



# Watershed Connections

*Delivering News to the Carson River Watershed Community*

*Filming at Grover Meadow. Photo by Brenda Hunt.*

## I Am Carson River Watershed and You Are Too! *Watershed-Literacy Campaign Launch*

We live in one of the most spectacular watersheds in the country! From the majestic views at Monitor, Ebbetts and Carson Passes, down to the 'Tatooine-esque' salt flats of the Carson Sink, our Carson River Watershed is one-of-a-kind. CWSD is excited and proud to launch the I AM CARSON RIVER WATERSHED campaign with a film that connects our community to the watershed they live in and asks everyone to do a few simple things to help improve the quality of our water.

Go to [IAMCARSONRIVER.ORG](http://IAMCARSONRIVER.ORG) and join Vanessa Vancour on a 'WALK THROUGH THE CARSON RIVER WATERSHED' to 24 spectacular locations in just over two minutes!

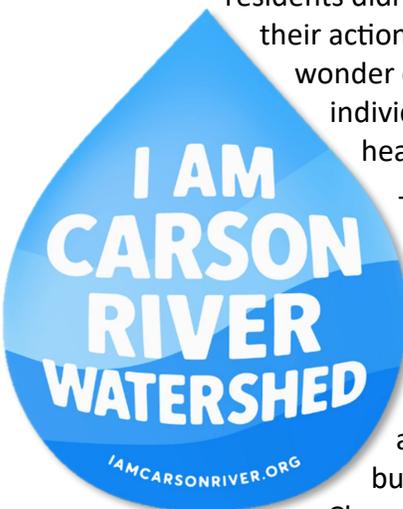
"We're excited to work with NEON Agency to launch the I AM CARSON RIVER WATERSHED campaign with this incredible film," said Brenda Hunt, Watershed Program Manager of the Carson Water Subconservancy District. "We surveyed our watershed community and found the majority of

residents didn't know they lived in a watershed and didn't think their actions affected its health. This film celebrates the natural wonder of the Carson River Watershed while inspiring individuals in our community to take action to improve its health and water quality."

The I AM CARSON RIVER WATERSHED Campaign is the culmination of hard work and tenacity by our Carson River Coalition (CRC) partners. In particular, we thank the CRC Education Working Group and the Nevada Division of Environmental Protection (NDEP) for shaping the campaign into an effective and targeted message! Our watershed is beautiful, but several reaches of the Carson River are on the Clean Water Act 303(d) list of impaired waters. The #1



*Filming at the Frey Ranch Barrel Room in Churchill County. Photo by Shane Fryer.*



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## Watershed Literacy Campaign Launch (continued)

reason these reaches of the river are impaired is polluted run-off or [non-point source pollution](#). You can help improve the quality of our water and the health of our watershed by picking up dog waste, washing your car at a car wash, recycling your motor oil, and curbing your use of chemicals in and around your homes.

We have created a campaign logo and sticker (*see pictures*) to spread the message. The back of the sticker includes simple actions you can take to improve water quality. Look for your free sticker in your water bill or pick one up at CWSD's office, 777 E. William Street, Suite 110A, Carson City. We are also asking our partners to add the campaign logo graphic with a link to our Campaign Page to their websites and social media pages. Contact Brenda Hunt at [brenda@cwsd.org](mailto:brenda@cwsd.org) and we'll send you the logo graphic so you can help this film and campaign 'GO VIRAL!'

So what's next? We're working with NDEP and NEON to produce short films showing people taking actions that improve the water quality and the health of the watershed. We've already begun working on a film focused on protecting the quality of our drinking water. Look for its debut winter 2020.

**YOUR ACTIONS MATTER!** Please share [IAMCARSONRIVER.ORG](http://IAMCARSONRIVER.ORG) widely, display your sticker proudly, and implement one or all of the simple actions discussed in the film, because "I am Carson River Watershed, and YOU ARE TOO!"

Contact Brenda Hunt, [brenda@cwsd.org](mailto:brenda@cwsd.org) or Shane Fryer, [shane@cwsd.org](mailto:shane@cwsd.org) for more information about the campaign. This program is funded by US EPA Clean Water Act 319(h) grants administered by [NDEP-Water Quality Planning](#) and [CWSD](#).



*Back of Campaign Logo Sticker.*



*Filming on Carson Pass. Photo by Brenda Hunt.*

## North Dayton Valley Area Drainage Master Plan

By: *Debbie Neddenriep, CWSD*

Alluvial Fan floods often become flash floods which wreak havoc when mud and debris rush downslope. North Dayton Valley experienced summer flash floods in 2014, 2015 and 2016, and winter flooding in 2017. During this time, relatively short periods of rain transformed dry gullies into torrential rivers. As a result, many roadways, including Highway 50, were inundated with water, rocks and debris. Culverts and roadside ditches were overwhelmed and filled with sediment. Lyon and Storey Counties repeatedly sent out crews to clean up the resulting debris. Estimated damage to public infrastructure from these flash floods in Carson River Watershed counties totaled over \$5 million.



*Car being rescued in Mark Twain area of Storey County, 2017.  
Photo provided by Storey County.*

This type of flash flood damage is common in the Carson River Watershed. The National Institute of Building Sciences recently reported “*Mitigation funding can save the nation \$6 in future disaster costs, for every \$1 spent on hazard mitigation,*” in their [Natural Hazard Mitigation Saves: 2017 interim Report](#).

To reduce the flash flood hazard in North Dayton Valley, FEMA funded an Area Drainage Master Plan (DV-ADMP) conducted by consulting engineering firm JE Fuller in Lyon and Storey Counties. By mapping flood hazards and

proposing mitigation alternatives, each county can better protect the lives and property of their residents from flooding. ADMP’s are developed to meet these primary objectives:

- Evaluate and identify flooding and sedimentation hazards within the project area;
- Develop a series of alternatives to either partially or wholly mitigate identified hazards; and
- Provide stakeholder coordination and public outreach through a series of public meetings to inform residents of existing hazards and present mitigation alternatives.

The [North Dayton Valley ADMP](#) study results were presented to Lyon and Storey County residents and Boards of Commissioners by JE Fuller in August. Maps identifying flood hazards and proposed solutions were presented in these meetings. Based on initial benefit-cost analysis, projects were prioritized to provide a blueprint to enhance resilience to flood disasters in North Dayton Valley. Both counties plan to use the study results to inform their flood hazard mitigation planning efforts. Specifically, Lyon County added this study to their Hazard Mitigation Plan and Storey County adopted the plan. For more information about this study, please contact your County’s Floodplain Manager: Storey County/Kathy Canfield, [kcanfield@storeycounty.org](mailto:kcanfield@storeycounty.org), (775)847-1144; or Lyon County/Tammy Kinsley, [tkinsley@lyon-county.org](mailto:tkinsley@lyon-county.org), (775)463-6592.



*NDV ADMP Public Meeting, Dayton Community Center, Lyon County.  
Photo provided by Lyon County.*

## 2019 Markleeville Creek Day Summary

*By Mo Loden, AWG Watershed Coordinator*

Thank you to all participants and sponsors of the 20th Annual Markleeville Creek Day! There was an excellent turn out with 56 volunteers working at five different sites in Alpine County. Details on each site are provided below:

### Markleeville Creek Day Projects & Outcomes

#### ***Hope Valley Willow Planting***

Volunteers at Hope Valley planted 606 willows on the West Fork Carson River to stabilize 150 feet of streambank. Healthy, green branches were selected and cut into sections. These pieces were then staked along the river. As the willow stakes grow, their roots will anchor the adjacent soil and help prevent erosion during periods of heavy flow.



#### ***Grover Hot Springs State Park Headcut Protection***

At Grover Hot Springs Creek, volunteers performed maintenance on approximately 60 feet of a previously constructed brush box to ensure it continues to function properly. Additional brush, stakes, and bailing wire were installed to reinforce the structure and stabilize the banks.

#### ***Grover Hot Springs State Park Invasive Weed Removal***

10 large garbage bags of bull thistle, sweet clover, and woolly mullein were collected. Of the 2.55 acres searched, 1.91 acres of weeds were hand-pulled by volunteers.



*(Continued on page 5)*

### Heritage Park and Markleeville Creek Maintenance

The Heritage Park crew sanded and stained 6 picnic tables, and collected 9 large garbage bags of bull thistle stocks and rosettes. A total of 2.93 acres were searched with weeds hand-pulled on 2.19 acres. In addition, one bag of trash was cleaned up along the highway.



### Adopt-A-Highway

The Adopt-A-Highway volunteers collected 10 bags of trash along a four mile stretch of Highway 89 from the base of Monitor Pass to Markleeville Campground.



## River Wranglers Education Program

*By Shauna Langan, Education and Outreach Coordinator*

River Wranglers programs are part of K-12 school activities throughout the Carson River Watershed. Our goal is to provide students hands-on learning experiences about our local rivers and watersheds.

River Wranglers worked with students from three Dayton High School Marine Biology classes to collect Benthic Macroinvertebrates (BMI) data on the Carson River near Dayton Bridge. BMIs are small invertebrates that live in the water on vegetation, under logs and rocks, or burrowed in the sediment. They are the base food source for fish, amphibians, birds and other vertebrates in the riverine habitat. A high diversity of BMIs indicates a healthy river environment.

The students of Dayton High School collected the BMIs from the river and brought them to the classroom for tallying and identification. Working with field experts and research materials, students identified and classified the animals. They then used this data, along with water temperature, pH level, and dissolved oxygen to analyze the river's health.

This program provided real world hands-on field experience and is just one of the River Wranglers programs providing every student in the Carson River Watershed the opportunity to visit and connect to the Carson River. River Wranglers is fortunate to have the opportunity to spend time on the river with the students in a unique and educational capacity. For more information on our programs, email Darcy Phillips, [RW@riverwranglers.org](mailto:RW@riverwranglers.org).



*Marine Biology Students from Dayton HS collecting BMI data along Carson River in Dayton.  
Photo provided by River Wranglers.*



*Students using a transect to collect benthic macroinvertebrate data.  
Photo provided by River Wranglers.*



*Collected benthic macroinvertebrates for identification and classification.  
Photo provided by River Wranglers.*

## Fall Educational Events in the Carson River Watershed

*By Loren Secor, AmeriCorps Watershed Tech*

### Family Watershed Nights

On September 12, CWSD staff joined other education organizations at Gardnerville Elementary for a Family STEM (Science Technology Engineering and Math) Night hosted by [Sierra Nevada Journeys](#) (SNJ). At the event, students and parents alike were treated to hands-on demonstrations of the floodplain model and interactive watershed maps. Gardnerville Elementary marks the first in a series of four SNJ Family Watershed Nights (FWN) that CWSD is helping fund at K-8 schools across Carson City, Minden, and Gardnerville. A goal of the project is to provide 500 students, parents, and siblings with watershed-themed activities that strengthen classroom STEM concepts. SNJ is also using this funding to align academic standards to the [physical](#) and [online Carson Watershed Maps](#), and suggest lesson plan ideas for teachers. This work in progress will further provide educators with more ways to use our beautiful watershed maps!

### Snapshot Day 2019

Carson River Snapshot Day on October 18 was a momentous occasion for watershed education! Bringing together over 300 students from throughout the watershed and 35 Carson River Coalition volunteer site leaders from multiple agencies, the event showcases environmental education in action. Students collect water quality and habitat data at 11 sites across the watershed at approximately the same time on the same day. This annual snapshot in time provides students on-the-job field training in water quality data collection, river/stream habitat assessments, and critical written and photographic documentation.

The data is sent to UNR's Lab for analysis and helps create an annual "snapshot" of the Carson River. River Wranglers did an awesome job in their new role as coordinators of this event!



*Students at multiple Snapshot Day sites collect data and help provide photographic reference points.*



★ The AMERICORNER ★



Enriching Experiences with CWSD

By Loren Secor, AmeriCorps Watershed Tech

When I joined the team at the Carson Water Subconservancy District five months ago, I had no idea just how many great experiences I would be a part of. From community outreach and board meetings to drone mapping and lake surveying in Alpine County, each week at CWSD has offered a new and exciting adventure.

Perhaps the most complex yet rewarding project thus far has been participating in our newly released watershed-literacy campaign and video. This rapid-fire journey through 24 unique locations throughout the watershed really highlights the amazing diversity and beauty of the area. With another nine months left in my service with CWSD, I cannot wait to see what other projects and experiences are in my future.



Willow planting on the Upper Carson! Photo by AWG.



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*CWSD works within existing governmental frameworks to promote cooperative action for the watershed that crosses both agency and political boundaries.*

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UPCOMING EVENTS

November 19, 2:30pm—6pm

**Douglas County Flood Awareness Event**

Douglas County Community & Senior Center, Gardnerville, NV

November 21, 11:30am-1:30pm

**Carson City Flood Awareness Event**

Richard H. Bryan Building Lobby, Carson City, NV

**Nevada State Parks**

**Look up Buckland Station, Lahontan, Dayton and**

**Morman Station**

<http://parks.nv.gov/events>

**TNC Events at River Fork Ranch, Genoa**

<https://www.facebook.com/events/2809072525810342/>

**Carson Valley Trails Association**

<https://carsonvalleytrails.org/about/>

**Look for Carson River Coalition 2-Day Forum**

**Winter/Spring 2020 Date TBD**