at the California Natural Resources Agency (CNRA), the session introduced board members to the public, outlined its budget and structure, and highlighted the importance of community engagement.

The Salton Sea Partnership, a coalition of leading conservation and community groups, including Audubon, that has worked for more than a decade to protect public and ecological health in the region, expressed support for the launch of the Conservancy.

The Conservancy was signed into law in September 2024 through the passage of Senate Bill 583 and is currently funded through an allocation from Proposition 4, the climate bond approved by a majority

of California voters in 2024. According to the CNRA, it is unique in its charge with two main functions: ensuring the operations and maintenance of projects that are built under the Salton Sea Management Plan; and acquiring and holding land and water rights.

FOR INFO: <https://saltonsea.ca.gov/2026/04/salton-sea-conservancy-board-of-directors-and-first-meeting/>

LEAD REPLACEMENT US STATE REVOLVING FUNDS

On May 20, the US Environmental Protection Agency (EPA) is announced nearly \$2.9 billion in funding to protect Americans from exposure to lead in drinking water. Lead is a powerful neurotoxin that is especially harmful to children. This investment will go directly to states through the Drinking Water State Revolving Fund (DWSRF) and is part of EPA's unwavering commitment to Making America Healthy Again.

This funding will advance state and local efforts to find and replace lead pipes (also known as lead service lines) that deliver water to homes. Communities can use these funds for identifying lead pipes, planning removal projects, and funding replacement of these lead service lines. Each lead pipe removed and replaced delivers real, tangible public health benefits in communities across our great nation.

The Drinking Water State Revolving Funds are financial assistance programs run by states to help water systems achieve the health protection objectives of the Safe Drinking Water Act (SDWA). The agency is distributing funding based on the best available information on the location of approximately 4 million lead service lines across the country. As good stewards of taxpayer dollars, EPA will work with states to ensure this funding is promptly provided to communities to support efforts to reduce exposure to lead through drinking water.

EPA is also announcing the redistribution of an additional \$18 million in previously announced DWSRF funding to address lead. These funds were made available to states but have not been used. Consistent with the Safe Drinking Water Act's directive to reallocate unused funds, these investments are now available to different eligible states with lead service line replacement needs.

FOR INFO: <https://www.epa.gov/dwsrf/annual-allotment-federal-funds-states-tribes-and-territories>

CALENDAR

June 15 CA

Water Policy Forum & Dinner, Costa Mesa. The Westin South Coast Plaza. Presented by Association of California Water Agencies. For info: <https://www.acwa.com/events/water-policy-forum-dinner-2/>

June 16-17 TX

2026 Texas Groundwater Conference, Midland. Bush Convention Center. Presented by American Groundwater Trust. For info: <https://agwt.org/event/26txgw/>

June 17 WEB

Introduction to GPS for Water and Wastewater Utilities, Virtual Event. Presented by EUCI. For info: https://www.euci.com/event_post/gps-water-utilities/

June 17 CO

Watershed Summit, Denver. Denver Botanic Gardens' Freyer – Newman Center. Presented by Denver Botanic Gardens. For info: <https://www.botanicgardens.org/our-impact/water-stewardship/watershed-summit>

June 17-19 IA

2026 Summer Training, Larchwood. Grand Falls Resort. Presented by Iowa Rural Water Association. For info: <https://storage.googleapis.com/production-sitebuilder-v1-0-3/313/1141313/MKRLjiQw/595746e9d7884d349f446689ef02dfb3?fileName=Larchwood%20Summer%20Training%202026.pdf>

June 21-24 DC

ACE26: AWWA Annual Conference & Expo, Washington. Walter E. Washington Convention Center. Presented by American Water Works Association. For info: <https://ace.awwa.org/registration/>

June 24 OR

Managing Stormwater in Oregon, Portland. Sheraton Portland Airport Hotel. Presented by NorthWest Environmental Business Council. For info: <https://oregonstormwater.com/>

June 25 WEB

Conservation + AMI (CAMI) Network, Virtual Event. Presented by Alliance for Water Efficiency. For info: <https://allianceforwaterefficiency.org/events/conservation-ami-cami-network-2/>

June 25 WEB

NPDES Stormwater Management & Implementation, Virtual Event. Presented by EUCI. For info: https://www.euci.com/event_post/npdes-stormwater-management/

June 26 CA

The Future is Flowing: AI & Innovation in Water Management, Los Angeles. Metropolitan Water District of Southern California. Presented by Association of California Water Agencies. For info: <https://www.acwa.com/events/acwa-region-8-program/>

June 26 WA

Cedar River Watershed Tour, North Bend. Cedar River Watershed Education Center. Presented by the American Water Resources Association—Washington Section. For info: <https://www.waawra.org/event-6670883>

June 30-Jul 2 UT

2026 Annual Meeting, Deer Valley. Stein Eriksen Lodge. Presented by Western Governors' Association. For info: <https://westgov.org/meetings/details/2026-annual-meetings>

July 8-11 OR

Collection Systems and Stormwater Conference, Portland. Oregon Convention Center. Presented by the Water Environment Federation. For info: <https://www.wef.org/events--education/conferences/collectionssystemwater2026/>

July 9 WEB

Why Water Rights Have Unique Tax Treatment, Virtual Event. Presented by Nevada Water Resources Association. For info: <https://na.eventscloud.com/ereg/index.php?eventId=848611&>

July 9 WEB

DOH + ECY Water System Plan Memorandum of Understanding, Virtual Event. Presented by American Water Resources Association—Washington Section. For info: <https://www.waawra.org/event-6699685>

July 9 WEB

Northern Water Conservation Garden Tour, Virtual Event. Presented by Colorado Water Wise. For info: <https://coloradowaterwise.org/event-6567069>

July 9-11 CO

CWWCA Mid-Year Conference, Breckenridge Beaver Run Resort. Presented by Colorado Water Wells Contractors Association. For info: <https://www.cwwca.org/>

July 14 WEB

Water Efficiency Research Committee, Virtual Event. Presented by Alliance for Water Efficiency. For info: <https://allianceforwaterefficiency.org/events/water-efficiency-research-committee-10/>

July 14 OH

Women's Water Network Forum, Colorado Springs. Hilton Cleveland Downtown. Presented by National Association of Clean Water Agencies. For info: <https://www.nacwa.org/conferences-events/2026-women-s-water-network-forum>

July 14-15 NM

2026 New Mexico Groundwater Conference, Albuquerque. State Bar of New Mexico. Presented by American Groundwater Trust. For info: <https://agwt.org/event/26nmgw/>

July 14-17 OH

Utility Leadership Conference and 56th Annual Meeting, Cleveland. Hilton Cleveland Downtown. Presented by National Association of Clean Water Agencies. For info: <https://www.nacwa.org/conferences-events/2026-utility-leadership-conference>

July 15 WEB

Water Project Permits, Virtual Event. Presented by American Water Works Association. For info: <https://store.awwa.org/product/44590?whence=>

July 15 TX

Dam Safety Workshop for Owners and Operators, Austin. Commons Conference Center, The University of Texas at Austin. Presented by Texas Commission on Environmental Quality. For info: <https://web.cvent.com/event/7d1191c6-a7c3-426d-8d2a-aef3ec31d70d/register?rp=ee08383b-c91a-4fab-85f7-c7b94e10aeea>

July 16 NM

2026 New Mexico Water Well Workshop, Albuquerque. Albuquerque Garden Center. Presented by American Groundwater Trust. For info: <https://agwt.org/event/26nmww/>

July 17 CA

ACWA REGION 9 EVENT, Temecula. Wilson Creek Winery. Presented by Association of California Water Agencies. For info: <https://www.acwa.com/events/acwa-region-9-event-2/>

July 19-21 AZ

Arizona Water Reuse 2026 Symposium, Flagstaff. High Country Conference Center. Presented by AZ Water Association. For info: <https://www.azwater.org/events/EventDetails.aspx?id=1987258&group=>

July 23-25 WA

72nd Annual Natural Resources and Energy Law Institute, Seattle. Sheraton Grand Seattle. Presented by The Foundation for Natural Resources & Energy Law. For info: <https://www.fnrel.org/programs/ai72/location#tab>

July 28 WEB

2026 Washington State Drought Update, Virtual Event. Presented by American Water Resources Association—Washington Section. For info: <https://www.waawra.org/event-6687571>



CALENDAR

August 3-6 NV

41st Annual Tri-State Seminar, Las Vegas. South Point Hotel & Casino. Presented by AZ Water Association, CWEA & NWEA. For info: <https://www.azwater.org/events/EventDetails.aspx?id=1846227&group=>

August 3-6 ID

2026 Western Water Seminar, Boise. Riverside Hotel. Presented by National Water Resources Association. For info: <https://www.nwra.org/event-6444629>

August 4-6 IL

4th Annual Water Efficiency & Conservation Symposium, Chicago. Gleacher Center. Presented by Alliance for Water Efficiency. For info: <https://allianceforwaterefficiency.org/symposium/>

August 5 WEB

Data Centers and Groundwater, Virtual Event. Presented by National Groundwater Association. For info: <https://www.ngwa.org/detail/event/2026/08/05/>

[default-calendar/data-centers-and-groundwater--what-ngwa-members-need-to-know](https://www.ngwa.org/detail/event/2026/08/05/)

August 5 WEB

Performance Guarantees in Collaborative Delivery, Virtual Event. Presented by American Water Works Association. For info: <https://store.awwa.org/product/44680?whence=>

August 5 TX

Dam Safety Workshop for Owners and Operators, Arlington. Presented by Texas Commission on Environmental Quality. For info: <https://web.cvent.com/event/d043068a-b3ef-4fb1-bd16-9ca81c83bd83/register?rp=eecda042-050d-43a7-b05f-4d9df11fcfa>

August 12 WEB

Exploring the Latest Issues in Potable Water Reuse, Virtual Event. Presented by American Water Works Association. For info: <https://store.awwa.org/product/44713?whence=>

August 12-13 FL

The Water Expo 2026, Fort Lauderdale. Broward County Convention Center. Presented by The Water Expo. For info: <https://www.thewaterexpo.com/>

August 13 WEB

From Drought to Dollars: Building Financial Resilience in a Water-Scarce Future, Virtual Event. Presented by Nevada Water Resources Association. For info: <https://na.eventcloud.com/ereg/index.php?eventid=848611&>

August 13-14 AZ

Arizona Water Law, Scottsdale. Caesars Republic. Presented by CLE International. For info: <https://web.cvent.com/event/e033406b-6fa3-4c36-8104-ab2a3bd01148/summary?RefId=cle.com+more+info>

August 18-20 CO

2026 Colorado Water Congress Summer Conference, Steamboat Springs. The Steamboat Grand. Presented by Colorado Water Congress. For info: <https://www.cowatercongress.org/conferences/summer-conference/>

<https://www.cowatercongress.org/conferences/summer-conference/>

August 19 WEB

Connecting Water Conservation and Resource Management for Stronger Utilities, Virtual Event. Presented by American Water Works Association. For info: <https://store.awwa.org/product/44682?whence=>

August 30-Sept 2 IN

Water Infrastructure Conference, Indianapolis. JW Marriott Indianapolis Hotel. Presented by American Water Works Association. For info: <https://www.awwa.org/event/water-infrastructure-conference/>

August 30-Sept 2 IN

Rate-Setting Essentials, Indianapolis. JW Marriott Indianapolis Hotel. Presented by American Water Works Association. For info: <https://www.awwa.org/event/rate-setting-essentials/>