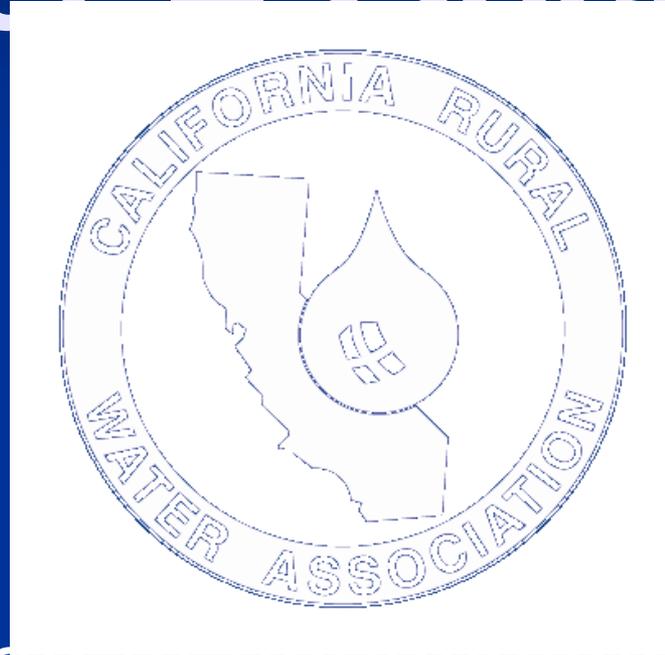


# California Drought



Western States Water Council &  
California Department of Water Resources

# California Rural Water Association



Dedicated to advocating, assisting  
and training California's rural  
water and wastewater systems

To meet the needs of member water and wastewater systems by providing quality information, training and technical assistance and legislative representation, and assist them in maintaining a high standard of service to their communities.



CRWA's commitment is quality on tap!

# Quality On Tap!

Our Commitment



Our Profession



# **National Rural Water Association**

**Founded in 1976**

**Serving Water and Wastewater Systems  
throughout the United States**



# National Rural Water Association



NRWA is America's largest utility association with over 28,353 utility members across the Nation. Historically, NRWA's state associations have trained over 100,000 water and wastewater system personnel each year for two decades.

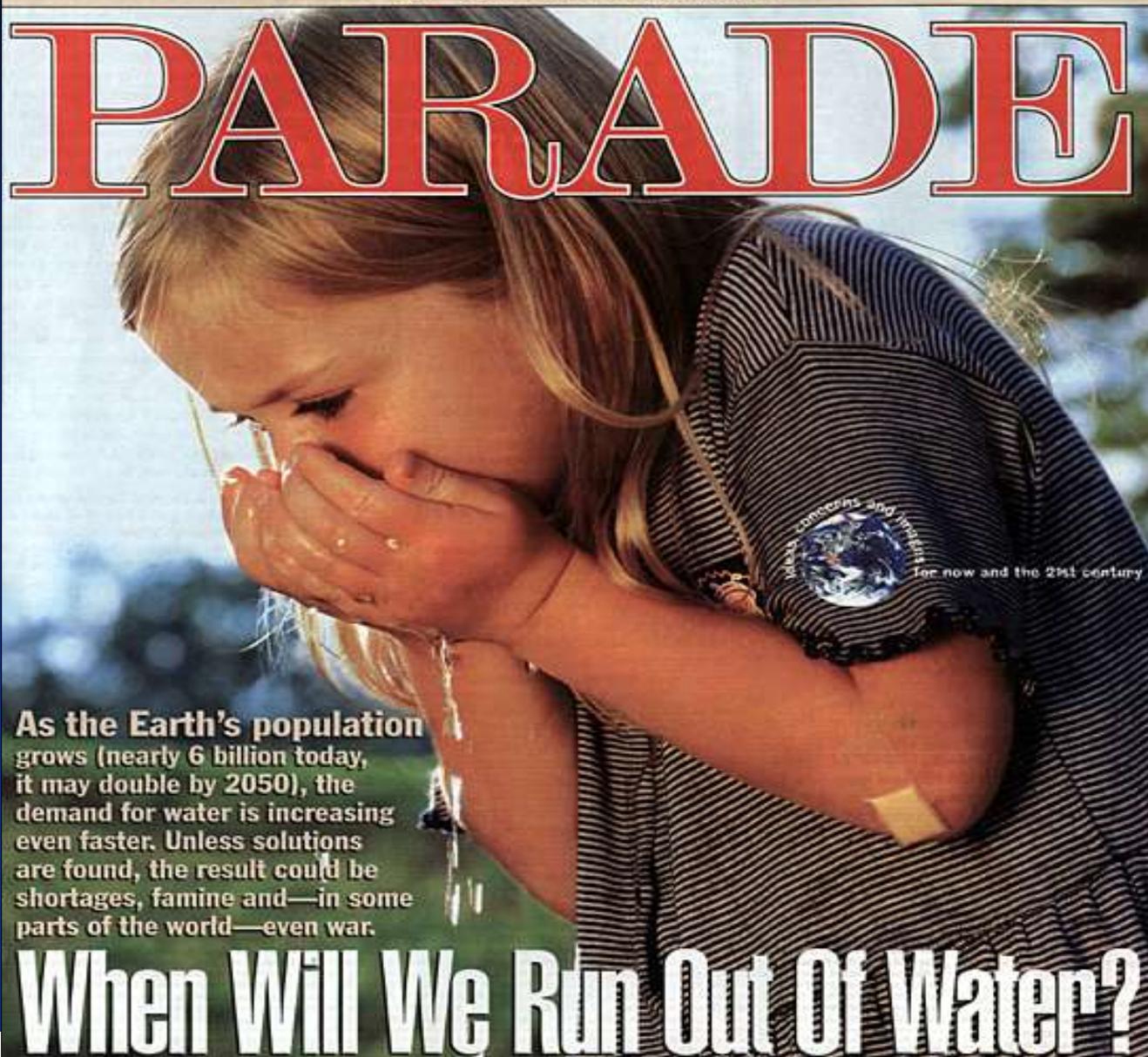
They also provide over 90,000 on-site technical assistance visits a year.





The Gainesville Sun

# PARADE



Water concerns and threats  
for now and the 21st century

**As the Earth's population** grows (nearly 6 billion today, it may double by 2050), the demand for water is increasing even faster. Unless solutions are found, the result could be shortages, famine and—in some parts of the world—even war.

## When Will We Run Out Of Water?



# **CRWA Disaster Response Activities**



**BARRETT LAKE**  
Mobile Home  
and  
**R.V. Park**

## Firestorm 2007

CRWA staff were able to offer assistance. San Diego County



**CRWA State Revolving Fund Program Manager Jeff Ortmeier gives a tutorial on operating a generator.**



**Stephen Carroll  
CRWA (SRF) and  
Wendy Martinez  
(DEH) after the  
Firestorm, testing  
CL2 residuals.**



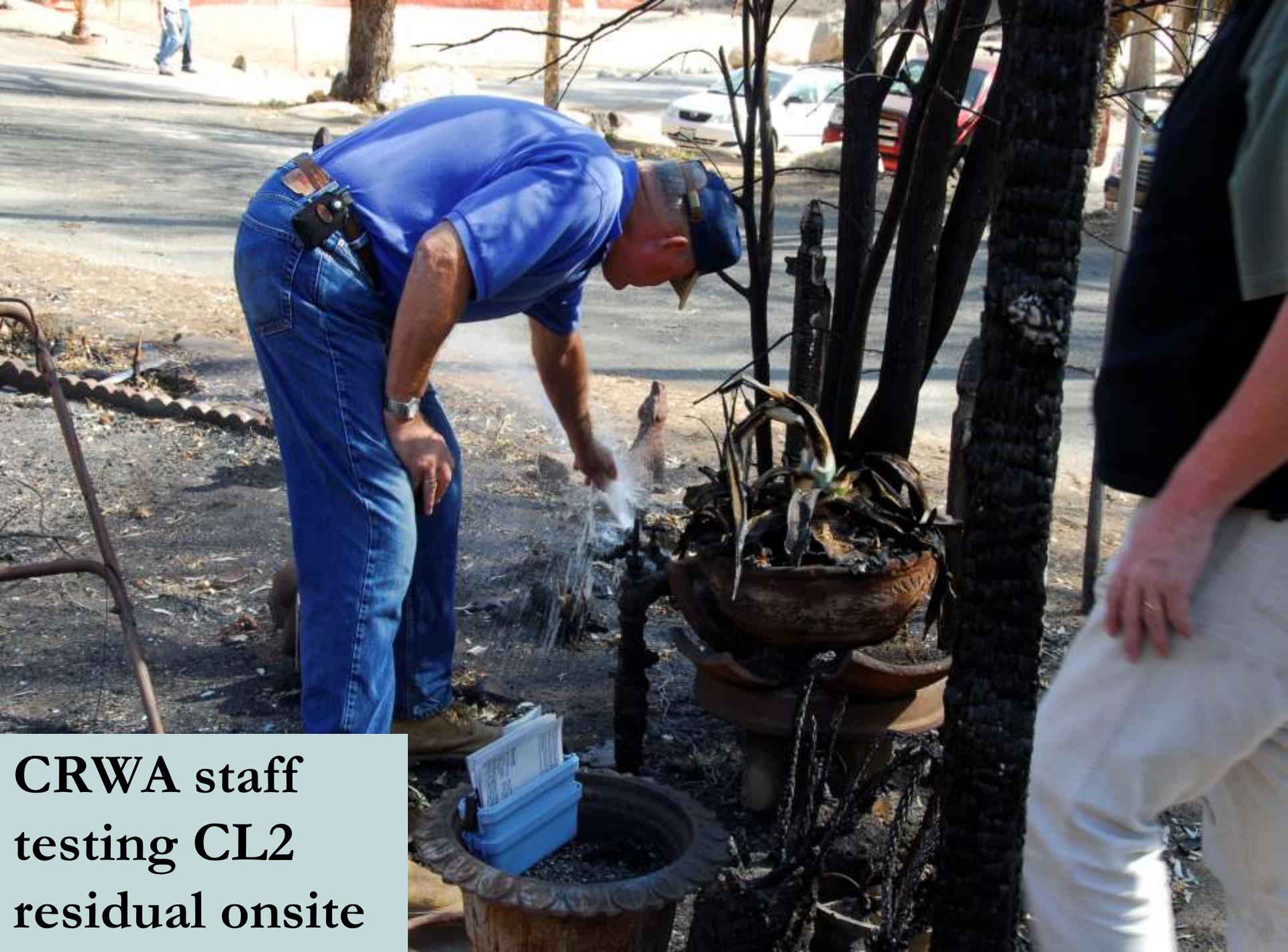
# Firestorm 2007





**CRWA Onsite  
Assistance,  
repairing piping  
melted from the  
Firestorm.**





**CRWA staff  
testing CL2  
residual onsite**

# CRWA assists and provides support in mandatory water conservation plans



Glen Martin MWC is featured in our Summer 2008 California Water Journal for their excellent and effective Water Conservation Planning

# What is a drought?

- The word "drought" has various meanings, depending on whom you ask and where you're standing?
- To a farmer, a drought is a period of moisture deficiency that affects the crops.
- To a meteorologist, a drought is a prolonged period when precipitation is less than normal.
- To a water manager, a drought is a deficiency in water supply that affects water availability and water quality.
- To a hydrologist, a drought is an extended period of decreased precipitation and streamflow.
- Droughts have severely affected municipal and industrial water supplies, agriculture, stream water quality, recreation at major reservoirs hydropower generation, navigation, and forest resources.

Are we in a drought?

Yes & No.

# The Impacts of Drought

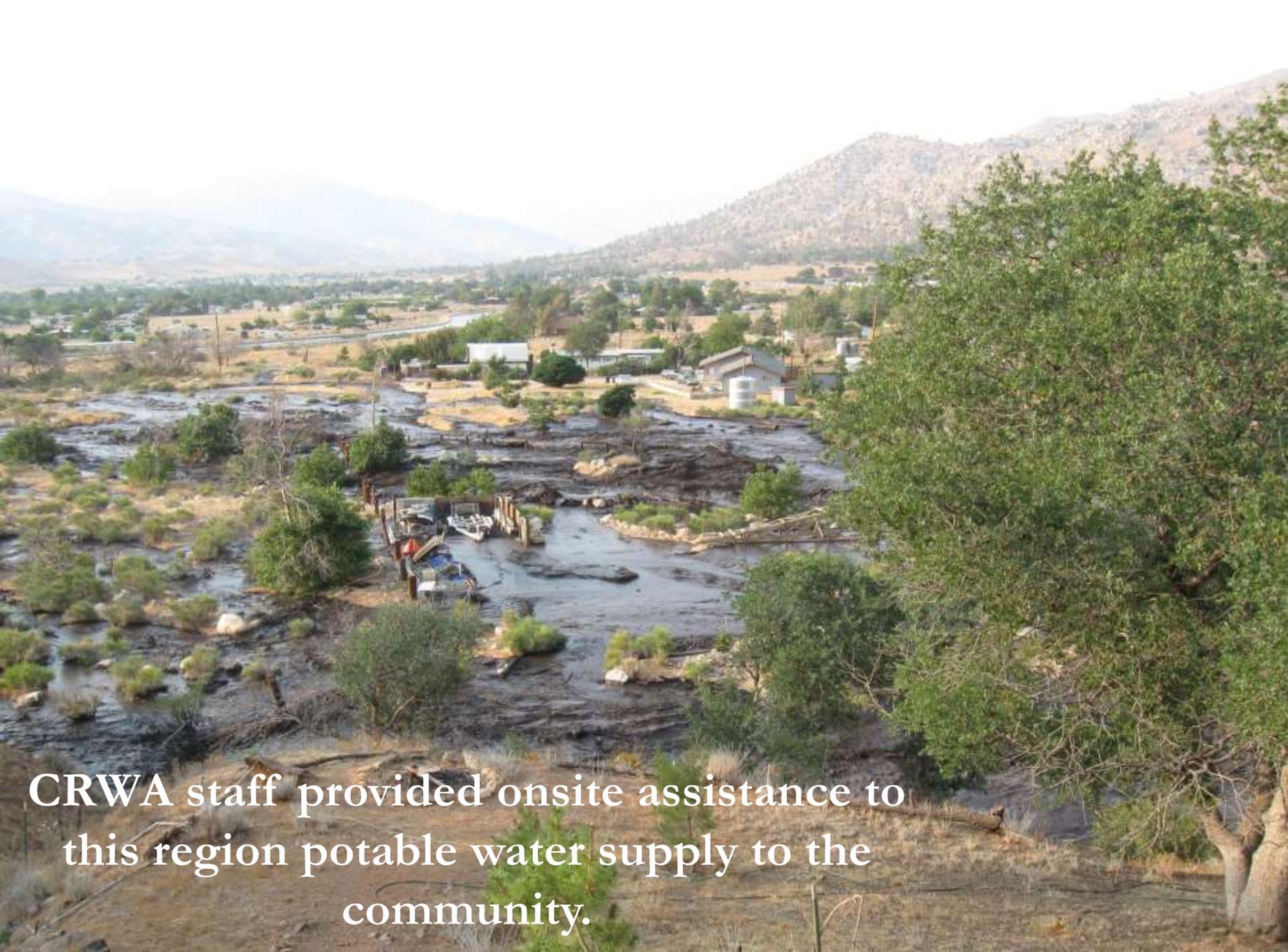
- The effects of drought ripple through economic sectors, communities, and ecosystems, leaving a variety of impacts in its wake. Understanding how drought affects you or your community or business is crucial, because then you can figure out why drought creates those effects, and what you may be able to do about them.

# Consequences of Drought

- Drought can also reduce water quality, because lower water flows reduce dilution of pollutants and increase contamination of remaining water sources.



**Kern County Flooding  
Destroyed a Water System**



CRWA staff provided onsite assistance to this region potable water supply to the community.



**Further photos of Flooding in Kern County**

# Common Consequences of Drought include:

- ◆ Diminished crop growth or yield productions and carrying capacity for livestock
- ◆ Dust bowls, themselves a sign of erosion, which further erode the landscape
- ◆ Dust storms, when drought hits an area suffering from desertification and erosion
- ◆ Famine due to lack of water for irrigation
- ◆ Habitat damage, affecting both terrestrial and aquatic wildlife
- ◆ Hunger, drought provides too little water to support food crops.
- ◆ Malnutrition, dehydration and related diseases
- ◆ Mass migration, resulting in internal displacement and international refugees
- ◆ Reduced electricity production due to reduced water flow through hydroelectric dams
- ◆ Shortages of water for industrial users
- ◆ Snake migration and increases in snakebites
- ◆ Social unrest = outbursts of violence
- ◆ War over natural resources, including water and food
- ◆ Wildfires, such as Australian bushfires, are more common during times of drought.

# Drought Impacts-2009

**Jan** - San Diego water officials were urging residents to conserve water in the face of potential water supply stress. Santa Ana residents received written requests for water conservation with their water bills.

**Feb** - Kings County had been in a local drought emergency since June 19, 2007, and had renewed the declaration every two weeks since that time. The declaration continued through at least October 24, 2008.

**Mar** - Water conservation was still strongly urged for residents of San Diego County in light of the 30 percent reduction in water from northern California and eight years of drought in the Colorado River basin. The director of water resources for the San Diego County Water Authority stated that they were in stage 2 of their drought management plan, but that the next stage of the water plan involved mandatory water restrictions.

**Apr** - An avocado grower in Valley Center was one of many growers who were forced to cut down trees because they didn't have sufficient irrigation water to grow a crop this year due to water rate increases, a 30 percent reduction in water supply, and the potential demise of a discount program for agricultural water use. An area citrus grower cut more than 30 percent of his trees in March.

**May** - In preparation for a difficult fire season, Cal Fire activated additional summer fire fighters weeks earlier than usual as wildfires arose. The fire season began roughly a month early because of strong winds and drought conditions. A Cal Fire captain stated that the lack of rain has left vegetation extraordinarily dry for early May.

**Jun** - The governor of California, Arnold Schwarzenegger, proclaimed that the entire state was in drought, following two years of below-normal precipitation. The governor urged all Californians to reduce their water use to avoid or delay the possibility of water rationing in the event that the next winter was dry. The state Department of Water Resources was directed to expedite water transfers to areas most in need, to assist local water districts with water conservation, and to help farmers impacted by drought.

The California Water Service Company (Cal Water) entered Stage 1 of its Drought Management Plan and asked its customers to reduce their water use by 10 percent. Water rates increased on July 1 to further encourage conservation. Roughly 2 million people are served by Cal Water, from Chico to the Los Angeles area.

**Jul** - The Metropolitan Water District of Southern California deferred delivery of 25,000 acre-feet of water to allow the Central Valley Project and State Water Project Contractors to use the water for crop irrigation. The Westlands Water District planned to return the same amount of water to the Metropolitan Water District later in the year. The redistribution of the water supply was in response to the governor's declaration of drought emergency for nine counties in the Central Valley.

**Aug** - Hunger became an enormous problem among unemployed farm workers in Mendota by August because they could no longer afford to purchase food. One grocer put boxes of old produce out behind his store for those who needed it; the boxes vanished quickly. The mayor stated that there was also a higher incidence of shoplifting because people could not afford to pay for medications. The unemployment rate was 40 percent.

**Sep** - The California Department of Food and Agriculture estimated drought losses for the state to be \$259.8 million. The loss from rangeland is \$94.5 million; cotton, \$61.5 million; processing tomatoes, \$9.6 million; cattle, \$7.4 million; melons, \$7.1 million; alfalfa hay, \$6.5 million; grain, \$5.8 million; and various other crops, \$6.6 million. The cotton losses are attributable to unplanted and abandoned fields. Commercial vegetable growers estimate their losses at \$60.8 million. The estimated loss for Fresno County is \$73.5 million; Kern County, \$69.5 million; Stanislaus County, \$12.9 million; Merced County, \$12.8 million; Kings County, \$10.9 million; and Tulare County, \$3.3 million.

**Oct** - Cables, brackets, and tailings from the era of the gold miners were revealed by the falling water level of Lake Camanche, located roughly 30 miles southeast of Sacramento. In some places, the foundations of historic bridges could also be seen. The lake was at 35 percent of capacity.

**Nov**- The Department of Water Resources expedited the process of awarding \$17 million for water conservation programs. The funds were being used for rebate programs, education and outreach, leak detection, and upgrading systems to improve efficiency.

**Dec** - More than 100 families were unable to get food at their local food bank in Mendota, where unemployment was 40 percent after drought and court-ordered cuts in the water supply drastically cut agricultural production in the area. Six hundred families were served by the food bank.

# California Drought Preparedness



<http://www.cadroughtprep.net/index.htm>



California Drought Preparedness

• [About Us](#) • [Contact Us](#) • [Helpful Links](#) • [Training Schedule](#) • [Water Usage Survey](#)

[Public Outreach](#)

[Well Construction/Maint.](#)

[Groundwater](#)

[Water Conservation](#)

[Water Shortages](#)

[Workshop Materials](#)

[Mutual Aid Organizations](#)

[In the News](#)

[Funding Resources](#)

### California Drought Preparedness

#### California Rural Water Association

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## California Drought Preparedness

As California is facing the most significant water crisis in history, it is critical that water systems and their customers properly conserve and manage our water resources. It is a clear fact that California is experiencing some of the driest periods in recorded history as water reserves are extremely low. While there is no way to prevent drought from occurring, the effects of drought can be significantly reduced or even eliminated altogether. The impacts of drought can be reduced by establishing and implementing drought management planning and water conservation measures. Thanks to funding provided by California Department of Water Resources (DWR), California Rural Water Association (CRWA) has a myriad of free resources to aid in dealing with water shortages in times of drought. Available on this website you will find resources to help water systems regarding water shortages, water conservation and Emergency/Disaster response planning. Additionally, CRWA is also providing free Drought Management Educational Training and Leak Detection Water Loss Control Training throughout the State with a focus on Disadvantaged Communities and Tribal Systems (go to our [Training page](#) to see the latest listing of classes available). CRWA also has a free onsite technical support program to eligible disadvantaged community water systems assisting with drought, water conservation and leak detection.

In these trying times of drought it is imperative that water systems take appropriate action to implement effective tools and resources. If any assistance is needed with your Drought Management planning CRWA is here to help. Please feel free to contact one of our [Water Efficiency team specialists](#) to help you.

Please contact us if you have any questions.

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# Questions?

