

# waterwise

The official publication of Colorado WaterWise

The Voice of the Colorado  
Water Conservation  
Community

colorado  
waterwise 

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Winter 2015

# From the editors

At the end of every year our televisions and newsstands are flooded with lists of the year's most notable events, influential people, and other important occasions. In the world of water conservation 2015 will likely be remembered as the year California ran dry. Seeing Governor Jerry Brown standing in a field where feet of snow should have been is arguably one of the more memorable images of the year. In this issue, we discuss the choices California and all drought prone regions have to make to meet conservation needs.

Closer to home, we focus on the accomplishments of Colorado communities. While we have saved the top ten lists for the late shows and news anchor specials, we have highlighted some of the major successes of the past year. For example, Colorado Springs Utilities discuss the three key elements to creating their entertaining and informative education programs. We highlight how universities across Colorado met at Metro State University to collaborate and learn the fundamentals of water conservation (including using materials from Colorado WaterWise's own Live It Like You Love It toolkit).

Although Colorado did not experience a water emergency this year, that does not mean its conservation community sat idle. The remainder of this issue reflects upon and analyzes some of the efforts utilities and conservation groups made in 2015. For example, Denver Water describes how it used data to better anticipate leaks, and WaterWise discusses how it brought together communities from both sides of the Continental Divide for M36 water audit training. By reflecting upon these efforts we can look towards 2016 more confidently with whatever water challenges the year may bring.

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WaterWise is the official publication of Colorado WaterWise and is published four times a year (Mar, Jun, Sep, and Dec). Articles are due one month before the newsletter comes out.

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This newsletter is intended to spark dialogue about various issues concerning water conservation in Colorado. The viewpoints of the authors are not necessarily those of the Colorado WaterWise.

## COLORADO WATERWISE ONGOING MEETINGS

Colorado WaterWise Board Meetings: Second Thursday of each month, 10 a.m.-noon

December 10

January 14

February 10

March 10

*On the cover:* A winter view of the Maroon Bells mountain peaks in Colorado from a nearby mountain.





*By Michael Thomas and Brandi Honeycutt, Denver Water*

Colorado Water Wise held its 7th annual Water Conservation Summit on October 29th.

The purpose of the Summit is not only to highlight the work of Colorado Water Wise but to provide a day where members and stakeholders can participate in the mission of connecting stakeholders, providing resources, and serve as the collaborative leader in the efficient use of urban water in Colorado. While much of the morning of the day-long summit celebrated the work done during the previous year, it also built upon the successes and lessons learned for entities to build even better programs. The strength of the Summit is while the focus is on conservation it does not limit itself to one sector or single technology. Because of its diverse membership Water Wise was able to showcase a diversity of initiatives and techniques.

Take, for example, the major initiatives of Water Wise this year. The reviews of the *Live Like You Love It* campaign and the Outdoor Water Regulation mobile application are two educational programs that require collaboration. The *Live It Like You Love It* campaign, launched at last year's summit, is graphically vibrant and has been adopted in Colorado Springs to Berthoud and beyond. The soft launch of the Outdoor Water Regulation app is an example of Water Wise's efforts to coordinate utilities to provide our landscaping partners with information in a way that is easy to access.

The theme was not only about the present but the future of water conservation and efficiency. The afternoon session was dominated by technical presentations and reviews of tool kits and studies that will drive conservation efforts in the future. The CII and Net Zero Waste toolkits presented by Becky Fedak from the Brendle Group provided a deeper look into tools that Water Wise has helped develop and made available to its members. The presentation on the Quantification of Landscape Watering by Jane Clary from Wright Water Engineers, highlighted the changing landscape in conservation programs. As messages like those from the *Live Like You Love It* campaign reach people and change their landscaping habits, there will be fewer properties at the highest tier of water inefficiency. After this presentation it was great to speak with representatives from all over the state about what they are seeing in their areas and what steps they've taken to meet future needs.

The day ended with keynote speaker, Dr. Wallace J. Nichols. Dr. Nichols conducted research on sea turtles during his graduate school tenure and has spent most of his life by water. His speech, centered on his recent book *A Blue Mind*, focused on the sentimental values and positive memories that individuals associate with water. He discussed neurological and psychological research currently underway which is showing that being near water has positive impacts on stress and attitudes. Dr. Nichols closed with a remark that we should include the intrinsic and sentimental value of water in our communication and endeavors as water professionals. A theme fitting for the day as water professionals wrapped up by exchanging cards and final success stories on preserving this important resource.

# LIVE LIKE YOU LOVE IT: THREE YEAR PLAN



By Lindsey Bashline, Loveland Water and Power

In the short time the Colorado Water - *Live Like You Love It* (LLYLI) toolkit and campaign has been available to the water community and the message has already made a resounding splash. As 2015 comes to a close, *LLYLI* proudly boasts over 15 partners, with appearances in tens of thousands of customer utility bills, cameos on local news stations, hundreds of social media posts, logos on thousands of give-a-ways and numerous hits on the newly launched website, [lovecoloradowater.org](http://lovecoloradowater.org).



Additionally, *LLYLI* was recognized by the Environmental Protection Agency (EPA) as a useful model for other state agencies seeking to make water programs more resilient to climate change. The campaign was also recognized nationally by being awarded Best of Show by the Davey Awards, the largest and most prestigious design award competition in the U.S.

But *Live Like You Love It* is just getting started. In the last year Colorado WaterWise (CWW) has spent a significant amount of time getting *LLYLI* in front of partners and helping them to utilize the toolkit. “These last few months have been spent strategizing *LLYLI*, setting goals for the campaign and developing a specific action plan,” says Alyssa Quinn, CWW co-chair and *LLYLI* committee chair.

*LLYLI* recently developed a three year strategic plan that includes several major initiatives will help it achieve awareness and appreciation about the value of water among Colorado water customers and constituents. “As Colorado Water - *Live Like You Love It* evolves from a toolkit to a campaign, it’s critical we continue to add content. Expand information channels and reach to ultimately increase the number of touch points with the target audience. Every opportunity to connect with a partner and connect *LLYLI* to their community is an opportunity to build a stronger relationship with Colorado’s Water,” Quinn says.



One of the strengths of the *Live Like You Love It* campaign is that it is designed to be customized with specific messages for specific regions or issues while still retaining the advantage of a positive and cohesive statewide appeal. As the high level of precipitation in Colorado in 2015 has made the water conservation message less urgent from the public's radar, CWW has partnered with the Colorado Stormwater Council (CSC) on pursuing grants from the state basin roundtable groups and Colorado Water Conservation Board.

The 2016 communications efforts will be focused on the enhancing and advancing the Care component or water quality message of the campaign. The messaging for these communications tools would encompass where your water comes from, where it goes, and the importance of watershed protection. Not only does this effort further develop the Care arm of the campaign, but provides an opportunity to engage new groups of campaign users.

In 2017, materials will again be expanded to communicate about the cost of water, how water is priced and paid for, and the need to continue investment in water. Additional infographics, tools, speaking engagements, publicity events, media sponsors and consumer advertising will all support these messages.

CWW, through *LLYLI*, intends to continue to support educating key stakeholders on the value of Colorado water and the need to conserve and care for water and commit to becoming engaged in the dialogue. The new tools will give existing sponsors additional resources to use and continue to build a stronger relationship with Colorado's Water. To join the movement and *Live Like You Love It*, like Love Colorado Water on Facebook or follow on Twitter @LoveCOWater. To find out more about the toolkit and sponsorship, visit [lovecoloradowater.org](http://lovecoloradowater.org).



# COLORADO WATERWISE'S 14ERS AND *LIVE LIKE YOU LOVE IT* REACH A HEIGHTENED FAME

*By Elizabeth McVicker, PhD, Department of Management, One Water One World*

The popularity of Colorado WaterWise's *Live Like You Love It* toolkit, video, and the pragmatic suggestions offered by the 14er flyers have received fame state-wide thanks to the efforts by dozens of university students who participated in Metropolitan State University (MSU) of Denver's One Water One World (OWOW) Water Diplomat Field Conference in September of this year. The OWOW Center for Urban Water Education and Stewardship at MSU Denver received a grant from the Colorado Water Conservation Board (CWCB) to heighten awareness among university students statewide about water law, hydrology, the growing gap between water demand and water supply, and the Colorado State Water Plan.

The OWOW Center accepted 30 students to attend a weekend in Denver to learn everything they could about water in Colorado and the new State Water Plan. These new Water Diplomats spent the weekend at MSU Denver's Marriott Springhill Suites where they enjoyed top-notch facilities while being inundated with information from faculty members from Colorado Mesa University and MSU Denver about Colorado water law, hydrology, weather and climate. They toured the city listening to presentations from the Colorado Foundation for Water Education (CFWE), the Greenway Foundation, EarthForce, and American Water Resource Association (AWRA). They took tours of a sustainable brewery and worked in teams to distill what they had learned into effective presentations for their own communities. These new Water Diplomats hearkened from six different institutions: MSU Denver, CU Boulder, CU Denver, CSU, School of Mines and Colorado Mesa University in Grand Junction. The focus of the studies of these undergraduate and graduate students ranged from environmental studies to engineering to sociology to computer sciences. Each student was tasked with returning to their communities to make an informed presentation on what they learned, with the focus being the new State Water Plan. Each student received a work-study stipend for their training and efforts (thanks again to the CWCB grant).

The presentations have ranged from radio programs to newspaper articles to presentations for classes, university clubs and even HOAs. The Water Diplomats have reached out to literally hundreds of Coloradans about the realities of our water supplies and the promises of the State Water Plan. Each and every Water Diplomat reported that they utilized the *Live Like You Love It* video in their presentations and relied on the 14er flyers as take-home resources for their audiences. The *Live Like You Love It* toolkit provided relevant, tangible resources to the Water Diplomats and in turn helped educate hundreds of Coloradans. The OWOW Center and MSU Denver are proud sponsors of *Live Like You Love It* and loved showing Water Diplomats how to live like they love it!



# COLORADO OUTDOOR WATER REGULATION GUIDE SMART PHONE APP IS RELEASED!

WHO: Colorado WaterWise, Colorado Arborists and Lawn Care Professionals, Associated Landscape Contractors of Colorado and Colorado Water Conservation Board have partnered to bring a new tool to make outdoor water use efficiency easier, portable, valuable, accurate, efficient, and convenient. Try it out, it's FREE!

Our new [Smartphone application](#) (App), known as H2ORegsCO, helps promote and facilitate outdoor water efficiency and compliance by connecting water providers with the contractors and landscape professionals working within their jurisdictions. The App helps water suppliers and municipalities provide accurate regulations to professionals in the field as well as to homeowners, general contractors, supervisors/foremen, owners and operators, design/build firms, sales teams, facility managers and maintenance techs in the field and at their office. An increasingly busy and mobile customer base demands access to information instantly and around the clock and this option provides an option on weekends, after hours and whenever a decision needs to be made. This 'all-in-one' approach combines disparate information into one source.

Utilities across the State of Colorado have uploaded information and contacts specific to their service area into the App as a single, easily accessible tool. For utilities, it can reduce call volume by giving direct access to information often found within various websites and municipal organizations. Updates or changes to these utility guidelines will activate an alert, called a notification, to the user signifying a change has been made. It's another way to get the word out to busy professionals who cannot always meet with utility personnel.



The App is free to download in iTunes and Google Play for phones and tablets by searching for H2ORegsCO. It also has a standard mobile website for access from desktop computers as well; [m.h2oregsco.org](http://m.h2oregsco.org). Sections include **Turf, Sod and Seed, Certification, Rebates, Water Features, Landscape Code, Irrigation, Guidelines and Rules, Drought Info, Review Process and Water Quality**. Landscapers and contractors are able to search by zip code to find rebates, utility codes, ordinances, restrictions and procedural information applicable to their work sites. Many communities will have zip codes served by multiple providers, so users will have to know the water provider for the site. Navigation is easy; switch between zip codes and there is a My Profile customization option to keep frequently used information. With this tool, you can get the **Right Rules, Right Now**.

The project partners are recruiting municipalities from across the state to participate, which is voluntary but we hope to get all major cities involved. Currently, Aurora, Centennial Water and Sanitation District, Colorado Springs, Denver Water, Fountain, Greeley, Loveland Power and Water, Town of Breckenridge, Town of Castle Rock, and Ute Water Conservancy District are on the website and more are being added. If your town or a work location isn't included, please have them contact Colorado WaterWise to be added; it's quick to set up an account, and once entered, data is easy to update. Utility participation is free and there is no cost to users to download. However, a small fee may be requested from utilities in the future to support web services and updates. We plan to continue adding cities through the winter in time for additional promotion in spring.

We invite you to download the App, try it out, share it with colleagues and provide your feedback. New tools like this work best with increased use over time and can be enhanced as we understand how professionals use our app. Our partners are:





A spotlight on  
**FRANK  
 KINDER**

**WW: Tell us a little about yourself.**

Most days I feel like the luckiest guy alive. I'm married to my best friend. We get to live in this beautiful state, which gives us four amazing seasons, and we love to play outside when we can. For my career, I'm a water conservation specialist for Colorado Springs Utilities; a terrific company and we have a fantastic team. It's been said when you love what you do, it's not work, it's passion and that's how I feel. I'm humbled and honored to work in a field that protects the world's most vital resource.

**WW: How did you get your start in the water conservation business?**

The outdoors has always been a place I loved, but I never thought a career that included natural resources was possible. I took an interest in sustainability during my master's work at the University of Colorado. That focus on meeting the needs of today in ways that allow future generations to meet their needs has no bigger consequence than to protect the planet's life-providing fresh water sources. The concept of sustainable development that balances environmental, economic and societal needs is elegant and responsible, and was appealing. That research led to consulting for the US Army at Fort Carson Army Post supporting sustainable development, which included USGBC's LEED and incorporating water efficiency and Low Impact Development landscaping practices. I found the topic of water the most intriguing and important, and relational; everyone loves water. The potential and progress are significant, rewarding, and meaningful. And it's fun! As Dr. J Nichols says in *Blue Mind*, water has amazing effects on us and all living creatures.

**WW: Regarding water conservation, what do you feel are the biggest challenges facing Colorado?**

Political, financial, and cultural. Technologies are evolving to do more with less, but the steps to implement them face many types of opposition. The competition for water creates geographic tension and turmoil, from rural to urban areas and east to west slope communities. In some ways this produces innovative solutions and partnerships, but it's uncomfortable and sometimes ugly, and requires a great deal of patience, understanding and discussion.



**“Technologies are evolving to do more with less, but the steps to implement them face many types of opposition. In some ways this produces innovative solutions and partnerships, but it’s uncomfortable and sometimes ugly, and requires a great deal of patience, understanding and discussion. ”**

**WW: What measures do you think will have the biggest impact on water conservation in Colorado?**

The WaterSense fixture bill is a good example. Sensible adoption of industry approved and delivered solutions offers low pain, point conservation that all industry partners endorse. Next steps might be high efficiency, new construction policy, such as WaterSense, EnergyStar or the Water Efficiency Rating System (WERS), currently under development by RESNET. Policy or incentives for such standards can meet our built environment needs in ways that use less water and energy and help restore and retain productive farmlands, watersheds, water quality, and habitats. Industry demonstrates these concepts, including LEED, are possible at very low incremental costs and examples are proliferating across multiple sectors. Water awareness, through education, is also paramount to successful conservation. People must understand and appreciate water, and know how they can help. Colorado Water: Live Like You Love It is an example of an opportunity we have that can help make that happen. I think the Colorado Water Plan will have some good direction as well.

**WW: What technologies do you think will have the biggest impact on water conservation in Colorado?**

We’ve seen substantial progress on indoor water use and are reaching some theoretical limits within existing cultural norms. Outdoor conservation technology continues to offer great promise, as does that in the agricultural sector, notwithstanding legalities. Bill-back technologies and metering in multi-family and other segments who’ve not historically been given price signals for water use will encourage conservation. I think consumer information that reports degrees of water use in products and foods might eventually help people choose more efficient options. It could be something like a Fair Trade or Organic label for water use. Finally, agricultural and crop science, like that at Northern Water’s research areas, promises cultivars that can meet expectations using less water.

**WW: What has given you the most satisfaction during your career?**

Meeting and working with amazing people who care about and are doing great things; talented, committed individuals who are good at what they do and want to make a difference. Having the chance to be creative with solutions and help save water. Of particular importance is our utility’s partnership with low and no-income housing providers in Colorado Springs. We have partnered with them to improve the efficiency of thousands of homes, which improves comfort, performance, and affordability, and gives dignity and self respect to many who have none. I’m immensely proud of our water conservation achievements at Colorado Springs Utilities and in Colorado at large.

**WW: Beyond work, what other interests do you have? Passions, goals, missions?**

I love the outdoors and being in different landscapes that involves travel and different experiences such as hiking, biking, camping and canoeing. Recycling and resource protection and ensuring healthy habitats and lives for our animal friends. Reading, NPR, and live music; hearing it only, I can’t play a thing. Basically creating a life of meaning and purpose and having fun while doing it.

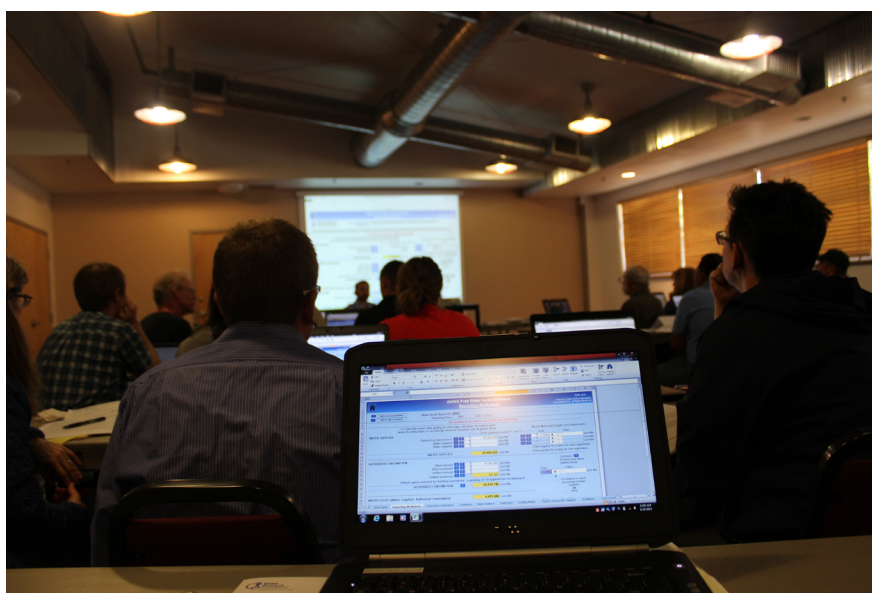
**WW: Any last thoughts you’d like to share with our readers?**

I want to thank all of those who are involved in the world of water. It’s clear we all love water, and we’re all dependent upon it for so many things. I hope everyone learns to respect and protect water today and for the future.

# COLLABORATION ON PILOT STATEWIDE TRAINING PROGRAM FOR WATER LOSS CONTROL WORKSHOPS

*By Frank Kinder, Colorado Springs Utilities*

In late September 2015, water professionals from across the state participated in an in-depth, day-long workshop on Water Audits and Loss Control programs. This effort was the result of multiple organizations working together to create low-cost access to training on water loss methodologies using the industry adopted AWWA M36 programmatic practices. Five workshops were held across Colorado, from west slope to east slope to encourage participation for either interested or covered entities.

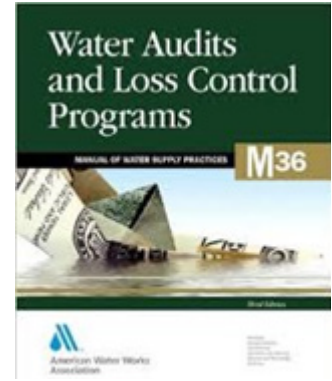


Water Loss Audits and Control are gaining importance in the utility industry as an effective strategy for conservation, as an operational and managerial area of focus, and are receiving public scrutiny and awareness for transparency and accountability. It has been big news in multiple publications, including [Water Efficiency](#) and [Advances in Water Research](#), and is the number one search topic in American Water Works Association (AWWA)'s website. AWWA's Water Loss Control Committee has earned attention and is holding its first conference this fall. It is also releasing an updated M36 textbook next year. Finally, the Water Research Foundation (WRF) has published [multiple reports](#) on the advent of water loss and the results of preliminary audits from many study participants. These studies highlight the challenges and opportunities of this utility component.

Some states, including GA, TX, NM, and CA are implementing full water loss reporting with greater coordination of loss goals, accelerating adoption and placing significant emphasis on managing this resource, known as Non-Revenue Water (NRW). In Colorado, as part of House Bill 1051, the state is collecting preliminary water loss data to be reported from covered entities, and many utilities are conducting such audits for the first time. These drivers compound the relevance and investment of resources to understand, plan for, and address water loss in water supply systems of all sizes.

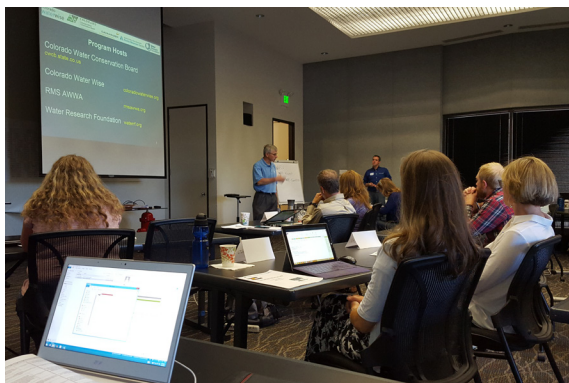
To establish a foundational understanding of these industry norms and help adopt water loss control, the Colorado Water Conservation Board (CWCB) partnered with leading regional water entities, including Colorado WaterWise (CWW), Rocky Mountain Section of American Association of Water Works (RMSAWWA), the Water Research Foundation (WRF), and water loss consultants Cavanaugh and Associates. With Cavanaugh as subject matter expert, partners promoted the workshops and provided attendees, training sites, technical contributions, and in-kind development hours. CWCB provided funds and CWW was fiscal agent and registrar. Managers, directors, conservation specialists and others attended. A preliminary webinar and homework assignment helped prepare attendees.

The workshops included valuable, hands-on manipulation of the M36 worksheets, providing participants real-world examples of collecting information and determining results, as well as representations of incomplete or imperfect information which they might encounter in their own organizations. Such experiences prepare auditors to expect the complexities of audits, also known as a Water Balance, and to understand how the process must evolve for best results.



Participant feedback indicated their time was well spent and they were more confident going into the auditing effort. As the process is iterative, familiarity can increase the degree of confidence in results, and the state is considering an additional, more in-depth training in the future. We thank all partners for their help in conducting this useful first step in helping Colorado adopt M36 controls.

To read the full report of the training, please go [here](#).



## BECOME A CWW MEMBER

Show your support for Colorado WaterWise projects! Click here to [Join Now](#). If you are already a member, please renew your membership for 2016.

[Benefits vary by level](#), but here are some of the exciting benefits you could receive by becoming a valued member of Colorado WaterWise.



- Discounts to Colorado WaterWise events and workshops
- Access to Member Directory
- Membership includes up to 10 members per organization, depending on the membership level
- Member-Only section of the website with access to newsletter archives and other valuable resources
- Event and job postings on website
- Newsletter advertising discounts

# SAVING WATER AT WORK

*By Kristi Ennis, AIA, LEED AP, Principal with Boulder Associates Architects*

Commercial water-saving fixtures are abundant and often designed so that they can be swapped out with older, less efficient fixtures with minimal disruption.

When we designed our new office in 2004, WaterSense did not yet exist. We wanted to conserve water, but options were a bit limited. We were able to find a 1.0 gallon per minute (gpm) micro-hydropowered unit that reduced water usage through automated shut-off, but also saved on batteries. By using the flow of water to spin a high-efficiency turbine and recharge the batteries, the unit was marketed to increase battery life from 2 years to as many as 19. We're now at 10 years and still counting!

About the same time, another manufacturer realized that you could power auto-controlled faucets with the light fixtures in the room through the use of photovoltaics. They created a 0.5 gpm faucet that had a photocell mounted on top, that also took advantage of the general public's ability to recognize such a feature as green - even if they didn't know exactly why.



Many more faucets were made available on the market in the ensuing years at the 0.5 gpm flow rate, and this became more of the norm than the exception for lavatory faucets. In 2009-10, both the State of California and the USGBC's Leadership in Energy and Environmental Design (LEED) Rating System adopted it as their baseline.

Both California and LEED simultaneously pushed the industry to do even more with less, however – another 20% reduction to 0.4 gpm – and the market responded with 0.35 gpm units. Faucets this low in water use now appear to be straddling the line between what feels like enough water to wash your hands, and what does not. Aeration and flow patterns have to be carefully designed in order to properly wet an adult's hands without taking more time (and subsequently using more water), and satisfy a general public brought up on faucets that gush this precious resource with no regard to conservation.

In the past ten years we've seen a move from manual to auto-faucets, as well as reductions from 1.0 gpm or more to just 0.35 gpm for handwashing. Will we see anything lower that will be effective and marketable in the next 10 years? Conservation is becoming paramount and the industry is always studying this issue, so I wouldn't bet against it!

# THE IMPORTANCE OF WINTERIZING IS A MESSAGE WORTH COMMUNICATING ALL SEASON LONG

*Michael Thomas, Denver Water*

As winter temperatures set in, utilities, conservation groups, and big box retailers all remind people to winterize their homes. Customers need to winterize to avoid costly energy bills and to avoid water pipe or irrigation line breaks. While most advertising that recommends winterizing takes place in the fall and early winter, the reminder may be needed throughout the winter season. When Denver Water crunched its high bill audit data spikes were found in audit demand at the beginning of the calendar year. While the peak demand for audits is during the irrigation season (largely due to overwatering of landscapes) there is a spike in leak related issues between January and March. In 2014, Denver Water field technicians performed over 1,000 single family high bill audits. These customers self-identify as having high bills or unusual spikes in consumption. Before an audit is scheduled the customer is asked step-by-step questions by our customer care center to see if there are issues that can be solved without sending out a conservation representative. For those customers we do perform an audit for 55% have some sort of an observable leak (during the first three months of 2014 that percentage jumped to 75%). While toilet leaks remained the overwhelming source of leaks throughout the year, February and March, in particular, saw a spike in irrigation/hose spigot leaks as well as leaks in the service line (the connection between the meter and house). Some properties had as much as a gallon per minute constant flow.

2014 had a larger than usual spike compared to previous years. While looking for answers we trudged through data from 2012-2014 (and did a similar comparison in 2015). The results suggested that some unusual weather patterns may be largely responsible for the spike that year. After we ran the statistical analysis the two most important factors in explaining the increase in leaks were: the range between the maximum high and minimum low temperature in a given month and maximum temperature observed in a given month. To simplify and put into context, when the temperatures rise then get very cold again it causes ice to melt then refreeze damaging the uninsulated pipes and non-winterized irrigation systems. Minimum temperature, number of days with frost, and average temperatures did not have as strong a correlation. So while the negative temperatures in February of 2014 caught people's attention the higher than average 77 degree day also wreaked havoc on uninsulated systems. When we noticed this we communicated with our customer care center and communicated winterization in additional winter bill inserts sent to customers to avoid the same peak of demand. While this winter was milder compared to 2014 this outreach is still a worthwhile investment.



As a reminder here are some of the most effective ways to winterize your home:

- Be sure to blow out irrigation systems and to disconnect hoses from their spigot
- Do not water during the winter even if it warms up, the landscape is dormant anyway
- Insulate any pipes that could be exposed to weather fluctuations
- Major areas include crawl spaces
- Avoid any air drafts moving through areas with pipes
- Keep thermostat above 55 degrees (even on vacation) to avoid any freezing
- If you do find a frozen pipe do not try to heat it up - seek professional help in replacing it
- Know where your shut off valve is and that it works

# THE CALIFORNIA WATER DILEMMA

*By William B. DeOreo, Aquacraft, Inc.*

One of the great ironies of the current drought in California is when many water agencies are in need of extra financial resources in order to understand and respond to the drought, they also find themselves in an income drought. This is because so few agencies have water rate structures that recognize the value of water, especially during times of drought. In many locations, where serious water shortages exist, people are still paying for water at whatever the standard rates were before the drought began. This means that the water agency revenues fall lock-step with water deliveries, leaving the agencies with no resources for doing things like studies of water use during the drought or development of alternative supplies.

A good way to avoid this problem is to link water rates with drought surcharges that capture the high value of water, during times of shortage, based on the high cost of new, dry year water supplies. This means that when drought conditions are declared, and demands are curtailed, the rates go up and agency revenues remain stable. This spells the difference between inertia and an active and creative response to the drought.

Many water agencies complain that their customers do not realize the value of water and expensive studies have been done by the Water Research Foundation and others to explore this phenomenon. If agencies want customers to recognize the value of water then they can help by charging for water at its true cost to deliver; a cost that must include a scarcity value. Such a determination is not difficult to make. Simply determine how much it would cost in your local area to develop a new water supply that yields reliable water, even in a major drought, annualize this cost on the basis of unit deliveries, and you have the drought value. For example, if a new, dry year water supply cost an additional \$20,000 per acre foot over existing costs, then to develop the per kgal charge would be between \$6 and \$10 over the current cost for water and the rates for use should reflect an increment in this range.

Charging at the existing, non-drought rates, in times of drought, sends a mixed message to the customer. A much better option is to avoid the dilemma and create rate structures that recognize and communicate the true value of water from the beginning.



*View from what used to be the swimming beach at Folsom Lake in California*

# EDUCATION IS THE FOUNDATION TO CONSERVATION

By Birgit Landin, Colorado Springs Utilities

At the recent Colorado WaterWise conference, Colorado Springs Utilities showcased a few activities from their interactive youth water education programs. It is documented that water conservation is more successful when water users are educated about their resource. How many folks on the street actually know the source of the water that comes out of their tap? Who would guess the amount of time, energy and cost put into obtaining water rights, conveying water, treating and delivering it? What can they do to help out that won't be too much trouble for them?



Most of the general public may not be as jazzed up about water as those of us working in the industry, but you can engage them with three simple steps:

**Make it Fun**  
**Keep it Simple**  
**Let it Pop**

**Make it Fun** – If you just tell someone they should take a shorter shower or turn off the faucet while they are brushing their teeth, you likely have little chance of follow through with actual behavior change. Instead, bring conservation messaging out in a fun and engaging way that promotes action. Some ideas include:

- Disseminate messages through quizzes, games and challenges
- Use a mascot, cartoon or diorama to tell the story for you
- Create a visual or tactile experience
- Get your audience to tell or think about a personal story involving water



Colorado Springs Utilities has successfully connected younger audience through the use of an adorable water drop named Dewey that comes along to our programs and helps students connect personally with water through games. Kids want to conserve water so they can save Dewey and will tell their families how to use water wisely too.

**Keep it Simple** – The average person can absorb three messages at a time. Keep your message simple. Keep it short. Don't bombard your audience with too much detail, text, talking, or information all at once. Choose no more than three key points and reinforce them continuously. This applies to almost any format whether it be written media or verbal presentations.

**Let it Pop** – Harness your enthusiasm and go for it! When you unleash your passion, the energy has a tremendous ripple effect, so don't hold back. Use the wow factor to your advantage and include surprises, experiments, and demonstrations so your audience can understand and connect with your message. "I remember the lady with the cloud cannon. That was so cool!" This is what you want to hear because you know you've left an impact that may lead to the end goal – valuing water. Education is the foundation to water conservation so let's grab them from the getgo and start a real movement of change toward conserving water.



For more information on water education resources available from Colorado Springs Utilities, please visit our [website](#) or contact one of our water educators: [Julia Gallucci](#), 719-668-7280 or [Birgit Landin](#), 719-668-4621.

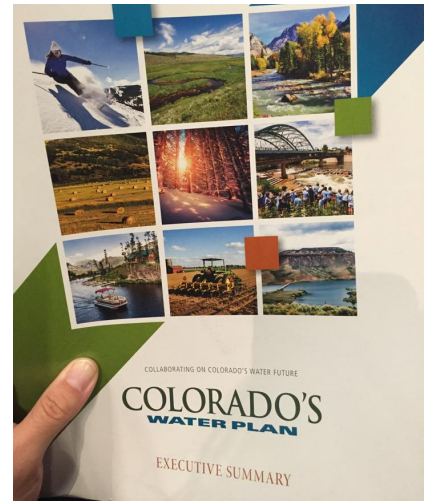
# LEGISLATIVE WATCH

*By Drew Beckwith, Western Resource Advocates*

Colorado's legislature will begin on January 13, 2016, but many of our elected representatives are already drafting up bill ideas. Here are a few highlights from the pre-season:

Representatives Esgar (D-Pueblo) and Danielson (D-Wheat Ridge) will be bringing back a bill to legalize the use of residential rain barrels. If you don't remember, this bill had wide bipartisan backing in the legislature, was supported by a broad swath of water managers, and heavily covered by the press. Unfortunately, to no avail, as it was unilaterally blocked by Senator Sonnenberg (R-Wray), chair of the Senate Agriculture and Natural Resources committee. Earlier this year, Senator Sonnenberg had proposed his own [version of a rain barrel bill](#) that would require 100% augmentation for all captured water, but ultimately withdrew it from consideration. Esgar, Danielson, and Sonnenberg are scheduled to meet in the coming months to see if there is a compromise bill that can make it all the way through to becoming law.

Expect to see several pieces of legislation related to Colorado's Water Plan in the coming session. One of the hottest topics involves the desire for many to "streamline" the permitting process so it doesn't take 15 years and \$15 million to permit a water storage reservoir. The Water Resources Review Committee, a group of legislators from the House and Senate, considered two such streamlining bills in late October. One sought to [consolidate permitting authority](#) with the State Engineer's Office by removing that authority from the Department of Public Health and Environment and other resource agencies. Another [sought state-ability to certify projects](#) under the Clean Water Act. Both of these bills failed on party lines, as covered by the [Boulder Weekly](#).



One idea, in the early stages of consideration, is a proposed requirement for all comprehensive plans to include a water conservation element. Currently, the only requirement on comprehensive plans in Colorado is that they include a tourism element. Other states, notably Arizona, already require water to be included in comprehensive planning efforts. This legislative concept would support a top recommendation in Colorado's Water Plan that by 2025 "75 percent of Coloradans will live in communities that have incorporated water-saving actions into land-use planning."

Not legislative, but important for water efficiency regardless, is a recent [Governor's Executive Order](#) on Greening State Government. Notably, the order sets out a goal to reduce water use consumption in state facilities by 7 percent between 2015 and 2020, at the rate of at least 1 percent per year. This also matches nicely with another Colorado's Water Plan goal of "achieving 400,000 acre-feet of municipal and industrial water conservation by 2050."