



Watershed Connections

Delivering News from the Carson River Watershed Community

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Scan to be directed to our website:



Calling All Environmental Educators!

By Brenda Hunt, Carson Water Subconservancy District

We invite all our environmental educators working in the Carson River Watershed and beyond to join us at the 2nd Environmental Education (EE) Roundtable on Tuesday, April 26, 2016. Hosted by the Carson River Coalition Education Working Group (CRC EWG), this event is an opportunity to learn about the collaborative efforts to increase “watershed-literacy” amongst residents in our local area and be involved in determining next steps.

The purpose of the 2nd Roundtable event is to:

- ◆ Update our EE partners on our Watershed-Literacy Program by sharing results of our recent watershed resident survey and draft Marketing and Communications Plan;
- ◆ Learn how your program may benefit from the survey results;
- ◆ Workshop with EE partners to determine how and where to focus our collective efforts (based on survey results); and
- ◆ Network with EE implementers in our local area!

The main aim of the Watershed-Literacy Program is to increase resident’s awareness of watershed issues eventually moving them from awareness to behavior change, with the ultimate goal being actual sustained water quality improvements (*See diagram*).



Cardiff “Behavior Change Logic Model”
<http://www.healthwise.org/insights/healthwiseblog/cserio/august-2014/2287.aspx>

Brenda Hunt, CWSD Watershed Program Manager, and Steve Lewis, Extension Educator, University of Nevada Cooperative Extension, will co-MC this interactive event that includes presentations, clicker and audience response survey technology, and workshops. Mark Duda, Executive Director of Responsive Management, will present the 2015 Watershed-Literacy survey results and our draft 2016 Marketing and Communication Plan (MCP). The MCP defines and recommends target audiences and key message topics based on the survey results. We will workshop with our EE partners who will help determine the top 5 topics and audiences to pursue collaboratively over the next 3-5 years.

Lunch will be provided, and there will be plenty of networking time. Please join us by sending in your \$15 registration by April 15. Registration is \$20 from April 16-26th. See the linked [invitation and registration flyer](#) for more details. The EE Roundtable event is possible due to funding from CWSD and an NDEP Non-Point Source Pollution Clean Water Act 319(h) grant.

Mark Kimbrough— 2016 Andy Aldax Award Recipient

Debbie Neddenriep, Carson Water Subconservancy District

Mark Kimbrough was awarded the 2016 Andy Aldax Award for Exemplary Service in Conservation and Protection of the Carson River Watershed by the Carson Water Subconservancy District (CWSD) Board. The award, created in 2007, recognizes individuals or organizations that actively demonstrate a 10+ year commitment and accomplish plans and projects to improve and sustain the Carson River Watershed.

Although Mark was nominated based on his most recent successes including the King's Canyon Waterfall Trail and the formation of the Eagle Valley Trails Committee, his work in the Carson River Watershed spans decades. Both personally and professionally, his work creating sustainable open spaces and trail systems throughout the Eastern Sierra Front and Carson City has benefited everyone in our entire watershed community. Jeff Potter of Muscled Powered said, "We are very fortunate that Mark Kimbrough has chosen Carson City as his home and we all benefit from his tireless efforts to improve the community we live in."



CWSD Board Chairman Greg Lynn and CWSD Board Member Karen Abowd present Mark Kimbrough with the 2016 Andy Aldax Award.

Photo by Brenda Hunt

Mark has lived along the Carson River since the 1980s, becoming a member of the Carson River Action Committee (CRAC) in 1993. This committee helped create the 1994 CRAC planning document that became the framework used for protection of open spaces along the Carson River and within Carson City after voters passed the Quality of Life initiative in 1998. Mark became an active founding member of the Carson River Coalition after the 1997 Carson River flood of record brought a lot of attention to the Carson River. Mark, in

partnership with other community members, obtained a grant to build the self-guided trail at Ambrose Natural Area. More recently, he helped build the trail along the river from the BLM office to Morgan Mill road. His advocacy helped protect the Carson River when the BLM considered allowing a housing development at Silver Saddle Ranch. Carson City instead acquired Silver Saddle Ranch from BLM for open space purposes.

Over the years, Mark has participated in numerous environmental programs on the river including a two-night stay at the Silver Saddle Ranch with high school seniors and a 10-day field trip "The River Runs Through." He's worked with many other educators, including Dan Kaffer and Linda Conlin of River Wranglers, to expose adults and children to the Carson River for firsthand learning experiences that promote the importance of protecting the river and maintaining a healthy watershed.

In accepting his award, Mark encouraged the CWSD board and staff to continue monitoring and protecting the Carson River. CWSD thanks Mark for all his hard work and dedication!

Source Water Protection Plans Completed for Public Water Systems in the Carson River Watershed

By Lynn Zonge, Resource Concepts, Inc.

Community Source Water Protection Plans are completed and adopted in Douglas, Carson City, Lyon, and Churchill Counties. This is great news for the Carson River watershed because our actions to help protect our drinking water also help to protect our river.

The Integrated Source Water Protection Program (ISWPP) is a comprehensive, voluntary approach designed to help communities develop and implement a plan that protects their drinking water supplies with an emphasis on ground water resources. The Nevada Division of Environmental Protection (NDEP) administers the ISWPP to help communities in Nevada protect their drinking water.

This community approach, allowed each community to consider what worked best for them, as they developed their plans. Each plan provides a description of the community's public drinking water resources, activities that could contaminate these resources, management strategies to protect them, and specific actions that once implemented, will help to protect our drinking water. Protecting public drinking water supplies at the source through managing land uses and human-caused sources of contamination are the keys to preventing pollution before it enters our drinking water supply.

Education is a major component outlined in each of the plans. Each plan contains detailed education and outreach objectives with specific target audiences including sixth grade classes, businesses, residents, and decision makers identified.

Watershed and groundwater models are fun and interactive tools to help students visualize how our everyday actions can lead to drinking water pollution. The Carson River Subconservancy District recently requested and received each of these models to help educate our watershed citizens.



Watershed Groundwater Model

Photo provided by Lynne Zonge, Resource Concepts, Inc.

Now is the time to work together and maintain the momentum to implement actions in each of these communities. Please contact Lynn Zonge, 775.883.1600 or email Lynn@rci-nv.com and/or Brenda Hunt, 775.887.9005 or email brenda@cwdsd.org if you would like source water protection education in your community.

Get on the Bus!

June 7-8, 2016

8:30 am—4:30 pm daily



Carson River Watershed Tour

Register early to ensure your seat:

\$130 by May 20, 2016 or **\$150** after May 20, 2016.

Make checks payable to CWSD (non-refundable after June 1, 2016). [Download registration](#) or sign up on [Eventbrite](#).

Questions: (775) 887-7450 or email toni@cwdsd.org

**Come explore the Carson River
Watershed on a 2-day bus tour from
Headwater to Terminus**

**CEU credit available for teachers and
planners (AICP), and PDH hours for Engineers*

Carson City UNCE Welcomes New Educator

We want to welcome Lindsay Chichester to her new role as University of Nevada Extension Educator/Assistant Professor in Carson City which she began January 4, 2016. Lindsay is a native of Topaz, CA, where she grew up on a cattle and sheep ranch and was a 10-year 4-H member in Lyon County (Nevada). She attended college in Oklahoma on livestock judging scholarships and attended grad school at West Texas A&M University. Lindsay has a Master of Science in Animal Science, a Master of Art in Speech Communication, and a PhD in Systems Agriculture with a meat science emphasis.

Prior to joining Nevada Cooperative Extension, Lindsay spent six years with Nebraska Extension where her programming interests included livestock, consumer education around livestock and food systems, and 4-H/youth development. Lindsay is excited to meet the citizens of Carson City and to provide assistance and programming as needed. Additionally, Lindsay is active on social media, sharing agriculture, food, and various adventures with consumer audiences through a blog, Facebook, Twitter, and Instagram. To contact Lindsay call 775.887.2252 or email chichesterl@unce.unr.edu.



Douglas County Selects New Stormwater Program Manager



Courtney Walker has joined Douglas County as their new Stormwater Program Manager. Carson Water Subconservancy District staff will miss Courtney's cheerful presence and excellent work, but are delighted she will continue working in our Watershed. Courtney comes to Douglas County with over 10 years of experience with stormwater and watershed management. Courtney's experience in the Tahoe and Carson River Watershed areas provide her with a great foundation for Douglas County stormwater coordination in both the Tahoe Basin and the Carson Valley.

Courtney grew up in Douglas County and recently moved back to the area with her husband Tripp and four year old daughter. She received her Bachelor of Science in Earth and Environmental Science from the University of California, Irvine in 2004. She previously worked with local, state, and regional

governmental organizations, such as the Tahoe Resource Conservation District, the Tahoe Regional Planning Agency and the Carson Water Subconservancy District.

As Stormwater Program Manager, Courtney's primary functions are to manage the Lake Tahoe TMDL water clarity crediting program; facilitate the County MS4 permits for stormwater runoff; assist with

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Restoration Begins on the East Fork of the Carson River

Shane Fryer, Alpine Watershed Group

The Alpine Watershed Group (AWG), in partnership with Humboldt-Toiyabe National Forest, Bureau of Land Management, and Alpine County, began stream bank stabilizations and other restoration efforts within the Highway 4 corridor along the East Fork of the Carson River in October 2015. This project fulfills a portion of the East Carson River Strategy which was developed by the Carson Ranger District of the Humboldt-Toiyabe National Forest in 2007. Work on the East Carson River is being funded through grants from California State Parks' Off-Highway Motor Vehicle Recreation Grants Program, Carson Water Subconservancy District, and the Sagebrush Chapter of Trout Unlimited.

The purpose of the restoration project is to improve and provide sustainable vehicle access, while restoring degraded sections of stream side habitat at eight identified sites. The first site was Curtz Mill Flat, located just downstream of the Highway 89 turnoff to Monitor Pass. The second



CCC out of Meyer CA plant willow.
Photo by Shane Fryer, Alpine Watershed Group.



Boulders are used to keep vehicles out of the East Carson.
Photo by Shane Fryer, Alpine Watershed Group

site is approximately one mile further downstream. Native willow and cottonwoods were planted along the river bank and boulders were placed to provide vehicle access to designated use areas only.

Similar techniques will be implemented at three more sites in 2016. Restorations will further protect this state-designated Wild and Scenic River by increasing habitat for fish, stabilizing the river banks, and providing sustainable vehicle access. For more information on the project or if you are interested in becoming a partner, please contact Sarah Green at awg.sarah@gmail.com, or visit AWG's website: www.alpinewatershedgroup.org.



Alpine Watershed Group Upcoming Volunteer and Fun Events

Earth Day at Grover Hot Springs State Park, April 16th from 10am – 2pm:

Help us celebrate Earth Day this year! Join the AWG in combating invasive weeds at Grover Hot Springs State Park and help expand our native plant garden.

Markleeville Creek Day- September 10th : Markleeville Creek Day is the AWG's largest annual volunteer event! Help us plant willow, pull weeds, stabilize stream banks and cleanup our rivers. New participants are always welcome!

Alpine Aspen Festival- October 8th and 9th : Celebrate fall's natural beauty and colors in Hope Valley, CA. Pack a picnic and spend the entire day with us enjoying free live music, guest speakers, and ecology hikes. Workshops include fly-fishing, painting, and much more.

For more information on any of the activities above, visit our website at alpinewatershedgroup.org or contact Hannah Drummond: awg.hannahd@gmail.com or call (530) 694-2327.

Smelter Creek Regional Flood Control Facility Feasibility Study

By Rob Anderson, R.O. Anderson Engineering, Inc.

CWSD recently completed a feasibility study of a regional flood control project for Smelter Creek in Douglas County, NV with the assistance of R.O. Anderson Engineering, Inc. Smelter Creek is an intermittent or ephemeral stream originating in the Pine Nut Mountains and flows through the Ruhenstroth subdivision located in the southern portion of Carson Valley. The Smelter Creek watershed encompasses about 12.3 square miles. A feasibility-level engineering study was prepared to identify alternate solutions to address and minimize future flooding resulting from severe hydrologic events that occur in the Smelter Creek Watershed. The creek is generally dry except during thunderstorms that produce stormwater runoff. After significant rainfall or local thunderstorms the wash can and does fill up quickly. The Smelter Creek watershed experienced several large hydrologic events in recent years causing short duration, high-flow conditions to occur. Such storms occurred in 1986, 1997, 2005, and more recently in summer of 2014 and spring of 2015. Each storm resulted in considerable damage to private property, roads, and drainage structures. During these events, dip sections of the roadways filled with water and sediment, completely cutting off residents from accessing or leaving their homes, sometimes for several days.



Horseman Court during June 10, 2015 flood event

Following these flood events, the dip sections are filled with 6 to 8 inches of accumulated sediment that must be removed by the County Road Department.

The study identified two locations east of Ruhenstroth as options to construct a regional flood control facility. With the flood control facility in place, 117 structures would be removed from the 100-year floodplain (three would remain). Additionally, 195 structures would be removed from the 500-year floodplain (eleven would remain). When implemented, the burden of flood insurance on property owners in the area would be lessened, property values would increase, and the threat to public health and safety would be significantly reduced.

The estimated total project cost for design, permitting, and construction of the proposed flood control facility is expected to amount to \$2.6 million to \$3.2 million. Due to an exceptional cost-benefit ratio of between 2.27 and 2.82, this project is eligible for a Federal Emergency Management Agency (FEMA) Pre-disaster Mitigation Grant. If awarded, federal funding through FEMA would pay up to 75% of the cost of the facility. Local taxpayers would need to fund the remaining 25% of the project's cost. Funding the cost of the local match will probably involve an assessment on the benefitted properties; however, for a majority of the residences in the floodplain, the cost to fund the flood control facility would be less than the annual payment of flood insurance they are currently paying.

CWSD and Douglas County demonstrated leadership in promoting the search for feasible alternatives to minimize flood related damages for numerous homes in the Ruhenstroth subdivision. With the future completion of this project, threats to public health and safety from future floods in this area will be greatly minimized.

CWSD Welcomes New Watershed Program Specialist

Carson Water Subconservancy District is pleased to announce Shane Fryer is our Watershed Program Specialist beginning April 1, 2016.

Shane, a native of Kentucky, moved to California in 1999 and to Carson City, NV in 2013, where he and his wife, Cyndie, recently bought a house. Shane is familiar with the Carson River Watershed as he has been working in the headwaters as the Watershed Coordinator with the Alpine Watershed Group (AWG) based in Markleeville, CA. There he was responsible for AWG's restoration and water quality monitoring activities. His efforts led to important restoration activities on the East Carson River and projects that increased the sustainability of ranching along the West Carson River. Other achievements include assisting in the launch of the Watershed Group's Aspen Festival and expanding their Markleeville Creek Restoration Day.

Shane has a Bachelor of Science in Geography and Minor in Geology from Western Kentucky University. His resource management background and former career with the National Park Service allowed him to work all over the US including the Black Hills of South Dakota, Carlsbad, New Mexico and at Sequoia and Lava Beds in California. As a physical scientist he has administered large restoration projects along with the monitoring of air, water, and geologic resources.



Shane's resource mapping knowledge has allowed him to volunteer all over the world. In China's rugged south he surveyed large river caves to allow well drillers to target water sources for ethnic minorities. In Indonesia he conducted surveys to identify orangutan habitat under the United Nations Educational, Scientific, and Cultural Organization protections. Closer to home Shane has legally traveled to Cuba four times to promote geologic research and scientific fellowship. Most recently he led efforts to develop natural resource inventories for the Mindanao government in the Southern Philippines to assist in developing responsible tourism.

Shane is very enthusiastic about working with Carson Water Subconservancy District and is eager to bring his natural resource monitoring, restoration, and grant writing abilities to bear within the Carson River Watershed. Please welcome Shane Fryer! You can contact Shane at 775.887.9005, or email shane@cwsd.org

Courtney Walker (Continued from page 4)

current and proposed development in the floodplain, and maintain and improve the County's rating in Federal Emergency Management Agency's National Flood Insurance Program's Community Rating System (NFIP-CRS). Douglas County participates in the NFIP-CRS where property owners in a special flood hazard area can receive discounted rates on flood insurance. CWSD extends our heartfelt thank you and best wishes to Courtney, and we look forward to working with her in her new role!

Save a Stamp!
Sign up for
CWSD's e-blast list
for a digital
newsletter copy.
cwsd@cwsd.org

Editor:
Brenda Hunt

Thanks to Staff &
Contributors!
Debbie Neddenriep-
Stephanie Hicks
Shane Fryer
Hannah Drummond
Lynne Zonge

April 16, 2016, 10am - 2pm: Earth Day Celebration at Grover's Hot Springs, CA. [Download flyer](#) or contact Hannah 530.694.2327, avg.hannahd@gmail.com.

April 22, 2016, Two events, 11:30am and/ or 12:30pm, Landowner Weed Management Workshop sponsored by Churchill Weed Management Area, Churchill County Commissioners Chambers, Contact jackie.bogdanowicz@nv.nacdn.net or Nancy at ccmosquito@ccomm.net.

April 23, 2016, 10am - 2pm: Pollution Revolution: Protect Mother Earth Day Celebration at Oat Park, Fallon. Contact 775.423.0590 or [download flyer](#).

April 21-22, 2016: Capital City Farm Days. Fuji Park. Contact Sandy at UNCE 775.887.2252 or [follow link](#).

April 26, 2016, 8:30 am - 4:30 pm: Environmental Education Roundtable - Ruvo Hall, Carson City. Questions? 775.887.9003 or brenda@cwsd.org. [Download registration and flyer](#).

May 1 or May 15, 2016, 1pm - 5pm: Butterfly Monitoring Network Training Workshop by Nevada Bugs and Butterflies, UNR - Museum of Natural History, contact kevin@nevadabugs.org and visit their [website](#). RSVP by April 28, 2016.

June 7-8, 2016, 8:30am - 4:30 pm: Get on the Bus Carson River Watershed Bus Tour. Contact 775.887.7450 or [download registration flyer](#).

June 15, 2016, 9:00am -1:00 pm Carson City Noxious Weed Land Owner Training. Contact Dan Anderson, 775.283.7035 or dhanderson@carson.org. RSVP by June 8. [Download flyer](#).



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NEVADA DIVISION OF
ENVIRONMENTAL PROTECTION

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