



California Project WET Gazette

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Water Celebration

I'm sure a few of you reading the title of this article and the current headlines related to California water will be wondering if my brain may be suffering from lack of water as much as the state. The few storms we have had since December will allow the California Department of Water Resources to send a little more water to most State Water Project customers than last year, but the U.S. Bureau of Reclamation announced a second year of a zero initial water allocation from the Central Valley Project for many agricultural users north and south of the Delta. Add to this the news that the water content of the Sierra snowpack that most of the state heavily relies on for water during our dry summer came in at a pathetic 16 to 22% of average for the March 1st survey, and CalFire sounding the alarm the 2015 fire season has the potential to one of the worst on record and a drop from December 22% to a 9% urban water conservation rate in the first month as the state enters a fourth year of drought. So what is there to celebrate?

The same question probably ran through the minds of our ancestors around the world, who we know from our studies of the past faced far worse trials related to water, weather and climate than we have with our current drought in California to date. But rather than resigning themselves to grim forecasts for the future, our ancestors in pretty much every culture saw the renewal of life in the form of bursting buds, the resurgent activity of wildlife and 'greening' of the landscape in Spring as reason enough to celebrate after surviving another hard Winter. They may also have simply realized one can only take so much doom and gloom and a little celebration can shake up the negative mind set and renew the will of the community in the face of adversity – like facing a 4th year of drought. Ancient or modern, water is as central as the renewal of life in Spring celebrations around the world as you'll see reflected in the **'Events'** section of this Gazette. It has been a harder four years to date for some Californians than others, but we are still here and a little celebration for the water we have may be exactly what is needed to renew community spirit and our conservation efforts.

A Spring water celebration also provides an excellent educational opportunity. The Project WET activity *'Water Celebration' (portal) – or (p: 446)* for those with a copy of the original Project

WET guide –provides a wonderful template for engaging students in planning a small school or community water festival. Doing the activities in class in the time leading up to the celebration will not only give them the opportunity to learn new concepts and skills, but provide a visual model of how the activity flows – before you challenge them to think what elements to keep or tweak for a celebration setting. This engagement in the planning process provides additional motivation and excitement to learn the elements of each activity and the challenge to assess, modify and apply what they learn to help teach celebration participants sets up one of the most powerful ways to learn anything to a higher level of mastery – i.e., learning by doing. Engaging students in planning a water celebration can also provide another welcomed benefit - combating the inevitable onset of ‘summer-itis’ that occurs sometime between the end of testing and the school year, often going viral in May which also just happens to be California Water Awareness Month!

‘Money Down the Drain’ (p: 351) and *‘The Long Haul’* (p: 273) are Project WET activities that already provide a strong water conservation focus within the existing *‘Water Celebration’* activity template – and provide great examples of what may need to be considered when choosing activities for a water celebration. *‘The Long Haul’* (p: 273) is a great ‘celebration ready’ relay race activity for kids and adults that definitely helps all appreciate our modern plumbing. Participant safety and minimizing water loss so as to not undermine the conservation theme of the overall celebration are two key factors student planners would need to consider – and if participants at the celebration would be as willing to engage in the short discussion on how modern plumbing has changed our lives and use of water as students were in class? Location of the activity and making sure ‘The Long Haul’ teams know volume of water as well as the speed of moving it will be key to a team’s victory are two caveats that usually take care of the safety and conservation questions.

‘Money Down the Drain’ (p: 351) on the other hand challenges the math skills of students and adults alike and students may need more guidance on how to present key elements of the activity in a celebration setting. In using the activity at community events, I’ve noted kids tend to be most excited about the process of measuring and calculating the volume of the leaks, while adults often leave the activity excited by the knowledge on how to decipher the units and rates on their home water bill and translate the volume of the leaks into dollars and cents. Yet, both groups tend to walk away with a greater appreciation for the volume of water they are consuming, as well as the value of that water – especially if one includes a rate comparison with other areas of the state and water sold in the open market of the grocery store. Try this activity in class during the week of March 15 to 21 as part of ‘Fix-a-Leak Week’ or for World Water Day the following week!

‘Money Down the Drain’ also includes a component studying the loss of water due to aging infrastructure and directions to build simple models for demonstrating loss and how to measure it –a very big issue in many of our municipal water systems that your local water provider(s) may be willing be one hand to discuss with adult participants after students demonstrate the concept with loss models they built. Conservation and public outreach staff from your local water provider(s) may also be interested in partnering with students on developing celebration activities based on Guide 2.0 activities – ‘swapping out’ activities on the existing *‘Water Celebration’* template to keep the focus on conservation. People of all ages are fascinated (and stunned) at the amount of water it takes to produce everyday products, which students are introduced to in the activity *‘Virtual Water’* (p: 289) – after investigating the quantity of water used in a variety of everyday products, challenge them to design a fun activity to introduce celebration participants to the concept. Another likely celebration activity is *‘My Water Footprint’* (p: 441) – younger kids love tracing and cutting out their footprints, while older celebration attendees are attracted to the pocket meters. If students are able to round up the materials and do some pre-preparation, *‘My Water Footprint’* is an engaging and relatively low cost way to get people thinking about the water they use. Many water providers offer free water auditing service to their customers and may be willing to conduct an audit of your school

water use with your students as part of the activity *'Water Audit' (p: 469)* and work with a student team to and discuss home water auditing techniques as part of a water celebration.

Water use in our yards still accounts for one of the single biggest residential uses of water supplies in California and the Project WET activities *'Irrigation Interpretation' (portal)*, *'Thirsty Plants' (Portal)*, *'The Life Box' (p: 69)* and *'Water Audit' (p: 469)* provide a range of ideas on how to highlight this water use for all ages in a celebration setting. 'Irrigation Interpretation' has student developing models to in order to visualize and demonstrate and charts to compare differences between irrigation methods – models and charts they could use again to share their knowledge at a water celebration. The classic dyed celery or carnation demonstration in *'Thirsty Plants'* certainly grabs the attention of people attending events, but the sight of different plants with zip lock bags tied around and 'sweating' some of their leaves is even more eye-catching – and always starts a great discussion on transpiration and water loss. The activity challenges students to 'develop a method to estimate the number of leaves' on the plant they are investigating – which sounds like a statement straight out of Common Core – and provides a model for demonstrating how the process of transpiration works in vascular plants. Again, great knowledge and props your students could use again to share what they've learned with others. The ability to touch and play with materials are a hallmark of learning in the early childhood years – and conducting *'The Life Box'* outside as part of a celebration makes it easier to do. Invite local garden center staff or U.C. Master Gardeners to the festival to demonstrate water efficient home irrigation practices and discuss drought tolerant landscaping. A landscape water audit may not be practical at a water celebration, but such an audit with a water conservation specialist was integrated in a recent Project WET workshop and just setting up the grid to test a sprinkler system was an enlightening process for all of us!

'The Rainstick' (p: 529) is featured in the *'Water Celebration'* activity template as one of the art activities. It is a fun, but material intensive activity. *'Water Messages in Stone' (Portal)* is a low budget activity to consider that has participants learning about pictographs and petroglyphs, while designing their own message symbol to the future on our water use in the present. This activity and *'Every Drop Counts' (Portal)* are both featured resources as part of the California Arts Council's Drought contest for 4th and 5th graders. The contest ends at the end of March, but student art from these activities could be displayed as part of a water celebration arts area. The Project WET activity *'Make - a - Mural' (p: 515)* is another great art activity to consider for a water celebration. A series of table tops or smooth wall, painters tape and drawing materials are all that would be needed and students could design the basic outline of the mural and be on hand to encourage water celebrants to add - who knows, the final product may be of a quality to replicate as a permanent reminder of the community's relationship with water or at least could be hung in a prominent location as a community reminder to conserve water for as long as it lasts.

A little celebration in tough times can do wonders for rejuvenating a community's spirits and efforts and I hope this article may inspire a few to take advantage of the educational potential in planning even a small water celebration to reenergize water conservation awareness and action in your school. I also hope you may take advantage of using a number of the activities in conjunction with a number of the **'Events'** and **'Websites of Interest'** highlighted in this Gazette. You'll also find additional information on student contests focused on water conservation, as well as upcoming grants and other opportunities for educators in the **'Grants, Scholarships & Awards'** section of this newsletter. Lastly, we have a variety of upcoming Project WET trainings scheduled around the state – with quite a few demonstrating the use of Project WET activities to highlight specific water issues or standards. You'll also find additional **'Professional Development Opportunities'** that may be of interest. Hope you have a wonderful – and with any luck – a little wetter Spring!

WEBSITES OF INTEREST

Save Our Water

<http://www.saveourh2o.org>

Save Our Water is a statewide program aimed at helping Californians reduce their everyday water use. Browse the Save Our Water website to uncover ideas on saving water indoors and out. You'll find water conservation tips, tools for calculating your water use, fun ways for kids to save water and to permanently reduce water use – regardless of whether California is in a drought. Browse our website to uncover ideas on saving water indoors and out. We can all make a difference in California's water use by making simple changes to our daily habits. <http://saveourwater.com/what-you-can-do>

Aquaforia

<http://www.watereducation.org/aquaforia>

Aquaforia is a news aggregator, owned by the Water Education Foundation, loaded with California water news from both traditional and non-traditional news sources to present the many sides and views of often controversial issues, with the goal of fostering an understanding of various positions and discussion toward resolving the issues. The site is a great place for adults as well as students to learn about current topics - including the latest on California water conservation efforts.

<http://www.watereducation.org/conservation>

Water Use in the United States

<http://water.usgs.gov/watuse>

The U.S. Geological Survey's National Water-Use Information Program is responsible for compiling and disseminating the nation's water-use data. The USGS works in cooperation with local, State, and Federal environmental agencies to collect water-use information. USGS compiles these data to produce water-use information aggregated at the county, state, and national levels. Every five years, data at the county level are compiled into a national water-use data system and state-level data are published in a national circular for use with the Project WET activities '*A Drop in the Bucket*', '*Choices and Preferences*', '*Virtual Water*' and '*8-4-1, One For All.*' <http://pubs.usgs.gov/fs/2014/3109/>

The Water Footprint Network

<http://www.waterfootprint.org>

People use lots of water for drinking, cooking and washing, but even more for producing things such as food, paper, cotton clothes, etc. The water footprint is an indicator of water use that looks at both direct and indirect water use of a consumer or producer. The water footprint of an individual, community or business is defined as the total volume of freshwater that is used to produce the goods and services consumed by the individual or community or produced by the business. The website information on products is a wonderful supplement for the Project WET activity 'My Water Footprint'

<http://www.waterfootprint.org/?page=files/productgallery>

USGS Water Science School: Home Use

<http://ga.water.usgs.gov/edu/sq3.html>

How much is your daily indoor water use? How much water do you use when you take a shower? Wash a load of clothes? Flush a toilet? Even brush your teeth? Enter your use data from the Project WET '*My Water Footprint*' or '*Water Audit*' activities, choose the submit button, and we'll give you an estimate of how many gallons of water you used. NOTE: Our survey here is very general in nature...just to give you a quick idea of your water use, but we have links to more accurate calculators on this page!

HomeWaterWorks: Calculator

<http://www.home-water-works.org>

Want to conserve water? Not sure where to start? Our Water Calculator quickly estimates how much water your household uses and compares it to a similar average and a highly efficient home. The Water Calculator also shows you where to begin your home water conservation efforts. Throughout Home Water Works, you'll find useful tips and resources for saving water and money without sacrificing comfort or convenience. *My Water Footprint*

USGS Water Science School: Drip Calculator

<http://water.usgs.gov/edu/sc1.html>

How much water does a leaking faucet waste? Check your faucets at home -- do any of them drip? Well, maybe it's just a small drip -- how much water can a little drip waste? This page allows students to enter their data from the Project WET *'Money Down the Drain'* activity to help calculate the volume of water being lost, while also providing wonderful questions and links to pique their water conservation curiosity!

USGS Water Science School: Virtual Water

<http://water.usgs.gov/edu/sc1.html>

What is the water content of things? Water is needed to grow not only everything we eat but also to produce almost all the products we use every day. You can't tell by the size of a product or the appearance of a food how much water was actually used to produce the item. This page allows students to enter their guess on how much water is used to produce some common foods and products and is a wonderful website to use with the Project WET *'Virtual Water'* activity!

School Water Audit Project

<http://cals.arizona.edu/arizonawet/teachersupport/swap>

Start a School Water Audit today! Developed by the Arizona Project WET program, the School Water Audit Project combines water education with practical applications of scientific methodology. It brings community members together with students for the purpose of accomplishing a unified goal. It empowers students and adults alike to be responsible water stewards. Download the SWAP lessons individually by clicking on the download option inside your lesson bubble. SWAP water waste for water efficiency!

Sprinklers 101

<http://www.saveourh2o.org/content/more-resources>

Welcome to Sprinklers 101! Water for our yards and gardens can account for up to 60% of home water use. Sprinklers 101 is a one-stop shop for homeowners looking for easy-to-understand information about how residential sprinkler systems work, information on drip irrigation and other smart ways to reduce landscape water use, as well as learn how to save water outdoors simply by changing the way you water your plants! <http://www.saveourh2o.org/content/homeowners>

The California Garden Web

<http://cagardenweb.ucanr.edu>

The UC Master Gardener Program designed the California Garden Web to serve as a portal to organize and extend the University of California's vast collection of research-based information about gardening to the **public**. The California Garden Web focuses on sustainable gardening practices and uses a question and answer format to present solutions. The blog on this site highlights gardening issues pertaining to the season. http://cagardenweb.ucanr.edu/Drought/Drought_Gardening_Tips/

The Water Fence

<http://www.waterfence.com>

Innovative, new fresh water storage system that utilizes roof rain runoff into an interconnected fence system that can store thousands of gallons of water giving you the possibility of water sustainability - even in severe drought situations. The patented Water Fence System works very simply, as the water runs off the roof and drains into the fence, it continues to fill any number of fence sections you may have. Learn more about the Rohnert Park teen that invented the system: <http://www.waterfence.com/about-the-inventor>

H2O House Water Saver Home

<http://www.h2ouse.org>

Take the virtual home tour to investigate your water saving opportunities in each area of your home. Click on each location to show you both the facts and specific advice. Visit the virtual encyclopedia of water conservation information for your home and select the area of the home where you are interested in learning more about saving water, including leak detection and repair, water use efficiency in and outside the home and incentive or rebate programs available to you: <http://www.h2ouse.org/action/index.cfm>

WaterSense

<http://www.epa.gov/watersense>

WaterSense, a partnership program sponsored by the U.S. Environmental Protection Agency, makes it easy for Americans to save water and protect the environment. Visit the website to get water-efficiency information and tips, learn how to check for and fix leaks, and more. Many WaterSense materials are available in Spanish, and the website includes a For Kids section and a “Test Your WaterSense” game.

Be Water Smart

<http://www.bewatersmart.info>

This website provides information on drought status, rebates, conservation workshops and interactive maps to help customers in the Sacramento region link to their water provider. Many local water providers offer rebates to replace older fixtures and appliances, such as toilets and clothes washers, with high-efficiency models. *Check to see if your water provider is offering similar programs!*

Association of California Water Agencies

<http://www.acwa.com>

The Association of California Water Agencies (ACWA) is the largest statewide coalition of public water agencies in the country. Its 430 public agency members collectively are responsible for 90% of the water delivered to cities, farms and businesses in California. <http://www.acwa.com/content/locate-your-california-water-agency>

The U.S. Drought Portal

<http://www.drought.gov>

The National Integrated Drought Information System (NIDIS) provides a clearinghouse of drought-related information including maps, tools, and information to help people prepare for and mitigate the effects of drought. The California NIDIS Pilot is developing and demonstrating a variety of early warning information resources and strategies, in partnership with agencies, industries, institutions, tribes, and other major stakeholders. <http://www.drought.gov/drought/regional-programs/california/california-home>

California Data Exchange Center

<http://cdec.water.ca.gov>

California Data Exchange Center (CDEC) installs, maintains, and operates an extensive hydrologic data collection network, including [reservoir storage](#), [snow data](#), [weather](#), and total [precipitation](#) data. CDEC provides a centralized location to store and process real-time hydrologic information gathered by various cooperators throughout the State; and then disseminates this information to support forecasting and flood operations activities and to meet the data reporting needs of various cooperators, public and private agencies, the news media and the public.

California Drought Resources

http://ciwr.ucanr.edu/California_Drought_Expertise

In the midst of historic drought, California’s academic institutions serve as a tremendous resource both in offering everything from near-term management advice to farmers and ranchers to the innovative work being carried out by researchers on a vast array of issues from drought resistant crops to snow sensors to climate change. These pages are being continuously updated as we work to bring the resources of the state’s universities and colleges to a broad range of communities.

http://ciwr.ucanr.edu/California_Drought_Expertise/Drought_events

If you would like more information on Project WET please contact Brian Brown, California Project WET Coordinator at: projectwet@watereducation.org or (916) 444-6240.

Check our website www.watereducation.org to review the full Gazette and all linkages to websites in this edition and/or contact us for updates!